MOUNTAIN COUNTIES FUNDING AREA

INTEGRATED REGIONAL WATER MANAGEMENT DISADVANTAGED COMMUNITY INVOLVEMENT PROGRAM

COMMUNITY WELL-BEING & WATER AND WASTEWATER NEEDS ASSESSMENTS

FOR

The Mountain Counties Funding Area

Prepared by the Sierra Institute for Community and Environment & Sierra Water Workgroup

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This report was made possible through Proposition 1 funding from the Department of Water Resources (DWR)

This report is dedicated to the memory of Liz Mansfield.

We will miss Liz's energy and her dedication to improving watershed health and identifying ways to stimulate investment into the landscapes and communities of the Sierra Nevada. Liz had a passion to learn and to lead. This report would not have been possible without her and the Sierra Water Workgroup she so ably led.

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Executive Summary

As part of California's Proposition 1 funding for water supply, distribution, and infrastructure, all Funding Areas in the state received funds through the Disadvantaged Community Involvement program. In the Mountain Counties Funding Area (MCFA), a portion of these funds was allocated to assess the capacity, socioeconomic status, well-being, and water/wastewater needs of communities throughout the region. These assessments utilized data from the U.S. Census Bureau, community meetings, focus groups, and surveys of water service providers. Community assessments were conducted by Sierra Institute for Community and Environment; assessments of water concerns and needs of water purveyors were conducted by Sierra Water Workgroup.

Many areas in the MCFA are classified as "disadvantaged" or "severely disadvantaged" by the Department of Water Resources, based on median household income. However, this metric bears little correlation to other ways of assessing communities. The community capacity and socioeconomic status assessments reveal several persistent challenges shared by many communities throughout the MCFA, largely related to the combination of poverty, low population density, and decaying infrastructure. Communities in the MCFA span a wide range of community capacity, socioeconomic status, and community well-being scores, and these metrics vary across the individual IRWMs. Aging infrastructure, increased drought, and threat of wildfire have raised concerns regarding water quality and water supply across many IRWMs in the MCFA. Specifically, water service providers often lack funds to hire staff, fund infrastructure maintenance, and keep pace with regulatory requirements and climate change impacts, while simultaneously lacking the capacity to secure outside resources. In regard to wildfire specifically, many regions lack sufficient water storage and/or water pressure to effectively fight fires. Recommendations for IRWMs in the MCFA include increased information sharing, education and training, creation of regional resource centers, and more.

CHAPTER 1. Introduction

Coupled with state bond funding, Integrated Regional Water Management (IRWM) planning groups have significantly altered watershed management in California. Propositions 50 and 84 brought planning and implementation funds that were critically needed to address water-related issues in supply, quality and the environment. As these programs continued statewide, a growing gap emerged between funded activities that addressed traditional water management problems and those that addressed the needs of disadvantaged communities (DACs).

On November 4, 2014, California voters approved Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act. Proposition 1 authorized $510 million in IRWM funding to 12 hydrologic region-based Funding Areas. That $510 million was divided based on population, with the result that the Mountain Counties Funding Area received the least money of any Funding Area despite providing up to 60% of the developed water in the state. Prior to allocating the implementation funds, each Funding Area is required to implement a Disadvantaged Community (DAC) Involvement Program, a program designed to ensure the involvement of DACs in IRWM planning efforts and close the gap of funded activities across a spectrum of communities.

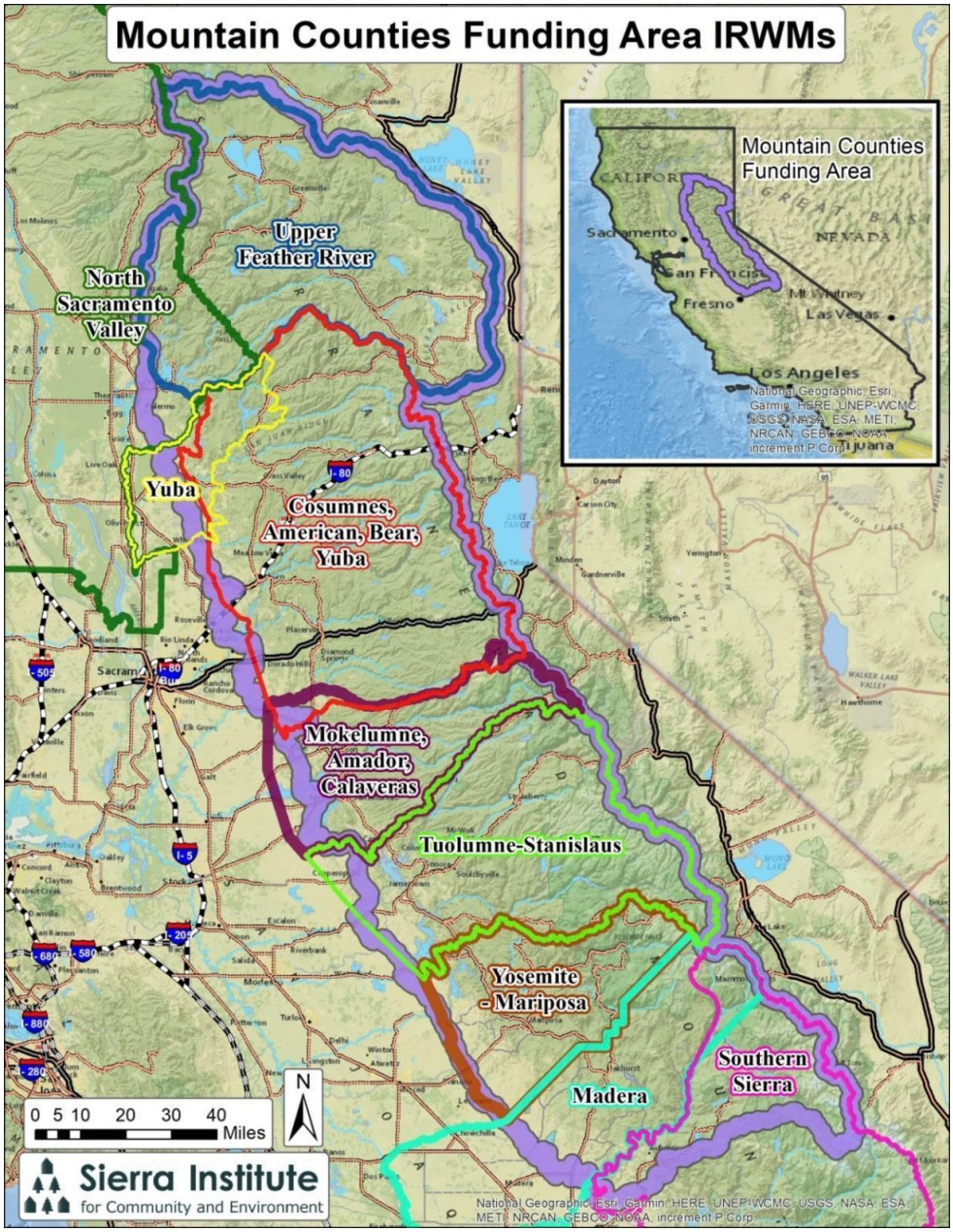
The purpose of this report is to address that requirement and support Integrated Regional Water Management efforts in continuing to integrate and address the needs of DAC and Tribal communities within IRWMs. This report will: 1) identify regional priority issues and challenges for DACs; 2) provide community assessments that offer a more in-depth assessment of community condition than DWR's single-measure determination of "disadvantaged" status based on income; 3) document the water and wastewater needs and challenges, as well as technical assistance needs and requests, within the MCFA IRWMs; and 4) provide recommendations for how to benefit DACs and Tribes moving forward.

CHAPTER 2. Background

The DAC Involvement Program, authorized by Proposition 1, allocated $1.3 million over three years to the Mountain Counties Funding Area for the purpose of supporting and expanding involvement of disadvantaged communities, economically distressed areas (EDAs), Tribes, and underrepresented communities in IRWM planning efforts. Activities included in the Disadvantaged Community Involvement Program include funding for education, outreach and engagement, facilitation, technical assistance, site assessment, and project planning.

There are 10 IRWM regions in the Mountain Counties Funding Area, each with its own Regional Water Management Group (RWMG) of the same name. They include:

- *American River Basin* (chose not to participate in the MCFA for Prop 1 funding)
- Cosumnes-American-Bear-Yuba
- Madera
- Mokelumne-Amador-Calaveras
- North Sacramento Valley
- Southern Sierra
- Tuolumne-Stanislaus
- Upper Feather River
- Yosemite-Mariposa
- Yuba County



Map 1. The Mountain Counties Funding Area with the nine participating Integrated Regional Water Management regions (American River Basin is not shown). Note that several IRWMs overlap with one another and some extend into adjacent Funding Areas.

Some of the IRWMs extend into adjacent Funding Areas (Map 1) and are eligible to apply for Prop 1 funding in more than one Funding Area. In several instances, two or even three IRWMs overlap for a portion of their extent. In those cases, each IRWM has jurisdiction to work in the area of overlap, and they may choose to enter into formal agreements with other IRWMs sharing jurisdiction in order to improve coordination.

The MCFA Disadvantaged Community Involvement Program includes the following objectives:

1. Work collaboratively to involve DACs, community-based organizations, Tribes and stakeholders in IRWM planning efforts to ensure balanced access and opportunity for participation in the IRWM activities.

2. Increase the understanding of, and where necessary, identify water management needs of DACs and Tribes across the Funding Area.

3. Develop strategies and long-term solutions to address identified DAC and tribal water management needs.

In 2016, the MCFA DAC Coordinating Committee, which consisted of representatives from the nine participating IRWMs, participated in an open collaborative process to develop a Request for Proposals for implementing the DAC Involvement Program. A year later, the Sierra Institute for Community and Environment (Sierra Institute) was selected as the applicant for the MCFA DAC (and Tribal) Involvement Program.[1] The grant was executed November 2017.

The Sierra Institute, with guidance from the MCFA DAC Coordinating Committee, created a four-pronged approach for the DACI Program: 1) project management and grant administration, 2) identification, outreach and engagement of DACs and Tribes, 3) community capacity and needs assessment, and 4) technical assistance and capacity building.

Identification and assessment of disadvantaged, underserved, and low-capacity communities through community capacity assessment and multiple socioeconomic indicators was a starting point to gain a more complete view of community well-being. Outreach and engagement of Tribes occurred concurrently, with California Indian Environmental Alliance (CIEA) leading the first year and tribal consultants Trina Cunningham and Dirk Charley taking a lead in the second year of the program.

The benefit of this approach to DAC identification is the creation of a methodology that can be replicated so that communities are not excluded from funding based only on a single economic or environmental indicator, and so that the capability of communities to address local needs can also be considered. For the purposes of Proposition 1 funding, DWR defines "disadvantaged community" as an entity (Census tract, Census block group, or Census place) with a median

[1] Though Proposition 1 and DWR laid out the requirement for a "Disadvantaged Community Involvement Program," the MCFA has typically referred to its program as the "Disadvantaged Community and Tribal Involvement Program" in an effort to acknowledge that Tribes may not be disadvantaged by the same standards as other communities but should also be better included and served in IRWM planning and management activities.

household income less than 80% of California's overall median household income. Reliance on a single indicator using census data can skew results in areas with low populations and does not fully account for unincorporated communities. Additionally, single-indicator measures can be problematic with heterogeneous populations, as, for example, a large, well off group may swamp nearby less well-off populations. Median household income (MHI) estimates in unincorporated areas often have a margin of error sometimes exceeding 100%. As a result, large portions of rural counties, like those in the MCFA, are excluded from funding that benefits DACs, even though most of the region is disadvantaged in some way, whether by poverty, a large number of female-headed households (that on average are considerably poorer) with children receiving public assistance, limited capacity, vulnerability to natural disasters, or distance from resources.

Community Capacity and Water/Wastewater Needs Assessment Workshops

A two-part series of workshops was held throughout the MCFA in 2018 and 2019. Part one of the workshop series assessed community capacity and part two assessed water/wastewater specific needs.

To assess community capacity, Sierra Institute first needed to identify communities. Using U.S. Census block groups, the smallest unit for which there is reliable and consistent demographic data, the approach ensured inclusion of dispersed populations throughout the region.

Sierra Institute followed the steps below for Community Capacity Workshops in each IRWM:

- Conducted a preliminary mapping exercise to identify communities in each IRWM (results were shared and finalized at the workshops)
- Hosted Community Capacity Workshops with community members that could speak to the capacity of several communities in an IRWM. Those community members first reviewed preliminary maps and refined community delineations, then evaluated the physical, economic, human, social, and cultural capital of each of the communities they knew best, and collectively discussed overall scores, identifying a consensus capacity score for each community.
- Finalized a report of capacity measures and narrative assessments of communities in all IRWMs in the MCFA

In addition to facilitating community capacity assessment, the community maps were subsequently used to gather U.S. Census data on five different aspects including six measures of socioeconomic status, which were then aggregated into a single socioeconomic status score. Merging community capacity and socioeconomic status allowed Sierra Institute to designate a

relative Community Well-Being score for each community. These Community Well-Being scores represent an important alternative metric for determining “disadvantaged” status.

Part two of the workshop series was coordinated and facilitated by the Sierra Water Workgroup to address water/wastewater needs. The Sierra Water Workgroup (SWWG), which has worked with Sierra IRWMs for over ten years, was contracted by the Sierra Institute to fulfill Objective 2: *Identify the water management needs of DACs in each IRWM in the Funding Area.* The SWWG took the following steps to fulfill this objective:

- Conducted a preliminary water and wastewater needs assessment survey
- Facilitated one Water/Wastewater Workshop in each IRWM (with the exception of Cosumnes-American-Bear-Yuba (CABY), which had 3 due to its size and population)
- Provided outreach and follow-up with water purveyors and other stakeholders on critical water issues and technical assistance needs
- Finalized DAC Water and Wastewater Needs Assessment for IRWM regions

CHAPTER 3. Community Assessments

For the purposes of Prop 1 funding, DWR defines "disadvantaged communities" (DACs) based solely on median household income (MHI). To qualify as disadvantaged, a Census tract, Census block group, or Census place must have a MHI below 80% of California's statewide average. To be "severely disadvantaged," an area must average less than 60% of the statewide average. To count as an "economically distressed area" (EDA), a status that brings with it certain lesser advantages in qualifying for Proposition 1 funding, a community must meet the following criteria:

1) Be a municipality of less than 20,000 people, a reasonably isolated and divisible segment of less than 20,000 people of a larger municipality, **OR** within an officially designated rural county;

2) Have a MHI less than 85% of California's statewide MHI; and

3) Be experiencing financial hardship (e.g., residential water/wastewater rate exceeds 1.5% of area's MHI), have an unemployment rate at least 2 percentage points higher than California's statewide average, **OR** have low population density (≤ 100 people/mi).[2]

As discussed previously, the reliance on MHI presents several limitations, including a high margin of error in the statistics and the tendency for a pocket of wealthy residents to numerically obscure nearby impoverished areas. Furthermore, MHI is not necessarily a good indicator of capacity to respond to challenges such as wildfires, failing infrastructure, or water quantity/quality issues.

An alternative tool that some other state agencies use for determining community needs, CalEnviroScreen, combines public health and socioeconomic indicators with environmental metrics. Due to the formula used in CalEnviroScreen and the way unmeasured scores are treated; among other deficiencies, rural communities in the Sierra often have high scores (meaning minimally disadvantaged) despite significant challenges with episodic smoke from prescribed burning of forests and catastrophic wildfires, poverty, unemployment, failing infrastructure, fire risk, low political support or representation, and low organizational capacity.

Sierra Institute employed a combination of two community assessments that avoid the pitfalls of both MHI and CalEnviroScreen: a community capacity assessment based on the knowledge of community residents regarding the capacity of their communities to tackle internal and external stressors, and a quantitative socioeconomic assessment based on five metrics

including six measures drawn from U.S. Census Bureau statistics. Both of these methods have relatively low correlation with simple MHI, with CalEnviroScreen, or with each other, indicating that they represent fundamentally different community attributes. Another way of understanding their important differences is that the socioeconomic assessment is a multi-component metric that provides a static measure of socioeconomic condition, while capacity is composed of five types of dynamic community attributes that collectively represent a community's ability to respond to resident needs and internally and externally-induced problems. The two multi-item measures assess different dimensions of overall community well-being.

Methods

Step 1: Block Group Data-Mapping Exercise

As part of an approach to identifying DACs, Sierra Institute first conducted a community mapping exercise involving county planners and local experts in order to delineate communities in the Mountain Counties Funding Area. The purpose of the exercise was to identify communities based on Census block group boundaries and social characteristics.

Sierra Institute first identified communities using block groups, which are an aggregation of U.S. Census Bureau blocks, and are the smallest unit for which there are reliable and consistent demographic data. The use of block groups allowed for inclusion of all communities including the entire dispersed population across the region.

Step 2: Community Capacity Assessment Workshop

Within workshops, MCFA residents and local experts then aggregated adjacent block groups to create community units based on local knowledge of social process, economic activities, and administrative boundaries. Factors used for community delineation included common service centers, regular social and economic interactions, and/or shared social characteristics, geographic features, school systems and community service districts. Block groups were never split into smaller units to preserve data integrity. Identified community size varied, with borders spanning the size of a single block group, multiple block groups, and sometimes even crossing watershed and/or county boundaries.

Workshop participants then named the communities resulting from the block group aggregations. A single name was occasionally sufficient for aggregated block groups but in a number of instances, two, three, and on occasion, even four names in conjunction were needed to capture the key population centers represented.

Following community identification, workshop participants identified community capacity for each community based on the five capitals that collectively form capacity. Participants were asked to do this work only after they had a strong grasp of the capital concepts, and after they were asked to rate their own knowledge of each community on a scale of 1-3. Participants were assigned communities to assess based on their reported knowledge so that each community was assessed by at least two individuals.

Most participants completed surveys for 3-4 communities, evaluating them based on their financial, social, cultural, human, and physical capital and overall capacity (see Appendix A).

Results from these surveys were confidential and displayed to the whole group without attribution to prompt further discussion. Participants were encouraged not to identify how they personally scored a community to the rest of the group to facilitate discussion of scores. This was aimed at creating a comfortable and open dialogue to encourage all voices. During the full group discussion, communities were given an overall capacity score based on their assets and deficits across the five capitals and through intensive discussion, with the final score determined by consensus. Once all communities were scored, the scores were reviewed with respect to similar scores and relative to all the other communities, with the group agreeing on final consensus capacity scores for each community (Figure 1).

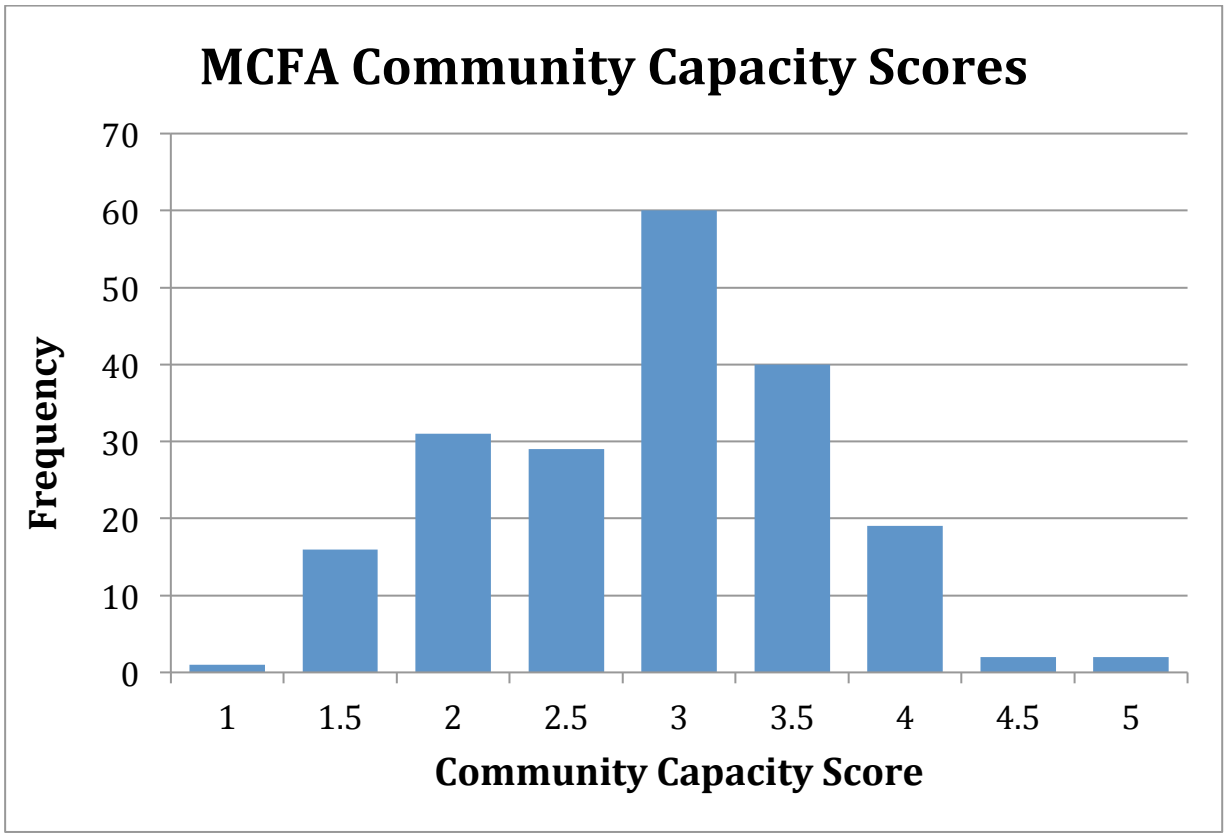
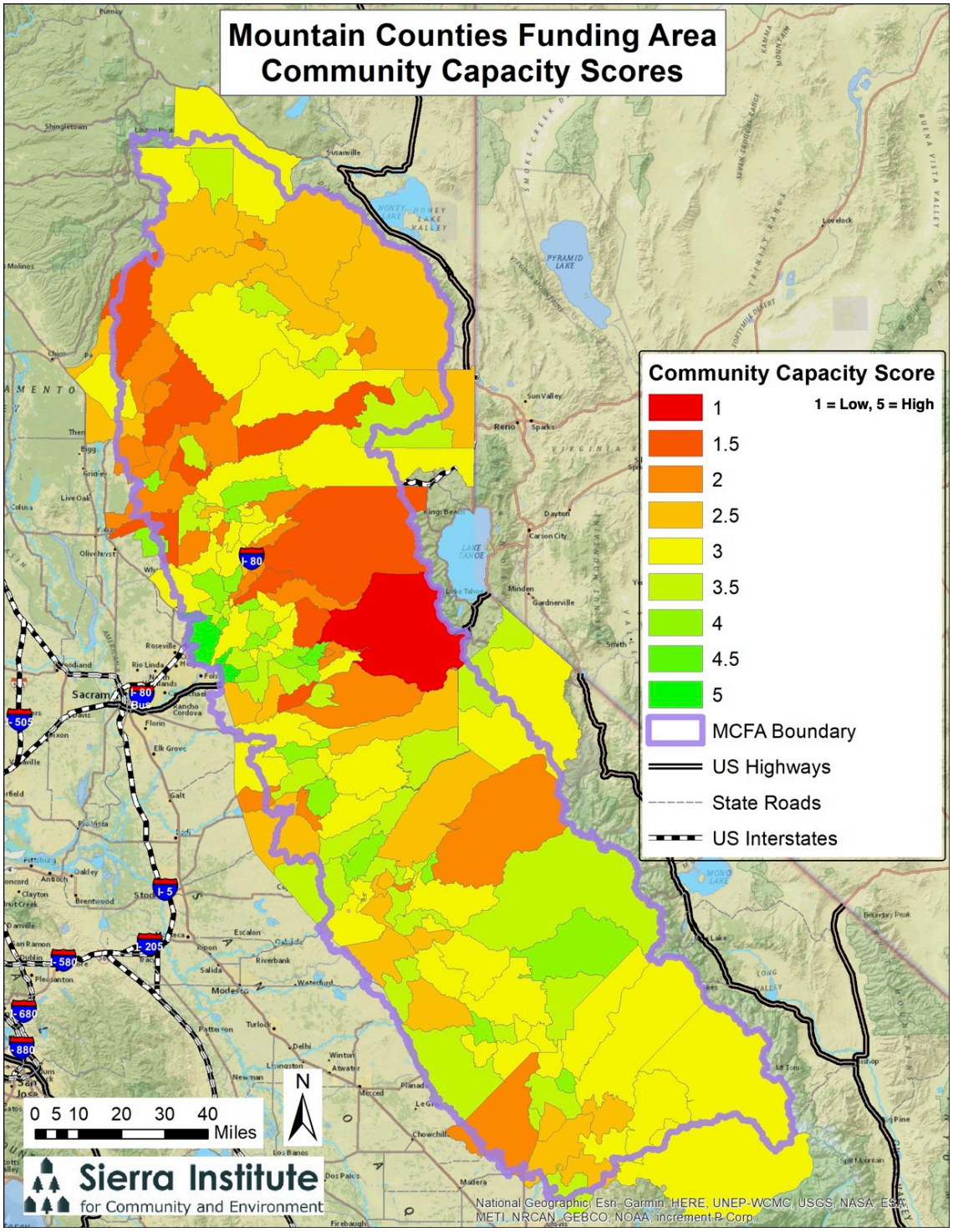


Figure 1. Histogram of Community Capacity scores for the MCFA.



Map 2. Community Capacity Scores for the MCFA. Many communities in the MCFA possess a lower score, indicating a lower ability to respond to stressors and obstacles as a community.

Socioeconomic Status

The socioeconomic assessment used data collected at the level of Census block groups that was aggregated into the same communities identified through the Community Capacity workshop process. Data were drawn from the American Community Survey of the U.S. Census Bureau. Five categories including six indicators (two poverty indicators reflecting absolute poverty and poverty intensity) were selected and analyzed to produce an overall socioeconomic score:

- Housing Tenure – Proportion of housing in a community that is occupied by the owner vs. rented. Housing tenure is suggestive of the relative wealth and permanence of residents in an area and offers an insight into the degree of local control over housing resources.
- Poverty Status – Proportion of residents with income below the annual income poverty threshold, calculated by family size, as well as the relative intensity of poverty of those individuals.
- Education Level – Measure of residents' (25 years and older) overall education level, with higher education producing a higher score
- Employment – Proportion of residents in the labor workforce who are currently employed
- Public Assistance – Proportion of children eligible for free and reduced-price school lunches

Community scores within each of the five categories were relativized across the MCFA before the five scores for each community were combined to create an overall composite socioeconomic score. The socioeconomic scores for all communities across the MCFA were then included into seven categories, with 1 being the lowest and 7 being the highest. The distribution of MCFA communities across the 7 “bins” follows an approximately normal distribution, with the majority of communities falling in the middle of the spectrum.

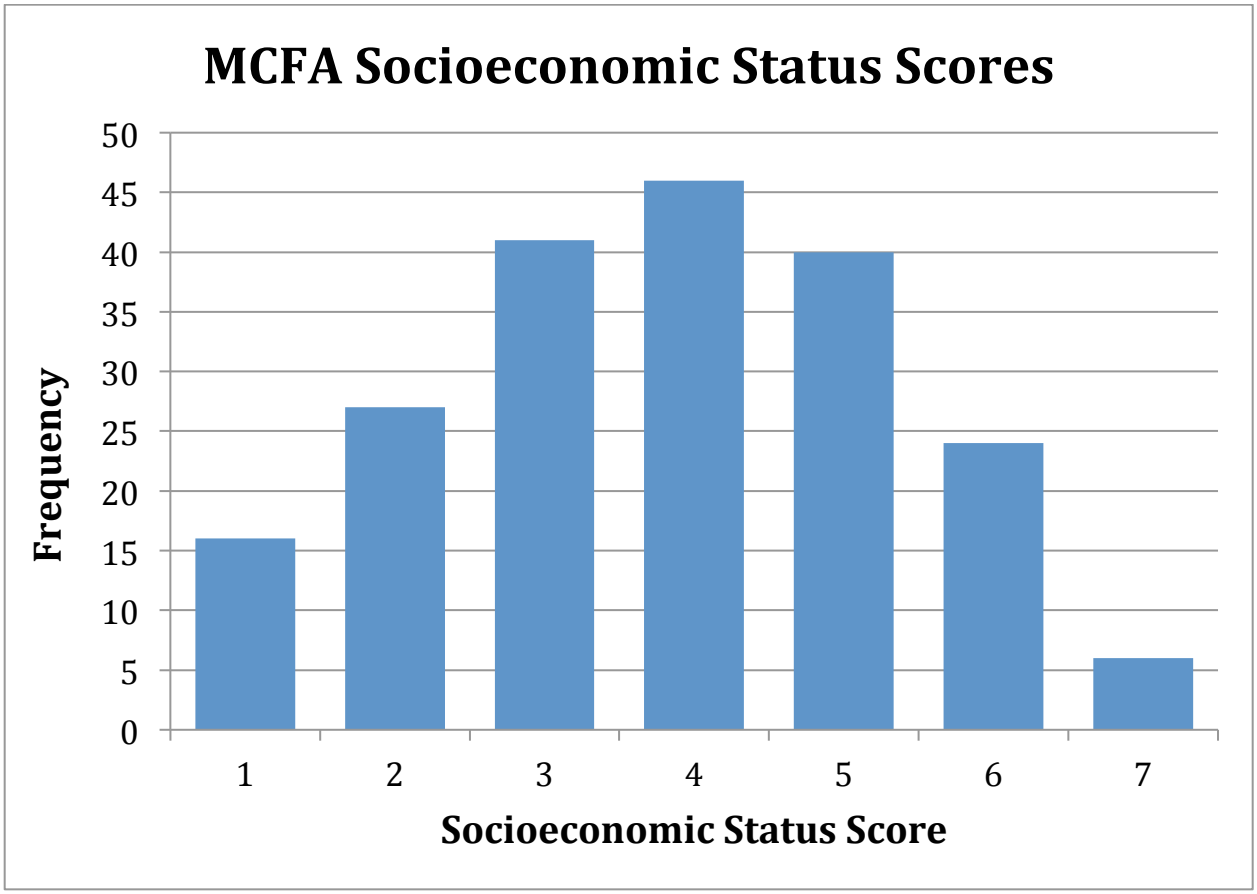
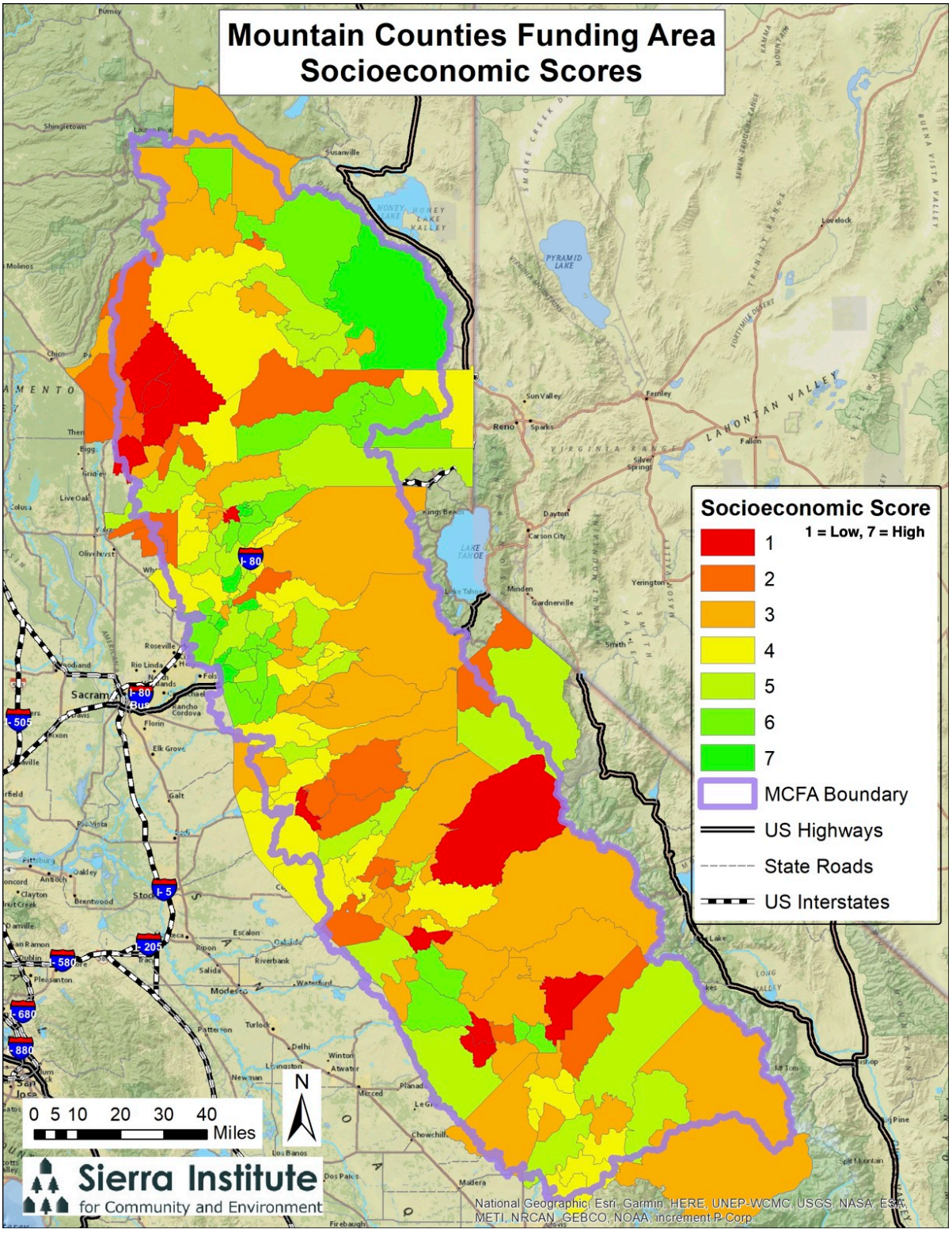


Figure 2. Histogram of Socioeconomic Status scores for the MCFA.



Map 3. Map of Socioeconomic Status Scores for communities in the MCFA.

Community Well-Being

Community Well-Being levels were created by combining Community Capacity and Socioeconomic Status scores. Communities that had low scores in both attributes were assigned a Community Well-Being score of Low, and communities with high scores in both categories received a score of High. Communities with Medium-Low and Medium-High scores were those that had either middling scores in both categories or had significant differences between their Community Capacity and Socioeconomic Status scores.

As discussed above, Community Capacity and Socioeconomic Status measure different dimensions of well-being, and so combining them into a single Community Well-Being score deserves some explanation. Community Capacity is a measure of a whole community's ability to respond to internal and external stressors, overcome obstacles, and take advantage of opportunities (or create opportunities) for improvement. Socioeconomic Status is a composite of attributes reflecting households in a community.

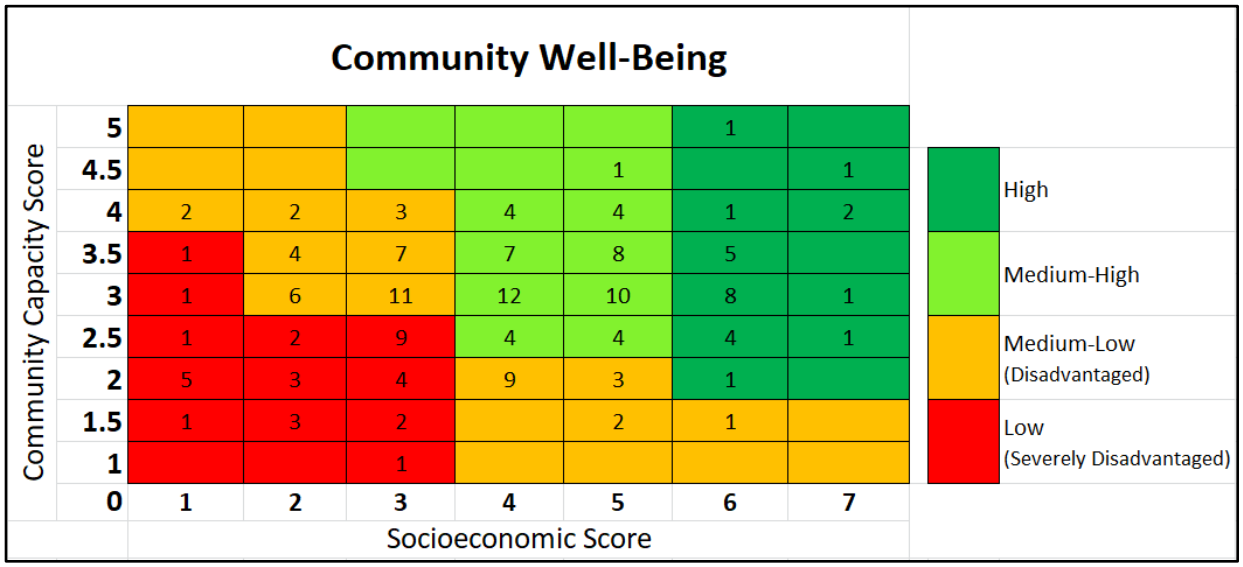


Figure 3. Matrix of MFCA Community Capacity scores and Socioeconomic Status scores. This table shows both how each combination of scores was assigned an overall Community Well-Being score and how many communities within the entire MCFA received each combination of scores, as indicated by the number in each box. A Well-Being score of Low can be interpreted as "severely disadvantaged," while a score of Medium-Low can be interpreted as "disadvantaged."

To put the Community Well-Being scores into the language of Prop 1, "disadvantaged" and "severely disadvantaged" status can be viewed through the lens of capacity *or* socioeconomic status, the latter of which is more in line with DWR's definition based solely on median household income. Sierra Institute believes, however, that "disadvantaged" should be viewed as a combination of both Community Capacity and Socioeconomic Status, as was done in the

peer-reviewed Sierra Nevada Ecosystem Study (1996). When combining the two, a score of Medium-Low would constitute "disadvantaged" status, while a Low score would constitute "severely disadvantaged" status. When a community is affected by an adverse event (fire, climate change, economic recession, water shortages), higher capacity communities with a higher socioeconomic score are better able to avoid the worst effects and/or to recover more quickly. Conversely, in communities where Socioeconomic Status is low and Community Capacity is low, a community as a whole is less able to address challenges and therefore is more likely to be adversely affected.

The difference between this approach and use of median household income is considerable, as can be seen by comparing the different metrics (see Appendix C).

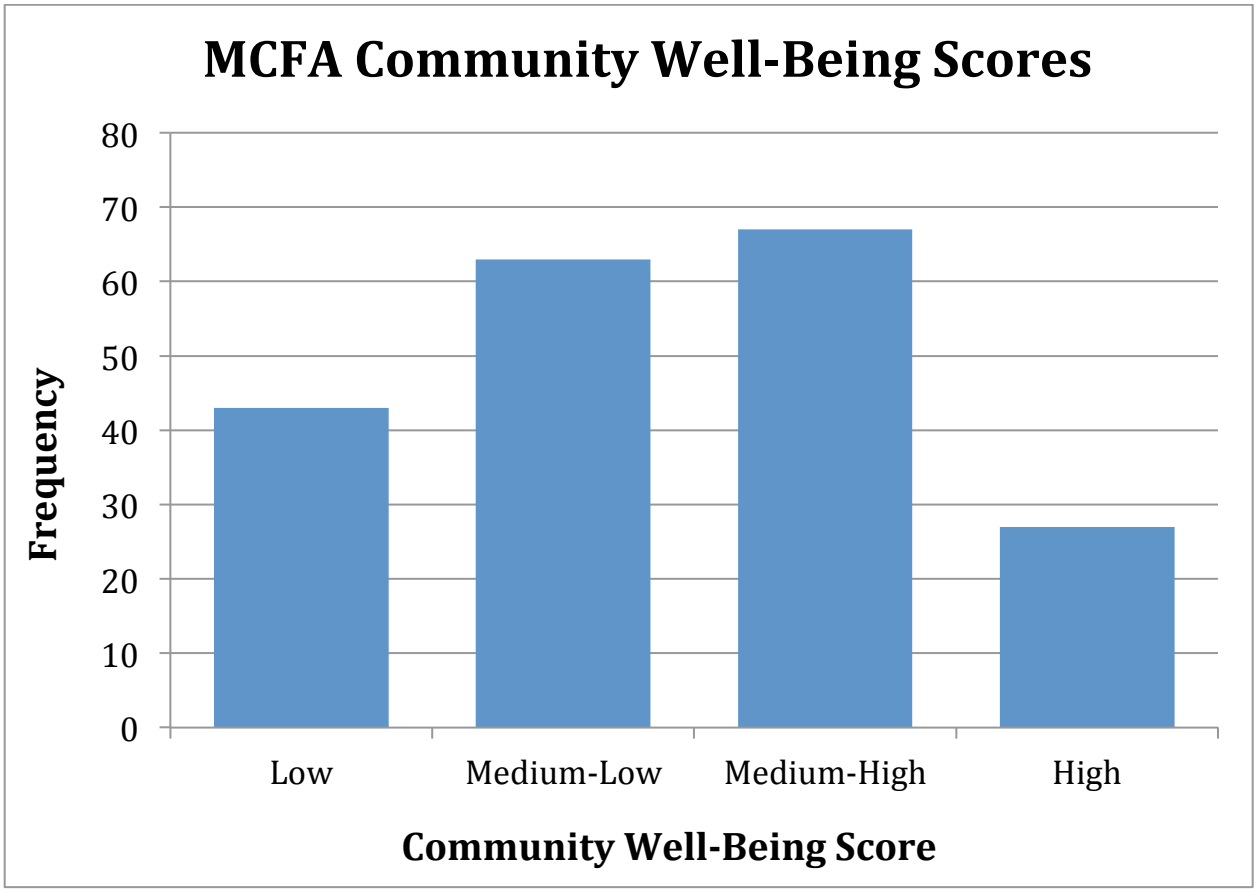
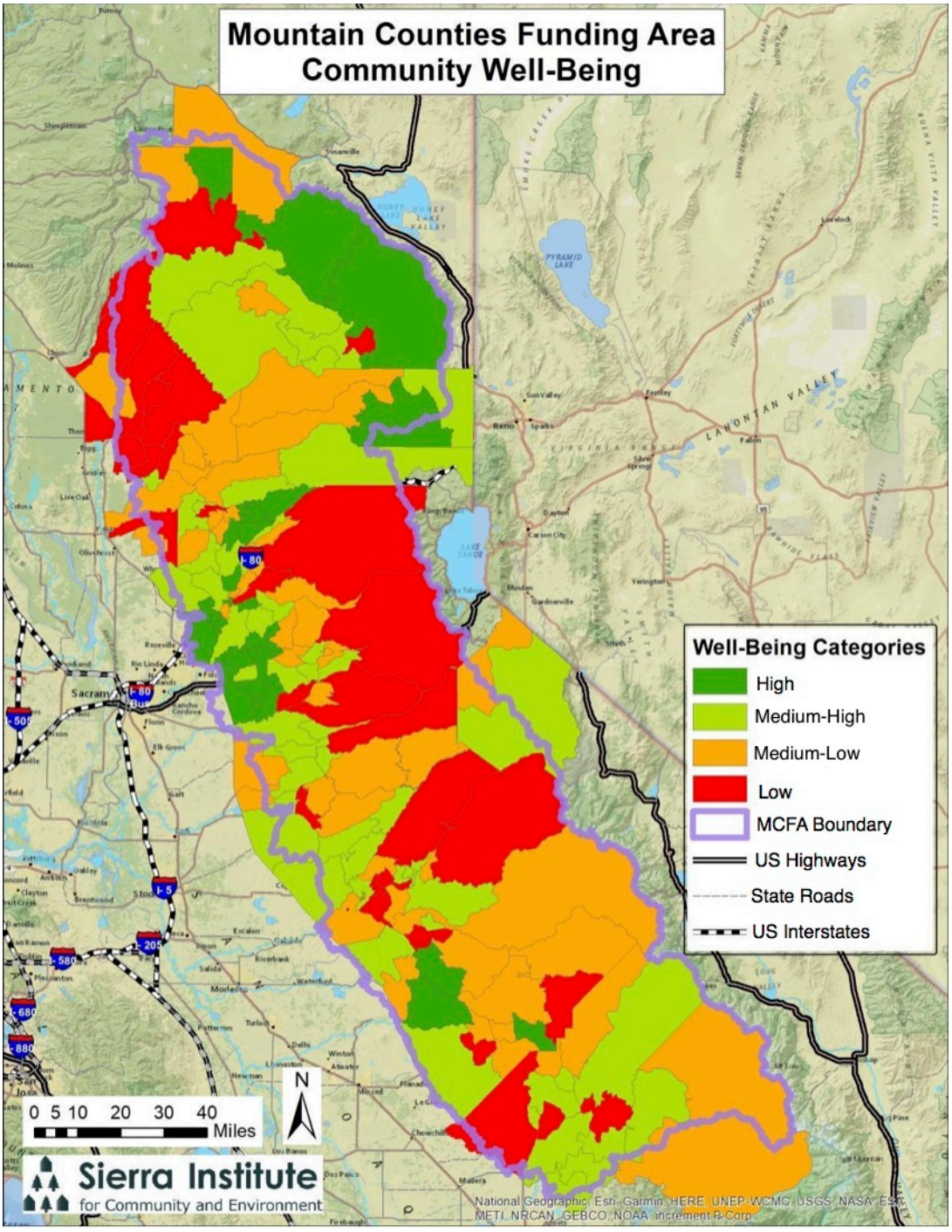


Figure 4. Histogram of Community Well-Being scores for the MCFA.



Map 4. Map of Community Well-Being scores for the MCFA. Community Well-Being is a composite score of both a community's Community Capacity score and the Socioeconomic Status score.

DWR Disadvantaged Status

Some communities have multiple DWR designations because DWR uses U.S. Census data from three different geographic scales to determine "disadvantaged" status: Census tracts, Census block groups, and Census places. Tracts are the largest Census area designation and contain multiple block groups; block groups are smaller than tracts and more specific, while census places are typically small areas and cover only concentrated population centers (including both incorporated towns and unincorporated Census Designated Places). Census data at each of these geographic scales can be seen on DWR's DAC Mapping Tool online. To count as "disadvantaged" for the purposes of DWR funding, a community only needs to be listed as "disadvantaged" under any one of the three scales, but many communities are included in more than one.

A community's disadvantaged classification can vary greatly depending on the geographic scale of Census data used. While both Census tracts and block groups are statistical areas covering the entire United States, it is worth noting that for some sparsely populated rural areas, which are commonplace in the MCFA, the U.S. Census does not have median household income (MHI) data available at the finer block group or place scale due to an inability to acquire a sufficient sample size. In these cases, only coarser-scale tract data are available. This can help or hurt a community's ability to qualify as "disadvantaged." As an example of the negative impacts, at the larger Census tract scale, poorer communities in one block group area may be masked by the wealth of the communities in neighboring Census block areas and within the same Census tract, thus raising the MHI of the entire Census tract and precluding disadvantaged designation by DWR for all communities in that Census tract. This masking can also work conversely to benefit areas, where a community whose MHI is not low enough to qualify or whose MHI data is missing at the block group scale could still qualify as "disadvantaged" at the tract scale due to data being available for poorer neighboring block groups within the same Census tract, which lowers the overall MHI for the area. See the next page for an in-depth example of the variability of disadvantaged status depending upon what scale of census data is used on DWR's DAC Mapping Tool.

Figure 5. DWR DAC Mapping Tool Screenshot- No Layers.

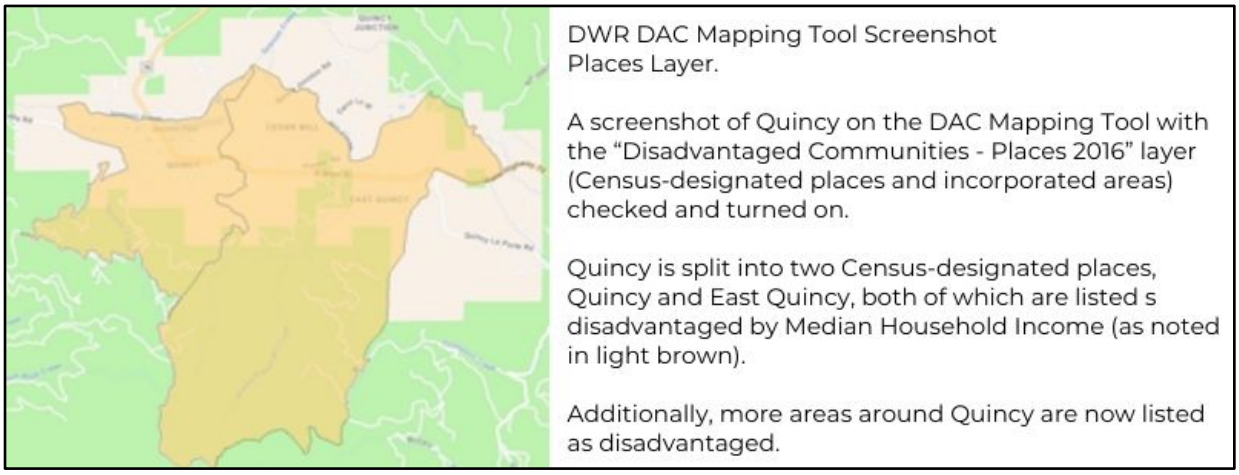


Figure 6. DWR DAC Mapping Tool Screenshot- Places Layer.

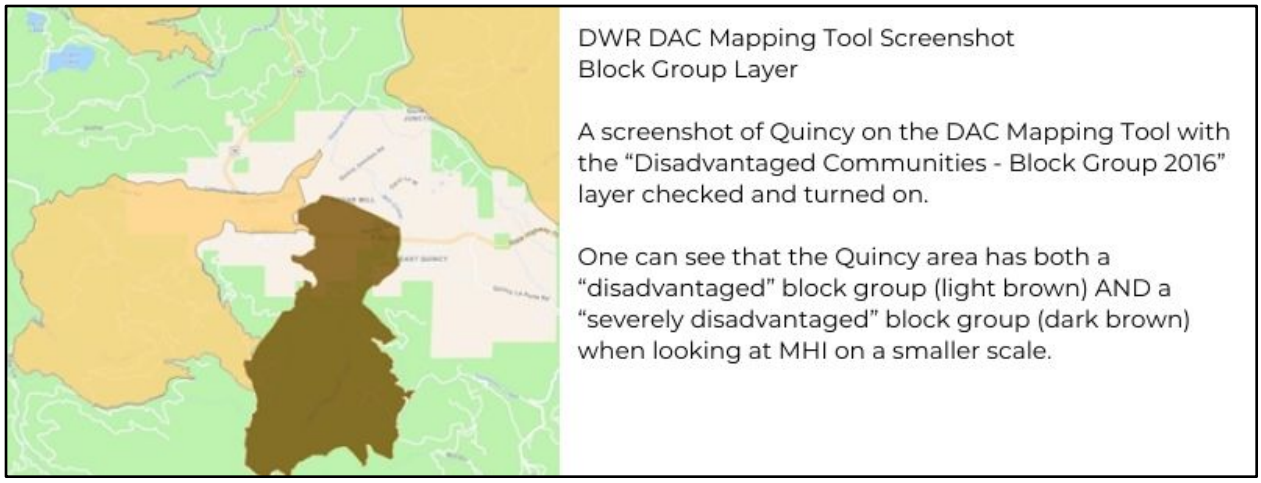


Figure 7. DWR DAC Mapping Tool Screenshot- Block Group Layer.

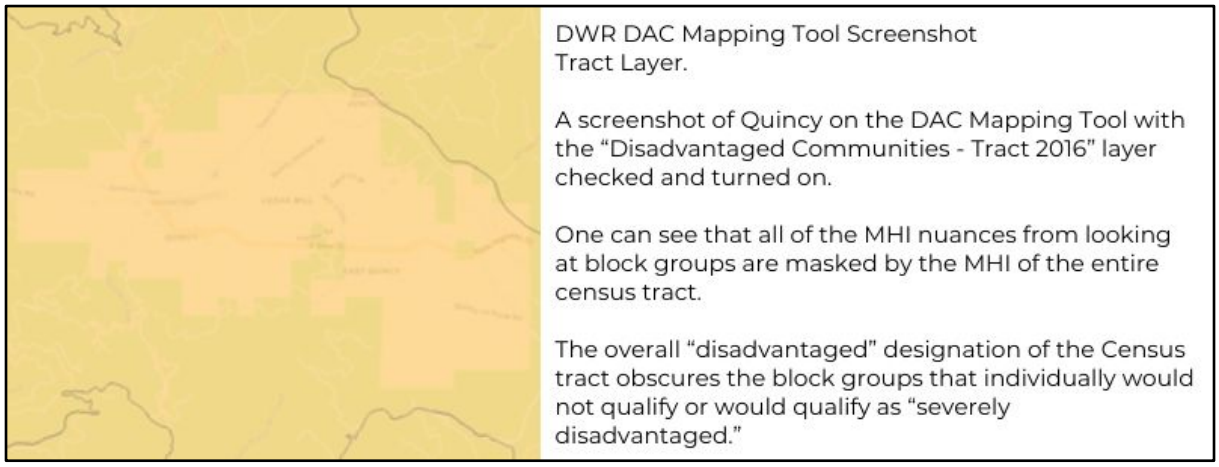


Figure 8. DWR DAC Mapping Tool Screenshot- Tract Layer.

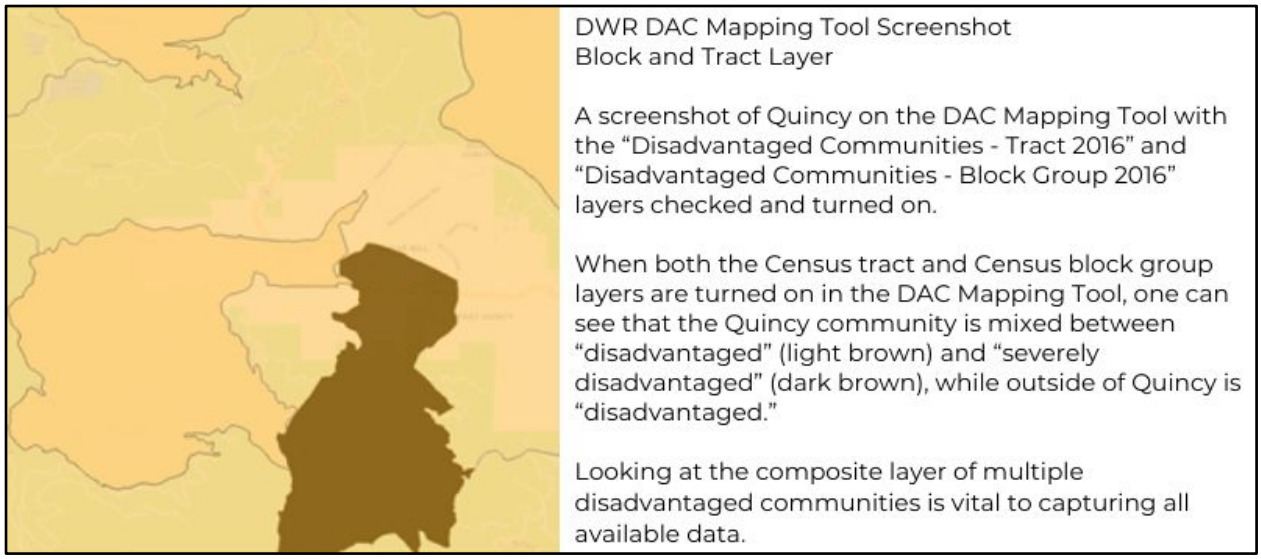


Figure 9. DWR DAC Mapping Tool Screenshot- Block and Tract Layer.

CABY

The Cosumnes-American-Bear-Yuba IRWM is a large IRWM in the central to northern Sierra. It has areas of overlap in the south with the MAC IRWM and in the north-west with the Yuba IRWM. Because the IRWM region is so large and spans four counties, four workshops were conducted and communities, data, and water needs were divided by county.

Portions of the CABY IRWM area are classified as “disadvantaged” or “severely disadvantaged” by the Department of Water Resources, based on median household income. This report found that communities in the CABY IRWM span a wide range of socioeconomic status, community capacity and community well-being, with communities on the outskirts of Sacramento and in the foothills scoring better than those deeper in the Sierra and with more rural populations. As a result of the number of high scoring communities for both Community Capacity and Socioeconomic Status scores in the CABY IRWM relative to the MCFA, the CABY IRWM also exhibits higher Community Well-Being, with relatively few communities possessing a “low” score. However, it should be noted that the most common score is still “medium-low” Community Well-Being, showcasing the need for assistance across the MCFA despite the benefits that the CABY IRWM gains from its proximity to urban centers (see Figure 10). Within the CABY IRWM, Sierra County experiences the lowest Community Well-Being. This is most likely due to lower capacity scores associated with distance from any urban centers and its rural, sparsely populated status.

CABY IRWM Community Capacity scores are generally normally distributed, with most communities scoring in the 2-4 range and a score of 3 being the most common. A large exception to this normal distribution is the low frequency of 2.5 score communities. This distribution mirrors the overall MCFA Community Capacity score distribution closely (see Figure 11). The CABY IRWM possesses some of the highest community capacity scores in the MCFA. Nevada County in particular has greatly benefited from ex-urban development despite the distance of some communities from the metropolitan areas of Sacramento and Reno. CABY IRWM communities also follow this approximate normal distribution for Socioeconomic Status scores, with a slight skew towards higher scores and the most common Socioeconomic Status score across the IRWM being a 4 out of 7. As with the Community Capacity scores, the Socioeconomic Status scores across the CABY IRWM generally increase with proximity to the Sacramento metropolitan area.

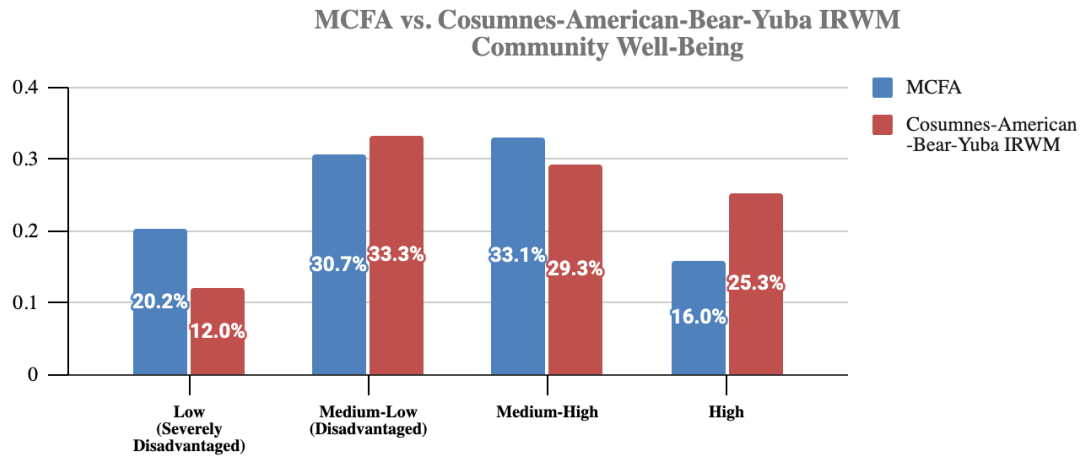


Figure 10. Chart of the percentage of communities classified within each Well-Being category in the CABY IRWM versus the MCFA as a whole.

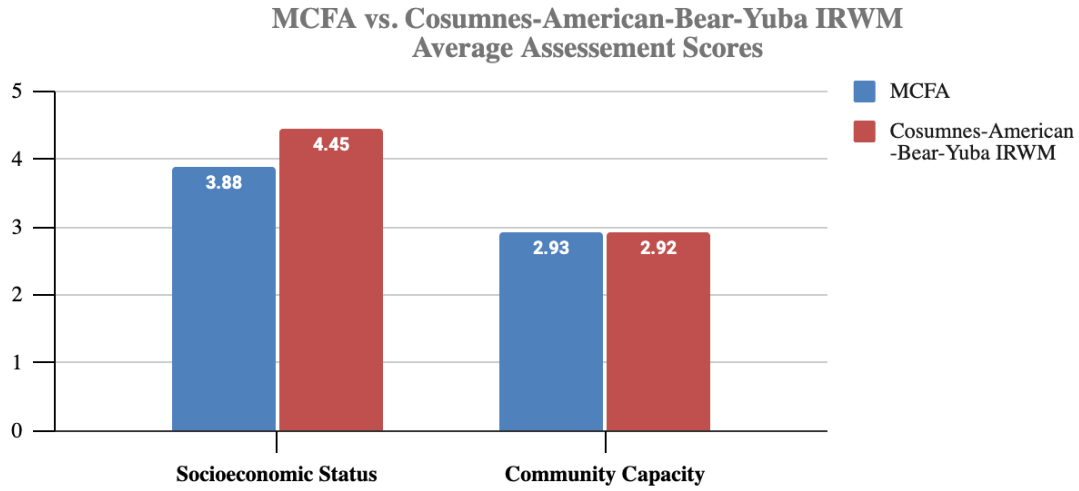


Figure 11. Chart of the average assessment scores for the CABY IRWM versus the MCFA.

Madera

The Madera IRWM is located in the Central Sierra and extends beyond the MCFA to the west. Only communities that lie entirely or mostly within the MCFA are included in this report.

A majority of communities in the Madera IRWM have at least portions of their areas which are classified as “disadvantaged” or “severely disadvantaged” by the Department of Water Resource, based on median household income. This study revealed that communities in the Madera IRWM possess low to medium Community Capacity, Socioeconomic Status and Community Well-Being. As a result of the low to medium scores for both Community Capacity and Socioeconomic Status for many Madera IRWM communities, the overall Community Well-Being distribution for the IRWM skews lower on the Well-Being scale, with an average score between “medium-low” and “medium-high” (see Figure 12). The average Socioeconomic Status score for the Madera IRWM is 3.60, slightly below the 3.9 score average for the entire MCFA (see Figure 13). The Madera IRWM Community Capacity scores are normally distributed. All communities scored in the 2-4 range with an average score of 2.9, closely aligning with the MCFA average Community Capacity score of 2.9. However, unlike the overall MCFA, the Madera IRWM exhibits a more limited score range, lacking scores on both extreme ends of the Community Capacity score spectrum.

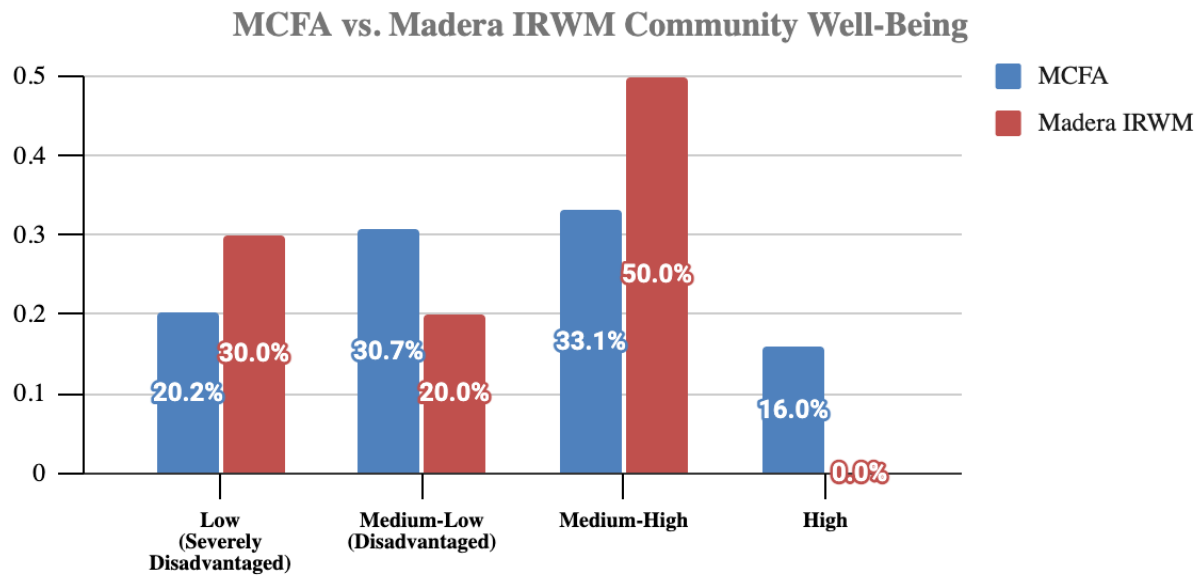


Figure 12. Chart of the percentage of communities classified within each Well-Being category in the Madera IRWM versus the MCFA as a whole.

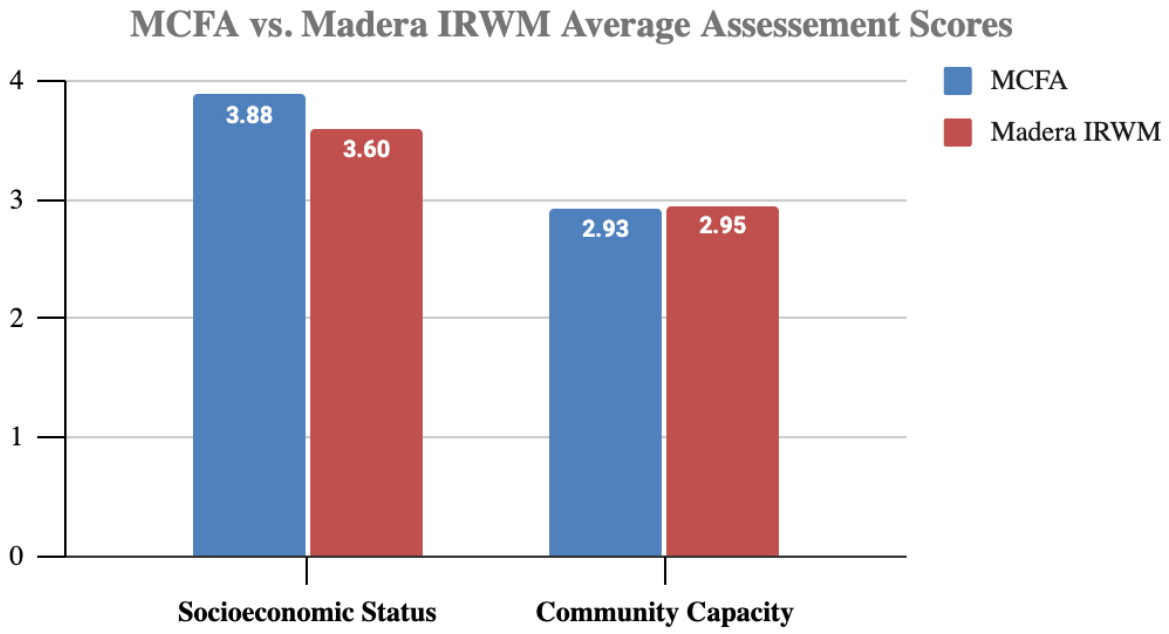


Figure 13. Chart of the average assessment scores for the Madera IRWM versus the MCFA.

Mokelumne-Amador-Calaveras

The Mokelumne-Amador-Calaveras (MAC) IRWM is located in the Central Sierra and includes valley and foothill communities in the west and sparsely populated higher elevation communities in the east. There are two small areas of overlap with the CABY IRWM.

A majority of the MAC IRWM area is classified as “disadvantaged” or “severely disadvantaged” by the Department of Water Resources, based on median household income. This report found that as a result of the medium scores for Community Capacity and Socioeconomic Status for many MAC IRWM communities, the overall Community Well-Being distribution for the IRWM is medium overall on the Well-Being scale, with nine communities score as “low” or “medium-low” while 10 communities score “medium-high” and none scoring as “high” (see Figure 14). The average Socioeconomic Status score for the MAC IRWM is 3.47, slightly below the 3.9 score average for the entire MCFA (see Figure 15). The MAC IRWM Community Capacity scores are not normally distributed. All communities scored in the 2 – 4 range with an average score of 3.11, slightly higher than the average MCFA Community Capacity Score of 2.9. However, unlike the overall MCFA, the MAC IRWM exhibits a more centralized score distribution, lacking scores on both extremes.

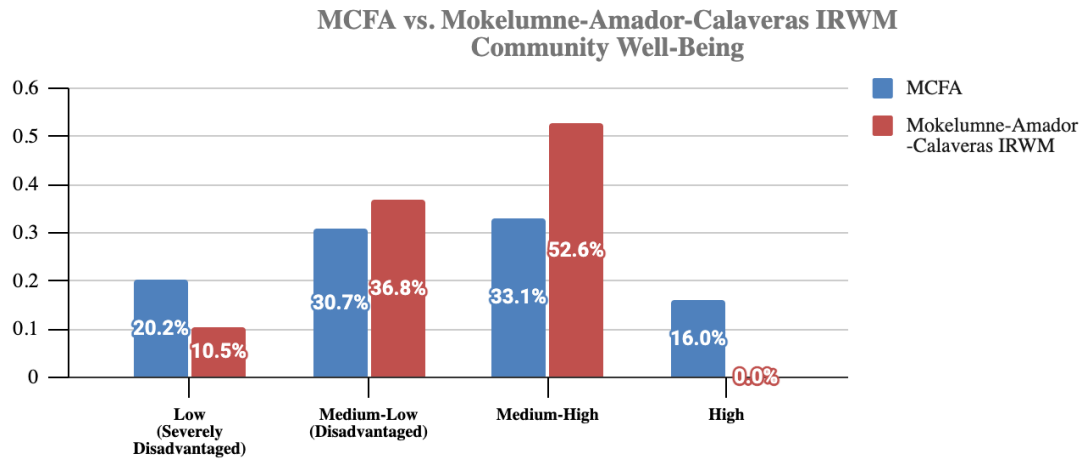


Figure 14. Chart of the percentage of communities classified within each Well-Being category in the Mokelumne-Amador-Calaveras IRWM versus the MCFA as a whole.

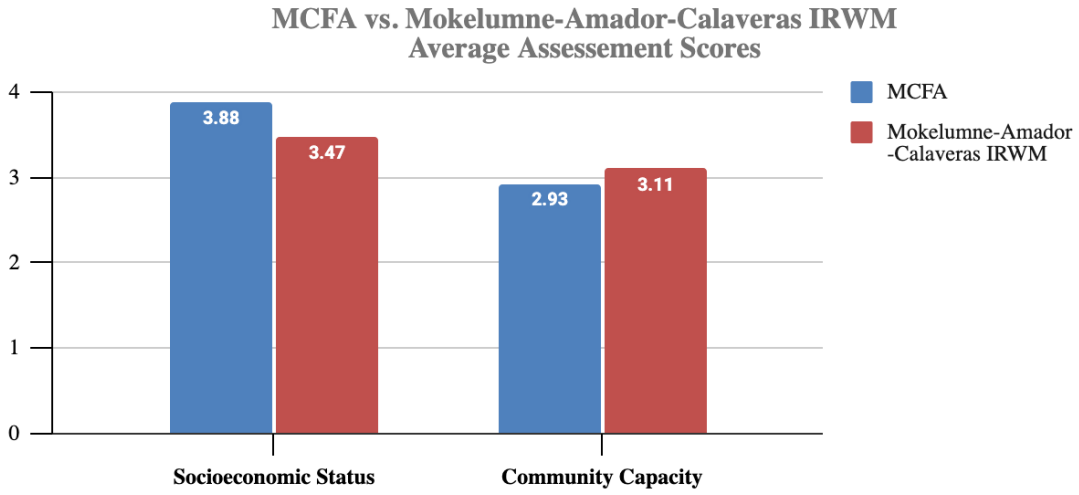


Figure 15. Chart of the average assessment scores for the Mokelumne-Amador-Calaveras IRWM versus the MCFA.

North Sacramento Valley

The North Sacramento Valley is a large IRWM with a small portion of the eastern edge falling within the Mountain Counties Funding Area. The communities assessed in this report are those that fall wholly or partially within the MCFA boundary. Much of the area overlaps with the Upper Feather River MCFA. This area was heavily impacted by the Camp Fire in 2018.

Every community in the North Sacramento Valley IRWM is either entirely or partially classified as "disadvantaged" or "severely disadvantaged," as defined by the Department of Water Resources from median household income. This report found that one community had a Community Well-Being score of medium-low, while all the rest had a score of low (see Figure 16). The overall Community Well-Being for the IRWM is much lower than the average Community Well-Being score for the MCFA as a whole (89% compared to 20%) and is the lowest scoring IRWM in the MCFA. Communities in the North Sacramento Valley have Socioeconomic Scores between 1 and 3, with an average score of 1.78 compared to 3.88 in the MCFA overall, and is the overall lowest scoring IRWM in the MCFA (see Figure 17). North Sacramento Valley IRWM Community Capacity scores are not normally distributed, with most communities scoring low in the 1.5-3 range with an average of 2.11, under the MCFA average Community Capacity Score of 2.9. It should be stressed that all scores were determined prior to the Camp Fire, so it is likely the communities affected by the wildfire would now score lower due to population displacement amongst other factors.

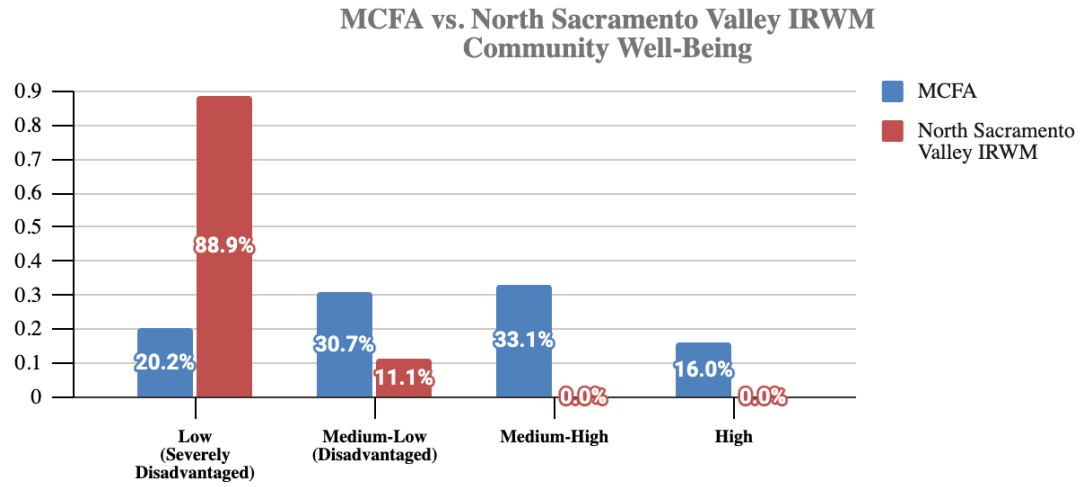


Figure 16. Chart of the percentage of communities classified within each Well-Being category in the North Sacramento Valley IRWM versus the MCFA as a whole.

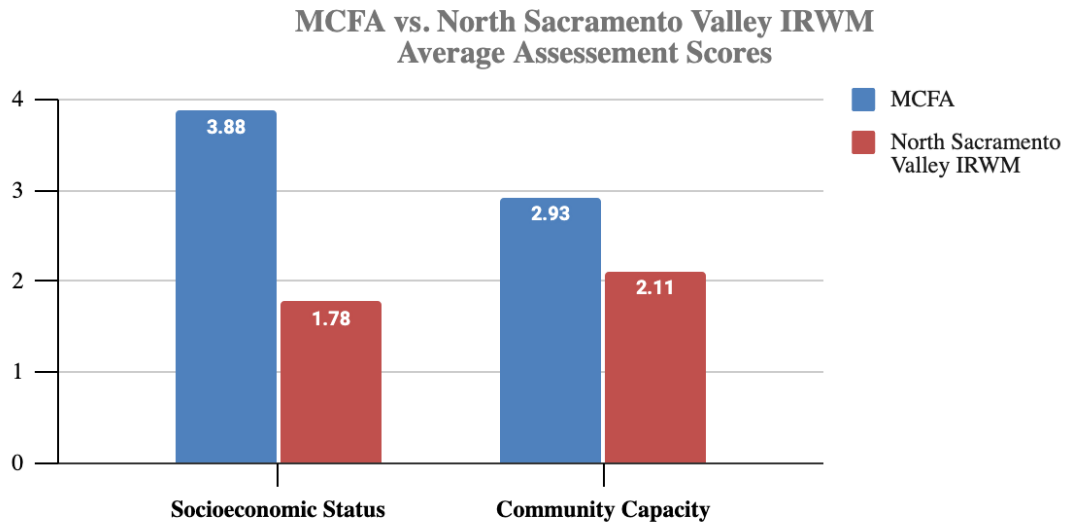


Figure 17. Chart of the average assessment scores for the North Sacramento Valley IRWM versus the MCFA.

Southern Sierra

The Southern Sierra IRWM is at the southern end of the MCFA and much of it extends into a different funding area. The communities included in this report lie at least partially within the MCFA.

Most communities in the Southern Sierra IRWM are at least partially classified as "disadvantaged" or "severely disadvantaged" by the Department of Water Resources, based on median household income. However, this assessment found that only one community scored a "medium-low" score (see Figure 18). The rest of the communities scored "medium-high" - the Southern Sierra IRWM lacks any "low" or "high" scoring communities - with the overall Community Well-Being for the IRWM being slightly higher than Community Well-Being score for the MCFA as a whole. The Southern Sierra has higher Socioeconomic Status scores than MCFA overall (4.17 vs. 3.88) and slightly higher Community Capacity scores (3.00 vs 2.93) (see Figure 19).

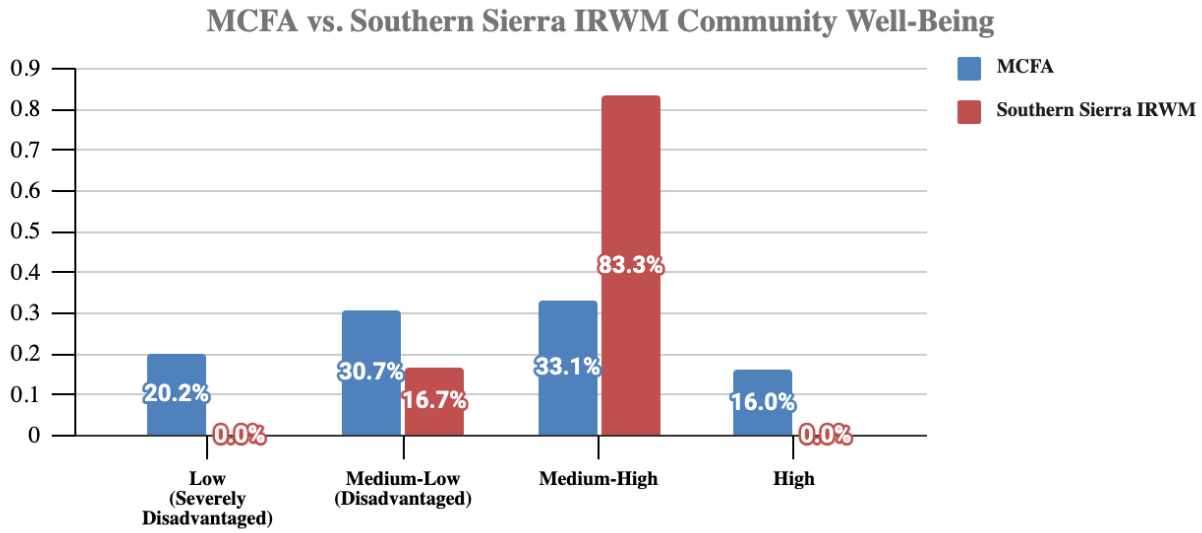


Figure 18. Chart of the percentage of communities classified within each Well-Being category in the Southern Sierra IRWM versus the MCFA as a whole.

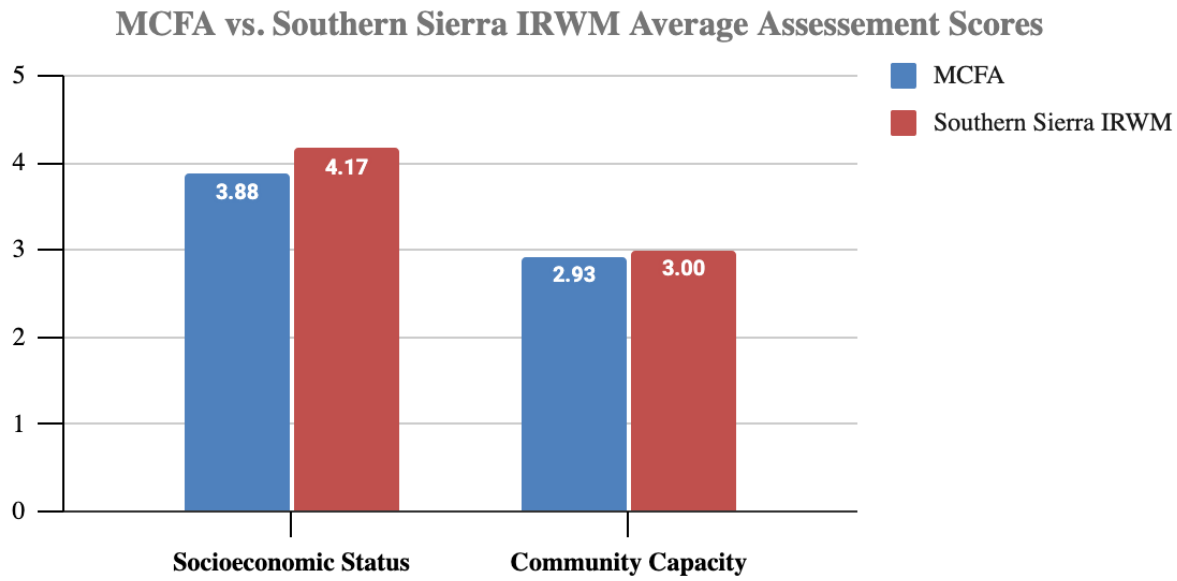


Figure 19. Chart of the average assessment scores for the Southern Sierra IRWM versus the MCFA.

Tuolumne-Stanislaus

The Tuolumne-Stanislaus IRWM is located in the Central Sierra and includes very rural communities deep in the Sierra as well as western foothills. A small portion of the northern edge of this IRWM region overlaps with the Mokelumne-Amador-Calaveras IRWM.

Large swaths of the Tuolumne-Stanislaus IRWM area are classified as “disadvantaged” or “severely disadvantaged” by the Department of Water Resources, based on median household income. Similarly, this assessment found that as a result of the low to medium scores for both Community Capacity and Socioeconomic Status for many Tuolumne-Stanislaus IRWM communities, the overall Community Well-Being distribution for the IRWM skews lower on the Well-Being scale, with an average score between “medium-low” and “medium-high” (see Figure 20). Thirteen communities score as “low” or “medium-low” while 14 communities score “medium-high” with none scoring as “high.” The overall Community Well-Being for the IRWM reflects the average Community Well-Being score for the MCFA as a whole, although notably, Tuolumne-Stanislaus lacks any “high” scoring communities. Tuolumne Stanislaus lower Socioeconomic Status scores than the MCFA overall (3.48 v. 3.88), and slightly higher Community Capacity (3.04 v. 2.93) (see Figure 21).

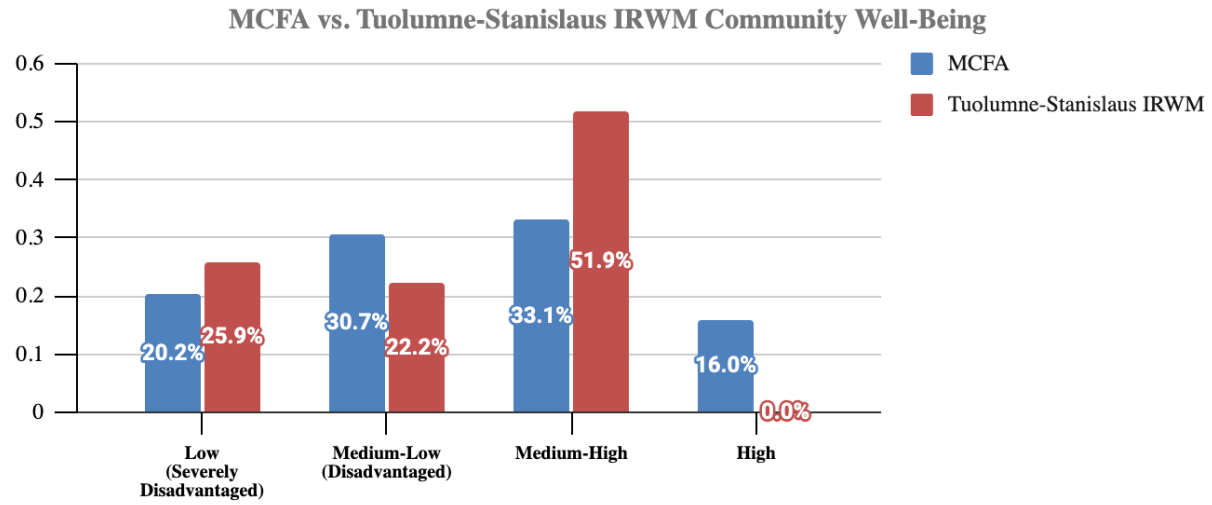


Figure 20. Chart of the percentage of communities classified within each Well-Being category in the Tuolumne-Stanislaus IRWM versus the MCFA as a whole.

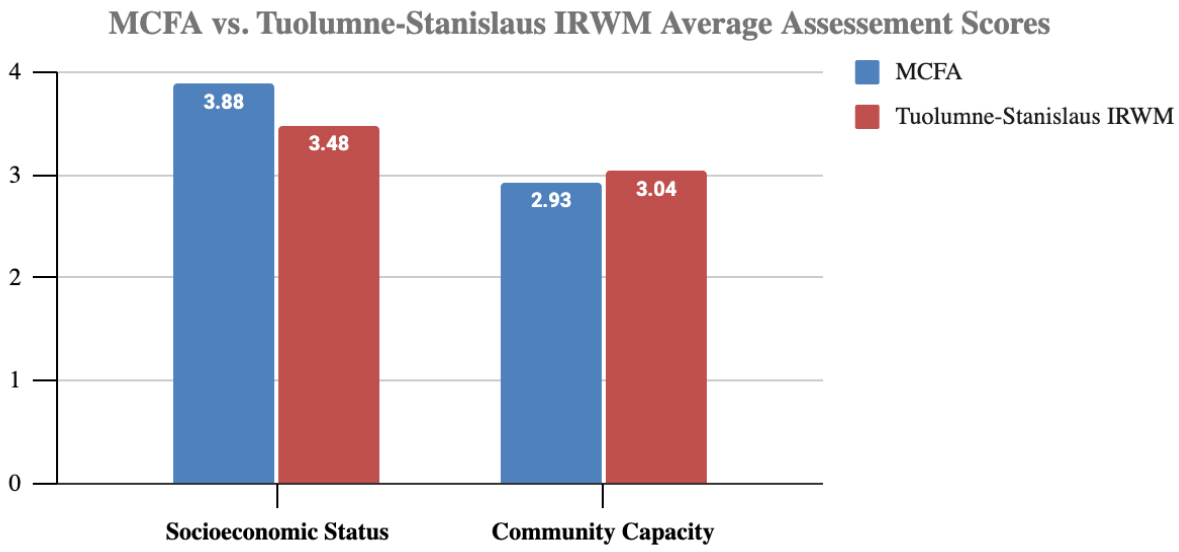


Figure 21. Chart of the average assessment scores for the Tuolumne-Stanislaus IRWM versus the MCFA.

Upper Feather River

Upper Feather River is a fairly large IRWM at the northern extent of the Sierra Nevada. The west side is in the Sierra foothills of Butte County, the central portion of the IRWM is largely occupied by the Plumas National Forest, and the eastern side is dominated by the Sierra Valley, one of the largest mountain meadows in North America.

Most of the Upper Feather River IRWM area is classified as "disadvantaged" or "severely disadvantaged" by the Department of Water Resources, based on median household income. This report's assessment also found that a majority of the IRWM region's communities were either severely disadvantaged (36.0%) or disadvantaged (28.0%), with a far higher percentage of severely disadvantaged communities than the rest of the MCFA (see Figure 22). In this case, DWR's simple household income metric of disadvantaged status designates a higher number of total disadvantaged communities than the assessment method used by Sierra Institute, due to DWR's combined use of census blocks, tracts, and places, and because Sierra Institute's disadvantaged metric is relativized across the MCFA. Communities in the Upper Feather River span a wide range of socioeconomic statuses, with an average score of 4.21 out of 7, similar to the MCFA's average of 3.89 (see Figure 23). Average community capacity also closely aligns with the MCFA as a whole, with an average score of 2.76 versus the MCFA's 2.93.

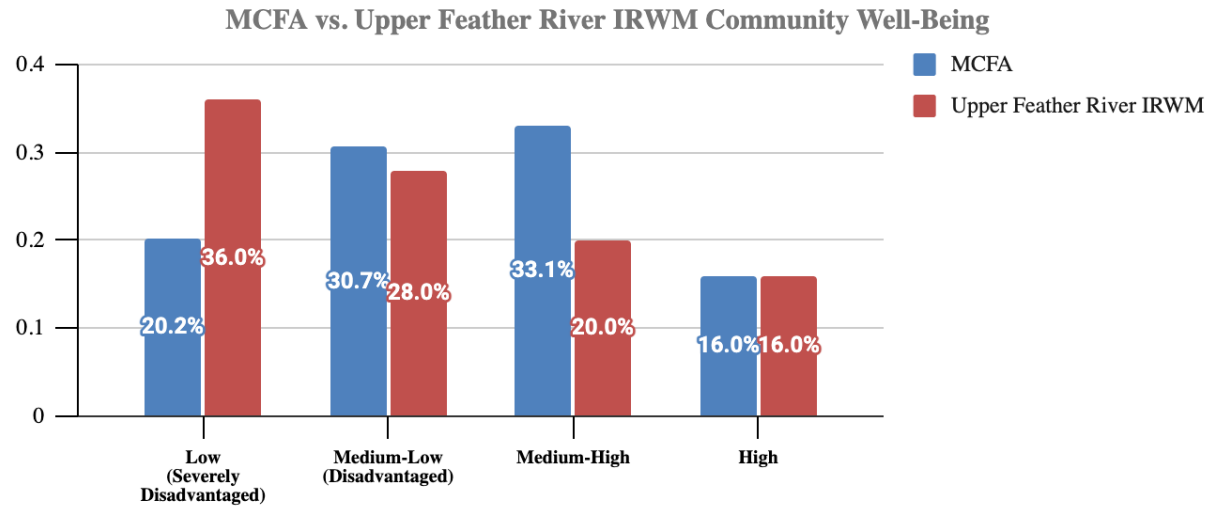


Figure 22. Chart of the percentage of communities classified within each Well-Being category in the Upper Feather IRWM versus the MCFA as a whole.

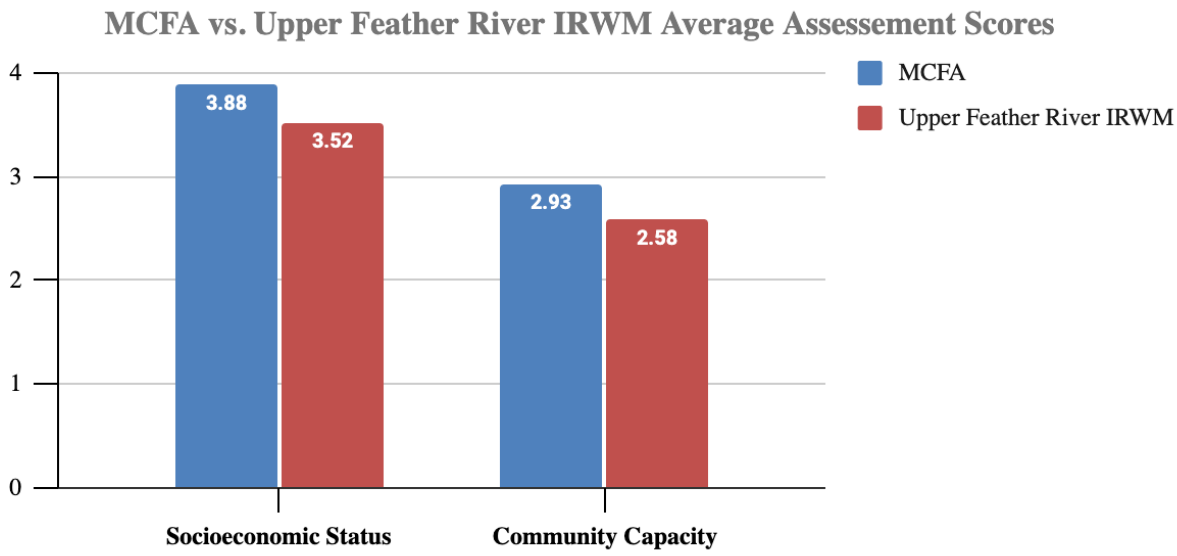


Figure 23. Chart of the average assessment scores for the Upper Feather River IRWM versus the MCFA.

Yosemite-Mariposa

The Yosemite-Mariposa is located in the central Sierra near the southern end of the MCFA. The eastern side of this IRWM includes portions of Yosemite National Park while the rest of the area extends west toward the Sacramento Valley.

Unlike the rest of the MCFA, Yosemite-Mariposa IRWM communities do not follow a normal distribution for Socioeconomic Status scores or Community Capacity scores (see Figure 25). On average, communities in the Yosemite-Mariposa IRWM have lower Socioeconomic Status scores than in the MCFA overall (3.5 compared to 3.9), and higher Community Capacity scores (3.25 compared to 2.) with no community scoring below a 2.5. As a result of the overall higher Community Capacity scores across the IRWM and the number of communities with low and high Socioeconomic Status scores, the Yosemite-Mariposa exhibits a dichotomy of low and high Community Well-Being, with “Medium-Low'' and “High” being the most common scores (see Figure 24). Much of the Yosemite-Mariposa IRWM area is classified as “disadvantaged” or “severely disadvantaged” by the Department of Water Resource, based on median household income. This assessment has found a similar proportion, but identified some different communities as “disadvantaged.” In communities like Bear Valley/ Hornitos/ Mount Bullion, where Socioeconomic Status is high but Community Capacity is low, individual households within the region may pull through tough times but the community as a whole is less able to address challenges and therefore is more likely to be adversely affected, such as by the loss of already limited businesses or services. It should be noted that the most common score is still “Medium-low” and that there are more lower scoring communities in general in the IRWM, demonstrating a need for assistance despite the pockets of wealth in the area.

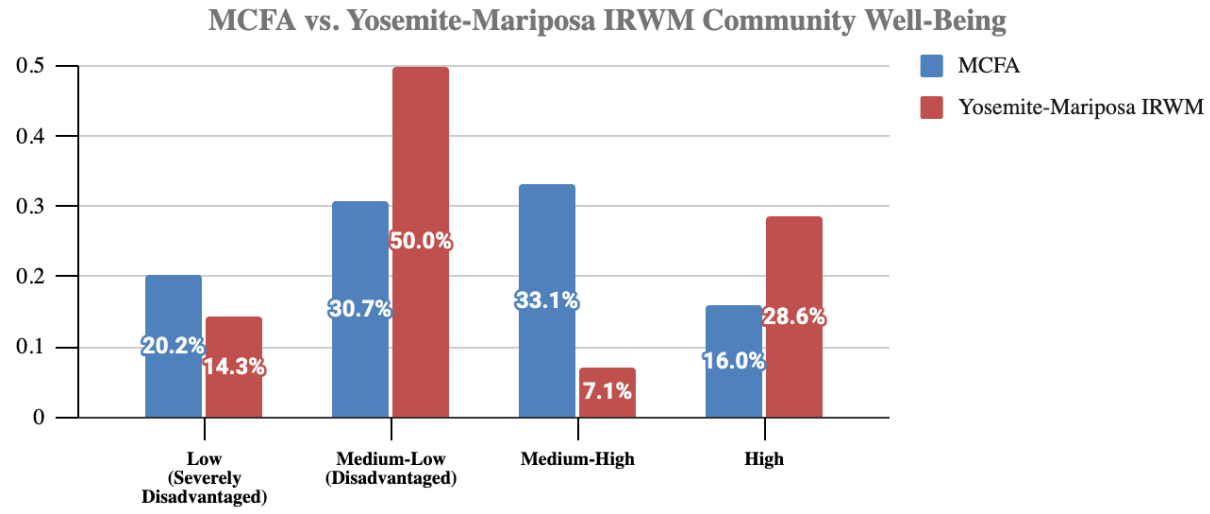


Figure 24. The percentage of communities classified within each Well-Being category in the Yosemite-Mariposa IRWM versus the MCFA as a whole.

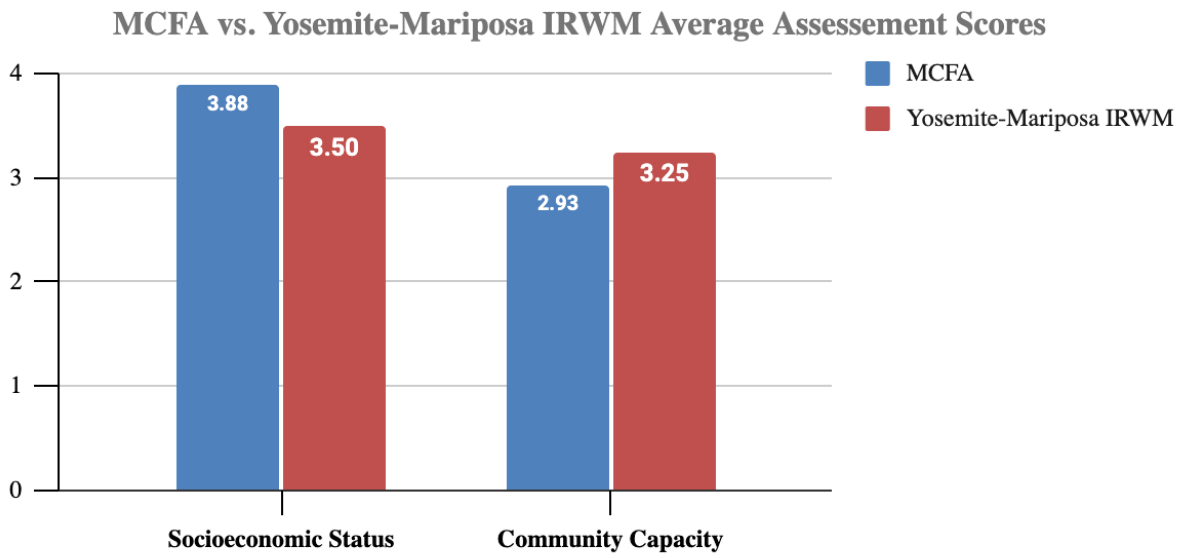


Figure 25. Chart of the average assessment scores for the Yosemite-Mariposa IRWM versus the MCFA.

Yuba

The Yuba IRWM includes communities on the outskirts of Sacramento and the foothills on the Western side of the Sierra, with a few more rural communities further into the Sierra. It overlaps with portions of the North Sacramento Valley, Upper Feather River, and CABY IRWMs.

Just under half of the communities in the Yuba IRWM are classified as either disadvantaged or severely disadvantaged under DWR metrics, while this assessment found that two thirds of the communities are disadvantaged (46.7%) or severely disadvantaged (20%) (see Figure 26). The Yuba IRWM has a higher proportion of disadvantaged communities than the MCFA overall (46.7% compared to 30.7%) and no communities with a high level of well-being, compared to 16% in the MCFA overall (Figure 30). The average Socioeconomic Status score of the Yuba IRWM, a 3.4, is lower than the MCFA average of 3.9, showcasing the overall lower wealth in the IRWM compared to the rest of the MCFA (see Figure 27). In addition, unlike the community capacity scores for the MCFA as a whole, which generally fits a normal distribution, the Yuba IRWM community capacity scores are skewed towards the lower end of the spectrum, with the most common scores being a 1.5 and 2. This means that Yuba IRWM communities, with the exception of a few communities, have lower community capacity relative to the rest of the MCFA IRWMs. This is further indicated by an average Community Capacity score of 2.6 for the IRWM versus the average score of 2.9 for the MCFA.

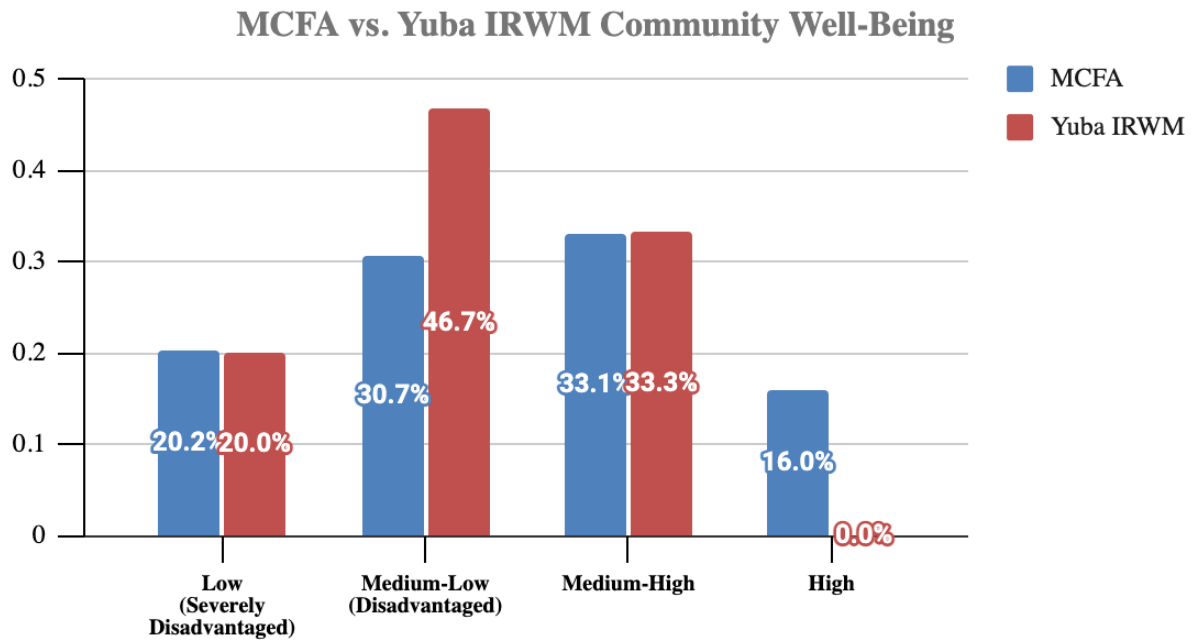


Figure 26. Chart of the percentage of communities classified within each Well-Being category in the Yuba IRWM versus the MCFA as a whole.

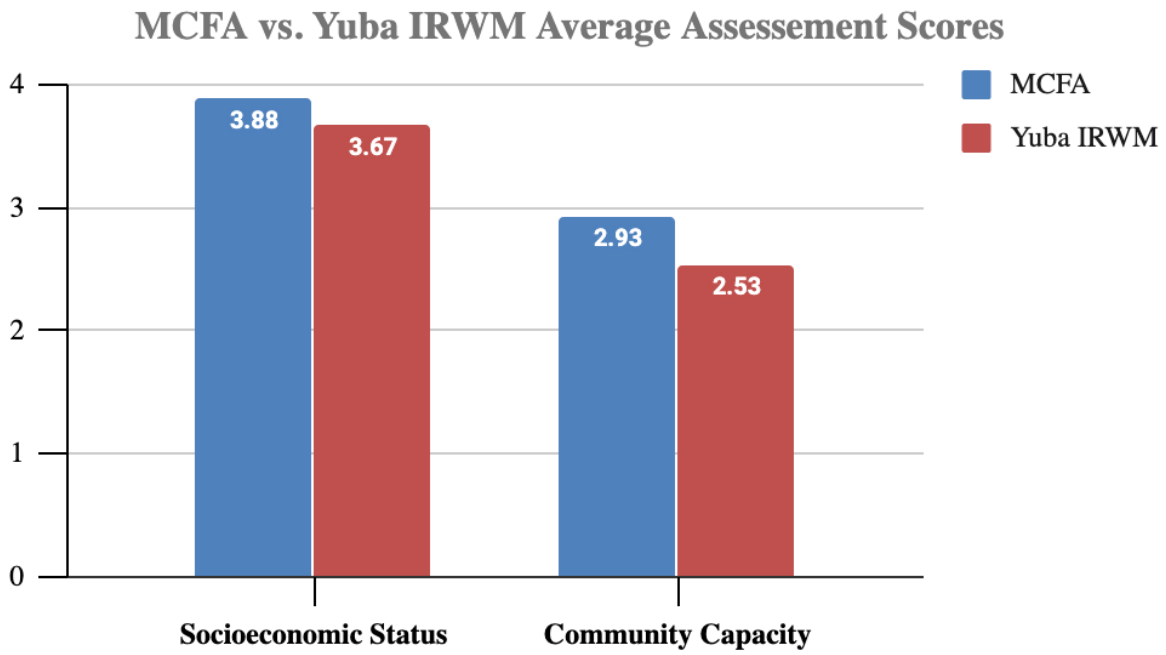
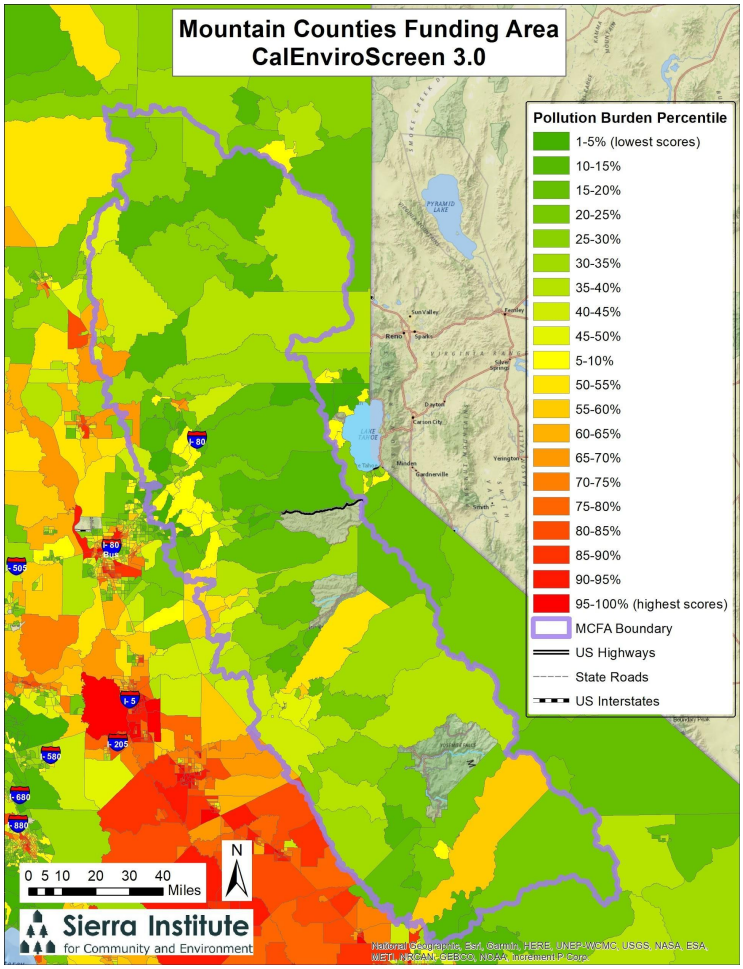


Figure 27. Chart of the average assessment scores for the Yuba IRWM versus the MCFA.

CalEnviroScreen vs. Community Well-Being

CalEnviroScreen is a tool created by the California Office of Health Hazard Assessment to determine the pollution burden of communities and socioeconomic condition. The tool incorporates numerous environmental quality indicators (e.g., air quality, traffic density, groundwater threats) with public health and socioeconomic data. This is included mostly because of its relationship to pollution vulnerability, but also because lower socioeconomic condition has been linked to reduced "adaptability" or capability to escape pollution and other burdens affecting health and overall well-being. The integrated tool is meant to capture both the degree of pollution exposure a particular community has and the vulnerability to that exposure. The CalEnviroScreen tool is used by the California Environmental Protection Agency (CalEPA) to designate communities as "disadvantaged" for the purpose of allocating funds from the Greenhouse Gas Reduction Fund, and is used for similar purposes by other agencies.



Map 5. Map of MCFA CalEnviroScreen Scores. Note that there are no high scoring communities in the mountains.

Statewide, the communities with the highest pollution burden according to CalEnviroScreen are all located in the Central Valley, urban areas, or in the state's southeast corner. There are no high-scoring or disadvantaged communities in rural mountainous areas. Environmental pollution burdens in general are low because, as the thinking goes, mountainous areas typically have lower levels of air, soil, and water pollution as a whole and that their lower levels will offset reduced socioeconomic conditions when they exist. But this is not always the case and underscores a **deeply problematic and fundamental flaw** in an otherwise robust CalEnviroScreen tool.

Rural forest communities that struggle with low socioeconomic conditions including those with pollution burdens do not qualify as disadvantaged under the CalEnviroScreen because they lack air quality or water pollution measurement equipment common in Central Valley and urban communities. Episodic smoke events from wildfire can result in extremely dangerous air quality for weeks on end in forest communities along with localized water pollution sources from fire and old mines that present serious contamination and pollution burdens. Similarly, prescribed burning of forest land can generate dangerous emissions, sometimes affecting locals for weeks. Lack of measures for constituent air, water and soil pollution are treated in CalEnvironScreen as if there are no pollution burdens. **This is a fundamental methodological flaw of CalEnviroScreen for constructing a disadvantaged community scale that includes forest communities but does not capture critical dimensions that make such communities disadvantaged. For these reasons, along with others, CalEnviroScreen is an inappropriate tool to evaluate disadvantaged status for rural forest communities, and it is particularly problematic given that considerable state funding is based on this tool.**

Furthermore, CalEnviroScreen does not reflect a community's capacity to address problems, such as wildfire risk or aging water infrastructure. There is no obvious connection between pollution burden and local ability to apply for and receive grant funds to improve local water infrastructure, for example. The alternative assessment methods described here are important for demonstrating a type of community need that is entirely absent from the CalEnviroScreen tool.

CHAPTER 4. Water and Wastewater Issues and Technical Assistance Needs

Information on water and wastewater service providers for each IRWM was obtained through cross-referencing lists from the California State Water Resources Board and the Department of Water Resources. Due to being unable to ascertain specific addresses for all water/wastewater providers, estimates of those located in disadvantaged communities are likely underestimations.

CABY

The CABY IRWM was found to have 350 water and wastewater service providers with a total of 121,111 connections. Of those total providers, 50% (174) are located in disadvantaged communities. Of those providers in disadvantaged communities, 33% (58) serve residential customers, 32% (55) serve businesses, and 35% (61) serve unknown or other customer types. Many water service providers in the CABY IRWM (such as many Public Utility Districts) are challenged by lack of funds to hire staff, fund infrastructure maintenance, and keep pace with regulatory reporting requirements while simultaneously lacking the capacity to secure outside resources. Wildfire is a very significant threat to most of the IRWM, and most communities lack sufficient water storage and/or water pressure to fight fires effectively.

Water Issues

El Dorado County

- Aging infrastructure
- Fire Suppression Supply
- Access to Fire Hydrants
- Staffing and/or Training
- Regulatory Compliance

Sierra and Nevada Counties

- Aging infrastructure
- Drinking Water Supply
- Regulatory Compliance
- Water Quality
- Lack of Data / Information

Placer County

- Aging infrastructure
- Storage
- Information
- Fire Suppression Supply

Technical Assistance Needs

El Dorado County

- Information Sharing
- Training
- Equipment and Resource Sharing
- California Special Districts Association
- Water Quality

Sierra and Nevada Counties

- Information Sharing
- Training
- Equipment and Resource Sharing
- California Special Districts Association
- Water Quality

Placer County

- Information Sharing
- Training
- Resource Sharing

Madera

The Madera IRWM was found to have 115 water and wastewater service providers with a total of 8,003 connections. Of those total providers, 90% (104) are located in disadvantaged communities. Of those providers in disadvantaged communities, 39% (41) serve residential customers, 21% (22) serve businesses, and 39% (41) serve unknown or other customer types. Notably, many water service providers throughout the entire IRWM area are challenged by lack of funds to hire and train staff, fund infrastructure maintenance, and keep pace with regulatory reporting and climate change impacts. Recommendations for the IRWM include increased information sharing, education and training, and the creation of a regional resource center

Water Issues

- Staffing and/or Training
- Aging infrastructure
- Water Quality
- Drinking Water Supply
- Wastewater Treatment Systems
- Fire Suppression Water Supply
- Access to Fire Hydrants

Technical Assistance Needs

- Project Planning/Development
- Engineering/Design
- Operations and Maintenance
- Training Program
- Grant Writing and Administration
- Creation of an Integrated Mapping System for IRWM
- Regulatory Compliance
- Safety Training
- Program Management
- Environmental Compliance
- Information and Data
- 1- Stop Resource Center

Mokelumne-Amador-Calaveras

The MAC IRWM was found to have 129 water and wastewater service providers with a total of 44,562 connections. Of those total providers, 69% (89) are located in disadvantaged communities. Of those providers in disadvantaged communities, 26% (23) serve residential customers, 31% (28) serve businesses, and 43% (38) serve unknown or other customer types. Notably, many water service providers throughout the entire IRWM area (such as many Community Service Districts) are challenged by aging infrastructure and increasing drought, and many lack the capacity to secure outside resources and keep pace with regulatory compliance. Many communities also lack sufficient water storage, hydrants, and/or water pressure to fight fires effectively. Recommendations for the IRWM include increased information sharing, education and training, and the creation of a regional resource center

Water Issues

- Aging infrastructure
- Regulatory Compliance
- Staffing and/or Training
- Lack of Data / Information
- Fire Suppression Water Supply
- Drinking Water Supply
- Access to Fire Hydrants
- Water Quality

Technical Assistance Needs

- Project Planning/Development
- Engineering/Design
- System Infrastructure/Hardware
- Funding and Grant Writing
- 1-Stop Resource Center
- Coaching and Mentoring for Small Water Systems
- Checklist Needs to be Developed for Projects and Grants
- Provide a List of Resources
- Assistance Establishing Mutual Aid Agreement
- Assistance with Fuel Reduction
- Creation of an Integrated Mapping System for County

North Sacramento Valley

The NSV IRWM was found to have 38 water and wastewater service providers with a total of 20,974 connections. Of those total providers, 95% (36) are located in disadvantaged communities. Of those providers in disadvantaged communities, 44% (16) serve residential customers, 17% (6) serve businesses, and 39% (14) serve unknown or other customer types. Communities in the North Sacramento Valley IRWM have some of the lowest Socioeconomic Status, Community Capacity and Community Well-Being in the MCFA. Notably, many water service providers throughout the entire IRWM area (such as many Community Service Districts) are challenged by lack of funds for infrastructure maintenance, hiring staff, and keeping pace with regulatory reporting requirements, while also lacking the capacity to secure outside resources. As the Camp Fire made clear, wildfire is a significant threat to most of the IRWM, and most communities lack sufficient water storage and/or water pressure to fight fires effectively. Recommendations for the IRWM include increased information sharing, education and training, and the creation of a regional resource center.

Water Issues

- Drinking Water Supply
- Aging infrastructure
- Fire Suppression Water Supply

Technical Assistance Needs

- System Infrastructure/Hardware
- Mapping
- Funding and Grant Writing
- Water Quality
- Regulations
- Regional Resource Center

Southern Sierra

The Southern Sierra IRWM was found to have 86 water and wastewater service providers with a total of 4,224 connections. Of those total providers, 31% (27) are located in disadvantaged communities. Of those providers in disadvantaged communities, 33% (9) serve residential customers, 11% (3) serve businesses, and 56% (15) serve unknown or other customer types. Like in much of the MCFA, aging infrastructure is a barrier, and raises concerns about water quality and supply. Service providers are facing growing issues of reliable water for drinking and fire suppression. There is a need to collect reliable data, and to educate the public. Recommendations for the IRWM include cooperative supply purchasing, local water education and training, and the creation of a regional resource center. A full list of challenges and technical assistance needs determined by the Sierra Water Workgroup through a survey and community workshop, are listed below.

Water Issues

- Drinking Water Supply
- Aging Infrastructure
- Fire Suppression Water Supply
- Groundwater Recharge
- Water Quality
- Access to Fire Hydrants
- Regulatory Compliance
- Water Treatment Systems
- Storage/Operations
- Lack of Data/ Information

Technical Assistance Needs

- Regional Resource Center
- Cooperative Buying
- Training
- Water Conservation

Tuolumne-Stanislaus

The T-Stan IRWM was found to have 183 water and wastewater service providers with a total of 31,348 connections. Of those total providers, 76% (139) are located in disadvantaged communities. Of those providers in disadvantaged communities, 32% (44) serve residential customers, 22 (16%) serve businesses, and 53% (73) serve unknown or other customer types. Many water service providers throughout the entire IRWM area are challenged by lack of funds to hire staff, maintain infrastructure, and keep pace with regulatory reporting requirements and climate change impacts. The inability to upgrade ageing pipes, wells, storage, and treatment facilities has contributed to concerns about water quality and supply for drinking and fire suppression. Recommendations for the IRWM include increased information sharing, education and training, and the creation of a regional resource center. A full list of challenges and technical assistance needs determined by the Sierra Water Workgroup through a survey and community workshop, is listed below.

Water Issues

- Aging infrastructure
- Fire Suppression Water Supply
- Drinking Water Supply
- Access to Fire Hydrants
- Water Quality
- Wastewater Treatment Systems
- Water Pressure
- Outreach and Engagement Option

Technical Assistance Needs

- Engineering and Design
- Creation of an Integrated Mapping System
- Drinking Water Supply
- Project Planning and Development
- Environmental Compliance
- Funding and Grant Writing

Upper Feather River

The Upper Feather River IRWM was found to have 229 water and wastewater service providers, with 79 (34%) of those in areas designated as disadvantaged. Of those providers in disadvantaged communities, 27 (34%) of those are residential, 20 (25%) are businesses, and 32 (41%) are other. Representatives of these aforementioned water and wastewater organizations, neighborhood groups and other interested parties were encouraged to attend and participate in the Water and Wastewater Workshop. The community capacity and socioeconomic status assessments reveal several persistent challenges shared by many communities throughout the Upper Feather River IRWM, largely related to the combination of poverty, low population density, and decaying infrastructure. Upper Feather River has no large water agencies, and water and wastewater services are instead provided by a mix of small community service districts, public utility districts, tiny private water associations, and individual wells and septic systems. Such small service providers lack sufficient revenue to hire staff, fund infrastructure maintenance, keep pace with regulatory requirements and train personnel. Limited staffing hinders these entities' ability to identify and secure outside resources. Additionally, as the Camp Fire made clear, wildfire is a significant threat to most of the IRWM, and most communities lack sufficient water storage and/or water pressure to fight fires effectively. A full list of the IRWM's water and wastewater issues, as well as their technical assistance needs, as found by Sierra Water Workgroup using a survey and community workshop, are listed below.

Water Issues

- Aging Infrastructure
- Inadequate Storage
- Insufficient Operations and Maintenance Capacity
- Limited Staff and Budget
- Financial Strain of Meeting Regulatory Requirements
- Water Quality/Drinking Water Supply
- Water Conservation
- Wastewater Treatment Systems
- Fire Suppression Water Supply
- Water Pressure

Technical Assistance Needs

- Engineering and Design
- Project Planning and Development
- Grant Writing and Administration
- Mapping
- Regulatory Compliance
- Environmental Compliance
- System Operations and Maintenance
- Safety Training

Yosemite Mariposa

The Yosemite-Mariposa IRWM was found to have 103 water and wastewater service providers with a total of 4,579 connections. Of those total providers, 74% (76) are located in disadvantaged communities. Of those providers in disadvantaged communities, 20% (15) serve residential customers, 8% (6) serve businesses, and 72% (55) serve unknown or other customer types. Infrastructure is ageing and service districts lack the funds and staffing to meet regulatory standards and perform upgrades. Mariposa County is located on fractured rock, which produces contamination concerns. Additionally, many communities lack sufficient water storage and/or water pressure and struggle to procure drinking water, exacerbated by past droughts, timber die-offs, and wildfires disrupting hydrologic functions. Recommendations for the IRWM include increased information sharing, education and training, and the creation of a regional resource center. A full list of challenges and technical assistance needs determined by the Sierra Water Workgroup through a survey and community workshop, are listed below

Water Issues

- Aging Infrastructure
- Drinking Water Supply
- Regulatory Compliance
- Staffing / Training
- Fire Suppression Water Supply
- Storage / Operations
- Water Quality
- Water Pressure

Technical Assistance Needs

- Engineering and Design
- Project Planning and Development
- Operations and Maintenance
- Financial Management
- Grant Writing and Administration
- Regulatory Compliance
- Environmental Compliance
- Training
- System Management
- Water Recycling

YUBA

The Yuba IRWM was found to have 58 water and wastewater service providers with a total of 3,133 connections. Of those total providers, 55% (32) are located in disadvantaged communities. Of those providers in disadvantaged communities, 41% (13) serve residential customers, 22% (7) serve businesses, and 38% (12) serve unknown or other customer types. Aging infrastructure, including wells, treatment facilities, ditches, pipes, and storage, was identified as a primary concern. The area is at high risk of wildfire and has a limited supply of water for firefighting. The water systems that exist can cover only a small part of the communities, and cannot provide the water pressure needed to be effective at fire suppression. Other concerns include water contamination and staffing of water purveyors. A full list of challenges and technical assistance needs determined by the Sierra Water Workgroup through a survey and community workshop, are listed below:

Water Issues

- Drinking Water Supply
- Aging Infrastructure
- Fire Suppression Water Supply

Technical Assistance

- Project Planning and Development
- Education and Training
- System Operations and Maintenance
- System Infrastructure/Hardware
- Funding and Grant Writing
- 1-Stop Resource Center

CHAPTER 5. Recommendations

The following recommendations were developed from a combination of work efforts that includes data collected from the Water/Wastewater Workshops, surveys, phone conversations, "Lessons Learned" Conference, and discussions with State/Federal employees. It is our expectation that the RWMG within each IRWM will hold a meeting and discuss these suggested next steps.

1. **Information Sharing**

    a. More outreach is required to share information (annual workshops, outreach by phone and field trips) - there are a number of stakeholders within the MCFA IRWMs that do not participate in the IRWM nor have current information on opportunities for funding (e.g., upcoming grants), or other state and federal assistance program (e.g., Low Income Rate Assistance Program.)

    b. A comprehensive database of current grant opportunities managed by an organization such as the Sierra Nevada Conservancy would greatly assist service providers to find and identify possible grant opportunities. The data base should detail:
        i. Grant Name and Funder
        ii. Basic Eligibility Requirements
        iii. Amount Available and Any Match Requirements
        iv. Grant Due Date
        v. Link to Actual Grant Solicitation

2. **Education and Training**

    a. Coordinate safety classes and training for multiple water districts. Many of these classes have no cost, however they need to be organized and located centrally if possible.
    b. Provide regulatory compliance training classes.
    c. Provide grant writing classes.
    d. Provide coordinated operators training.

3. **Regional Resource Center**

    a. Work with a willing provider (e.g., Water Agency, NGO, etc.) to expand services for local service providers, DACs and Tribes. This may include professional

services such as environmental permitting (CEQA/NEPA), engineering and design, and project planning.

b. Create an equipment sharing program between water service providers to share items used infrequently. This may include equipment for:

    i. Leak detection
    ii. Pipe location

APPENDIX A. Community Capacity Assessment Worksheet

Sierra Institute Socioeconomic Monitoring: Community Capacity Assessment Workshop

March 30th, 2018

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.)

Please describe why you rated this community as you did in the box below.

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 and their willingness to use these locally.)

Please describe why you rated this community as you did in the box below.

SOCIAL CAPITAL

LOW **1** **2** **3** **4** **5** HIGH

(The ability and willingness of local residents to work together towards community ends and purposes.)

Please describe why you rated this community as you did in the box below.

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.)

Please describe why you rated this community as you did in the box below.

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.)

Please describe why you rated this community as you did in the box below.

OVERALL CAPACITY RATING

LOW **1** **2** **3** **4** **5** HIGH

Please describe why you rated this community as you did in the box below.

Additional Narrative Information:

APPENDIX B. Water/Wastewater Preliminary Survey

Small Community Water/Wastewater Preliminary Survey

Disadvantaged Community Involvement Program
Small Community Water/Wastewater Preliminary Survey

Thank you for participating in our survey. Your feedback is important. We expect the survey will take no more than five to ten minutes to complete. The following information is being collected for discussion purposes at the Water/Wastewater Workshop on March 30, 2018, at Plumas County Fairgrounds, Mineral Building: 204 Fairground Rd, Quincy, CA 95971, from 1:00-4:00 p.m. We hope to see you there!

1. Organization Name/address

2. Primary contact:

3. Phone number/email:

4. Which communities do you serve?

5. Do you have an emergency response plan?

6. What services do you provide to DAC areas? (See DWR Mapping Tool):

https://www.water.ca.gov/Programs/Integrated-Regional-Water-Management/Mapping-Tools

- Drinking water treatment and supply ☐
- Irrigation/agricultural water distribution ☐
- Wastewater treatment/collection ☐
- Other (list below) ☐

7. If you believe you serve a DAC community that is not listed on the DWR mapping tool, please indicate the service, and list the community(s)

- Drinking water treatment and supply ☐
- Irrigation/agricultural water distribution ☐

Wastewater treatment/collection ☐

Other (list below with DAC Community) ☐

8. Please indicate your source(s) of water supply?

Wells

Canals/ditches

Reservoir

Instream

Other (list below)

9. Approximately how many hook-ups or connections do you have for water supply?

0-50

51-100

101-250

251-500

501-1000

1001-5000

Over 5000

10. Approximately how many hook-ups do you have for sewer?

0-50

51-100

101-250

251-500

501-1000

1001-5000

Over 5000

Challenges

(Please indicate your level of concern for each category, and write any additional comments below)

a. Drinking water supply

No concern ☐

Limited concern ☐

Moderate concern ☐

Extreme concern ☐

b. Water quality

No concern ☐

Limited concern ☐

Moderate concern ☐

Extreme concern ☐

c. Water pressure

No concern ☐

Limited concern ☐

Moderate concern ☐

Extreme concern ☐

d. Treatment system

No concern

Limited concern

Moderate concern

Extreme concern

e. Aging infrastructure

No concern

Limited concern

Moderate concern

Extreme concern

f. Fire suppression supply

No concern

Limited concern

Moderate concern

Extreme concern

g. Water Conservation

No concern

Limited concern

Moderate concern

Extreme concern

h. Staffing and/or training

No concern

Limited concern

Moderate concern

Extreme concern

i. Regulatory compliance

No concern

Limited concern

Moderate concern

Extreme concern

j. Storage/Operation

No concern

Limited concern

Moderate concern

Extreme concern

k. Other (please explain below)

Technical Assistance and Training Needs

(Please indicate your level of need for the following types of Technical Assistance)

l. System infrastructure – operations/maintenance

No need

Moderate need

Strong need

Extreme need

m. Safety training

No need

Moderate need

Strong need

Extreme need

n. Financial management (budget, rate structure)

No need

Moderate need

Strong need

Extreme need

o. Regulatory compliance

No need

Moderate need

Strong need

Extreme need

p. Program management (water conservation, recreation, watershed management, etc.)

No need

Moderate need

Strong need

Extreme need

q. Mapping

No need

Moderate need

Strong need

Extreme need

r. Environmental compliance (CEQA/NEPA)

No need

Moderate need

Strong need

Extreme need

s. Grant writing/administration

No need

Moderate need

Strong need

Extreme need

t. Engineering/design

No need

Moderate need

Strong need

Extreme need

u. Project planning/development

No need

Moderate need

Strong need

Extreme need ☐

Integrated Regional Water Management Involvement

(Please indicate your level of involvement)

How involved is your organization in the Upper Feather River IRWM

Not involved ☐

Rarely involved ☐

Often involved ☐

Very Involved ☐

Please share any additional concerns, technical needs or suggestions.

APPENDIX C. Comparative Assessment Results

It is helpful to see all of the assessment metrics side-by-side for each community within each IRWM – Community Capacity, Socioeconomic Status, Community Well-Being, and DWR's "disadvantaged"/ "severely disadvantaged" status. For the DWR Disadvantaged status, communities are listed as "severely disadvantaged" and/or "disadvantaged" if they are designated as such in *either* the Census tract, Census block group, or Census place layers on DWR's online DAC Mapping Tool. A particular community may be listed as "disadvantaged" by one metric but not by another. For instance, a community may be listed as "severely disadvantaged" according to its Census tract (the largest area used) but is not designated for any disadvantaged status when using the Census block group layer. Because of the visual confusion caused by the overlap of the three census data scales as described above, we are not including a map of DWR "disadvantaged" or "severely disadvantaged" status in this report. Instead, we list whether a community qualifies as either "disadvantaged," "severely disadvantaged," or has mixed status areas. If an area qualifies for multiple statuses, the greatest disadvantaged status is listed.

CABY

Table 1. Comparison of 4 Assessment Metrics for the El Dorado County region (CABY IRWM) communities.

El Dorado County Region Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Alpine Village / Kirkwood / Mesa Vista	3.5	2	Medium-Low	None
American River Canyon	1	3	Low	None
Auburn Lake Trails	4	7	High	None
Cameron Park	4	5	Medium-High	Disadvantaged
Camino	4.5	5	Medium-High	None
Cedar Grove	2	4	Medium-Low	Disadvantaged
Coloma / Lotus	4	6	High	None
Cool / Pilot Hill	3	5	Medium-High	None
Diamond Springs	3.5	4	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
El Dorado Hills	5	7	High	None
El Dorado / Nashville	2.5	6	High	None
Fair Play	3.5	3	Medium-Low	None
Garden Valley / Greenwood	3.5	5	Medium-High	Mix: None/ Disadvantaged
Georgetown	3	4	Medium-High	Disadvantaged
Gold Hill	3	6	High	Mix: None/ Disadvantaged
Grizzly Flats / Omo	2	3	Low	Mix: None/ Disadvantaged
Ione / Jackson Valley	3	3	Medium-Low	None
Kelsey	3	3	Medium-Low	None
Latrobe	2.5	6	High	None
Mosquito / Swansboro	1.5	5	Medium-Low	Disadvantaged
Newtown / Sly Park	3	5	Medium-High	None
Pioneer / Buckhorn	2.5	3	Low	Disadvantaged
Placerville	4	3	Medium-Low	Mix: None/ Disadvantaged/

				Severely Disadvantaged
Pleasant Valley	4	4	Medium-High	None
Plymouth	3	4	Medium-High	Mix: None/ Disadvantaged
Pollock Pines	2	4	Medium-Low	Mix: None/ Disadvantaged/ Severely Disadvantaged
Rescue	3.5	6	High	None
River Pines	3	4	Medium-High	None
Shingle Springs	3.5	6	High	None
Somerset / Outingdale	1.5	3	Low	None
Volcanoville / Quintett	2	4	Medium-Low	Mix: None/ Disadvantaged

Table 2. Comparison of 4 Assessment Metrics for the Nevada County region (CABY IRWM) communities.

Nevada County Region Community	Community Capacity Score	Socioeconomic Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Alta Sierra	3	6	High	Mix: None/ Disadvantaged
Banner Mountain / Airport	3	7	High	None
Chicago Park	3	6	High	None
Garden Bar	3	5	Medium-High	None
Grass Valley	4	1	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Lake of the Pines / Higgins	3	5	Medium-High	None
Lake Wildwood	3.5	5	Medium-High	Mix: None/ Disadvantaged
McCourtney	2	5	Medium-Low	None
Nevada City	4	5	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
North San Juan Ridge / Newtown	3	3	Medium-Low	Mix: None/ Severely Disadvantaged
Peardale	3	6	High	Mix: None/ Disadvantaged
Penn Valley	3.5	4	Medium-High	Mix: None/ Disadvantaged
Red Dog / You Bet	2	6	High	None
Rough and Ready	2.5	3	Low	Mix: None/ Disadvantaged/ Severely Disadvantaged

Spenceville	2	4	Medium-Low	None
Squirrel Creek	3	3	Medium-Low	Disadvantaged
Tahoe National Forest	3	5	Medium-High	None

Table 3. Comparison of 4 Assessment Metrics for the Sierra County region (CABY IRWM) communities.

Sierra County Region Community	Community Capacity Score	Socioeconomic Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Alleghany / Sattley	1.5	6	Medium-Low	Disadvantaged
Calpine / Downieville / Sierra City	3	2	Medium-Low	Disadvantaged
Challenge-Brownsville	3.5	2	Medium-Low	Severely Disadvantaged
Dobbins	1.5	5	Medium-Low	Severely Disadvantaged
Loma Rica	4	5	Medium-High	None
Meadow Valley / Bucks Lake	3	4	Medium-High	Disadvantaged
Oregon House / Browns Valley	2	5	Medium-Low	None
Robinson Mill / Forbestown	2	2	Low	Severely Disadvantaged
Sierraville	3.5	6	High	Disadvantaged
Smartsville	1.5	2	Low	Mix: Disadvantaged/ Severely Disadvantaged
Strawberry Valley / Camptonville / La Porte	2	4	Medium-Low	Severely Disadvantaged

Table 4. Comparison of 4 Assessment Metrics for the Placer County region (CABY IRWM) communities.

Placer County Region Community	Community Capacity Score	Socioeconomic Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Alta / Dutch Flat	3	4	Medium-High	Mix: None/ Disadvantaged
Applegate	2	5	Medium-Low	None
Auburn	3.5	3	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Auburn / Bowman	3	6	High	None
Cape Horn / Moody Ridge	2	4	Medium-Low	None

Clipper Gap	2	4	Medium-Low	None
Colfax / Iowa Hill	2	4	Medium-Low	Mix: None/ Disadvantaged
Foresthill	1.5	2	Low	None
Loomis / Penryn	5	6	High	Mix: None/ Disadvantaged
Meadow Vista	4	7	High	None
Newcastle / Ophir	3.5	6	High	Mix: None/ Disadvantaged
North Auburn	4	4	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
Placer East	1.5	3	Low	Mix: None/ Disadvantaged
Rural Lincoln	3	4	Medium-High	None
South Auburn	4.5	7	High	None
Weimar	2.5	5	Medium-High	Disadvantaged

Madera

Table 5. Comparison of 4 Assessment Metrics for the Madera IRWM.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Ahwahnee	3	3	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Coarsegold	3.5	4	Medium-High	Mix: Disadvantaged/ Severely Disadvantaged
Indian Lakes/ Quartz Mountain/ Picayune Rancheria	2.5	3	Low	Mix: Disadvantaged/ Severely Disadvantaged
Mammoth Pool	3	5	Medium-High	Severely Disadvantaged
North Fork	2.5	3	Low	Disadvantaged
O'Neals	2.5	5	Medium-High	None
Oakhurst	4	4	Medium-High	Mix: Disadvantaged/ Severely Disadvantaged
Raymond/ Knowles	2	3	Low	Mix: None/ Disadvantaged
Yosemite Forks/ Cedar Valley/ Sugar Pine	3	2	Medium-Low	Disadvantaged
Yosemite Lakes	3.5	4	Medium-High	None

Mokelumne-Amador-Calaveras

Table 6. Comparison of 4 Assessment Metrics for the Mokelumne-Amador-Calaveras IRWM.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group or Census Tract or Census Designated Place)
Alpine Village/ Kirkwood/ Mesa Vista	3.5	2	Medium-Low	None
Angels Camp	3.5	5	Medium-High	Mix: None/ Disadvantaged
Arnold/ Avery/ Dorrington	3.5	5	Medium-High	Mix: Disadvantaged/ Severely Disadvantaged
Blue Mountain Communities	3	2	Medium-Low	Severely Disadvantaged
Camanche	2	4	Medium-Low	None
Copperopolis/ Copper Cove	3.5	4	Medium-High	None
Ione/ Jackson Valley	3	3	Medium-Low	Mix: None/ Disadvantaged
Jackson	3.5	4	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
Markleeville/ Bear Valley	3	5	Medium-High	None
Mokelumne Hill/ Paloma	4	2	Medium-Low	Disadvantaged
Mt Ranch/ Sheep Ranch/ Calaveritas	3	2	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Pine Grove/ Volcano East	3	4	Medium-High	Mix: None/ Disadvantaged
Pioneer/ Buckhorn	2.5	3	Low	Disadvantaged
Plymouth	3	4	Medium-High	Mix: None/ Disadvantaged
River Pines	3	4	Medium-High	None
San Andreas	2	1	Low	Disadvantaged
Sutter Creek/ Amador City/ Volcano West	4	5	Medium-High	Mix: None/ Disadvantaged
Tamarack	3.5	3	Medium-Low	Severely Disadvantaged
Valley Springs/ Rancho Calaveras/ La Contenta	2.5	4	Medium-High	Mix: None/ Disadvantaged

North Sacramento Valley

Table 7. Comparison of 4 Assessment Metrics for the North Sacramento Valley IRWM.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Bangor/ Rackerby	2	3	Low	Disadvantaged
Berry Creek	2	1	Low	Severely Disadvantaged
Butte Valley/ Cherokee	3	2	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Feather Falls/ Forbestown	1.5	1	Low	Severely Disadvantaged
Oroville	2.5	2	Low	Mix: Disadvantaged/ Severely Disadvantaged
Palermo	2	1	Low	Mix: Disadvantaged/ Severely Disadvantaged
Paradise/ Magalia	2.5	3	Low	Mix: Disadvantaged/ Severely Disadvantaged
Stirling City/ Upper Concow	1.5	2	Low	Mix: Disadvantaged/ Severely Disadvantaged
Yankee Hill/ Lower Concow	2	1	Low	Severely Disadvantaged

Southern Sierra

Table 8. Comparison of 4 Assessment Metrics for the Southern Sierra IRWM.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Auberry/ Big Sandy Rancheria	3	4	Medium-High	Mix: None/Disadvantaged
Friant	3.5	4	Medium-High	None
Mammoth Pool	3	5	Medium-High	Severely Disadvantaged
Prather/ Tollhouse/ Cold Springs Rancheria	2.5	4	Medium-High	Mix: None/Disadvantaged
Shaver Lake/ Huntington Lake	3	5	Medium-High	Mix: None/Disadvantaged
Sierra National Forest	3	3	Medium-Low	None

Tuolumne-Stanislaus

Table 9. Comparison of 4 Assessment Metrics for the Tuolumne-Stanislaus IRWM.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by either Census Block Group, Census Tract or Census Place)
Arnold /Avery/ Dorrington	3.5	5	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
Angels Camp	3.5	5	Medium-High	Mix: None/ Disadvantaged
Cedar Ridge/ Big Hill/ Jupiter	2.5	3	Low	None
Chinese Camp/ Keystone/ Red Hills	3	2	Medium-Low	None
Columbia	3.5	2	Medium-Low	Mix: None/ Disadvantaged
Copperopolis/ Copper Cove	3.5	4	Medium-High	None
Crystal Falls	3	5	Medium-High	Mix: None/Disadvantaged
East Sonora	2	2	Low	Mix: Disadvantaged/ Severely Disadvantaged
Groveland/ Big Oak Flat	2.5	1	Low	Severely Disadvantaged
Groveland/ Yosemite	3.5	3	Medium-Low	Mix: Disadvantaged/ Severely Disadvantaged
Jamestown	2.5	3	Low	Mix: None/ Disadvantaged/ Severely Disadvantaged
Lake Don Pedro (TS)	2.5	5	Medium-High	None
Long Barn/ Pinecrest/ Strawberry	2	1	Low	Disadvantaged
Markleeville/ Bear Valley	3	5	Medium-High	None
Mi-Wuk/ Confidence	4	3	Medium-Low	Mix: None/ Disadvantaged
Murphys/ Douglas Flat	4	4	Medium-High	Mix: None/ Severely Disadvantaged
Old Wards Ferry/ Algerine Wards Ferry	3.5	3	Medium-Low	Mix: None/ Disadvantaged
Phoenix Lake	3.5	5	Medium-High	None
Pine Mountain Lake	3	4	Medium-High	None
Quartz/ Stent	2.5	3	Low	None
Sonora	2.5	2	Low	Mix: None, Disadvantaged/ Severely Disadvantaged
Soulsbyville	3	4	Medium-High	None

Tamarack	3.5	3	Medium-Low	None
Tuolumne	3	4	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
Tuttletown/ Rawhide/ Chicken Ranch	3	4	Medium-High	Severely Disadvantaged
Twain Harte	3.5	5	Medium-High	Mix: None/ Disadvantaged/ Severely Disadvantaged
Valley Springs/ Rancho Calaveras/ La Contenta	2.5	4	Medium-High	None

Upper Feather River

Table 10. All communities within the Upper Feather River IRWM as identified through community workshops.

Community	Community Capacity	Socioeconomic Status	Community Well-Being	DWR Disadvantaged Status (by either Census Block Group or Census Tract or Place)
Graeagle/ Plumas Eureka	3.5	5	Medium-High	None
Lake Almanor Peninsula/ North Shore/ Hamilton Branch	3.5	6	High	None
Quincy	3.5	3	Medium-Low	Mix: Disadvantaged and Severely Disadvantaged
Westwood/Clear Creek	3	3	Medium-Low	Mix: Disadvantaged and Severely Disadvantaged
Blairsden/ Johnsville/ Whitehawk/ Clio	3	5	Medium-High	None
Chester	3	3	Medium-Low	Disadvantaged
Meadow Valley/Bucks Lake	3	4	Medium-Low	None
Cromberg/ Greenhorn	2.5	5	Medium-High	Disadvantaged
East Shore/ Lake Almanor West/ Prattville	2.5	3	Low	None
Taylorsville/ Crescent Mills/ Feather River Canyon	2.5	4	Medium-High	Severely Disadvantaged
Indian Valley/ Genesee Valleys	2.5	6	High	Severely Disadvantaged
Northern Sierra Valley	2.5	7	High	Disadvantaged
Greenville	2	2	Low	Severely Disadvantaged
Portola/ Delleker	2	3	Low	Mix: Disadvantaged and Severely Disadvantaged
Butte Valley/ Cherokee	3	2	Medium-Low	Disadvantaged
Paradise/ Magalia	2.5	3	Low	Disadvantaged
Oroville	2.5	2	Low	Disadvantaged
Yankee Hill/ Lower Concow	2	1	Low	Severely Disadvantaged
Berry Creek	2	1	Low	Severely Disadvantaged
Stirling City/ Upper Concow	1.5	1	Low	Mix: Disadvantaged and Severely Disadvantaged
Feather Falls/ Forbestown	1.5	1	Low	Severely Disadvantaged

Sierraville	3.5	6	High	Disadvantaged
Calpine/ Downieville/ Sierra City	3	2	Medium-Low	Disadvantaged
Loyalton/ Verdi	2.5	4	Medium-High	Disadvantaged
Alleghany/ Sattley	1.5	6	Medium-Low	Disadvantaged

Yosemite-Mariposa

Table 11. Comparison of 4 Assessment Metrics for the Yosemite-Mariposa IRWM.

Community	Community Capacity Score	Socioeconomic Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by Census Block Group, Census Tract or Census Designated Place)
Bear Valley/ Hornitos/ Mount Boullion	2.5	6	High	Disadvantaged
Ben Hur	3	1	Low	Disadvantaged
Bootjack	3.5	2	Medium-Low	Mix: None/Disadvantaged
Cathey's Valley	3.5	5	Medium-High	None
Coulterville	3	6	High	Severely Disadvantaged
Greeley Hill	3	3	Medium-Low	None
Indian Peak	3	3	Medium-Low	Disadvantaged
Lake Don Pedro (YM)	3.5	3	Medium-Low	Disadvantaged
Mariposa	4	1	Medium-Low	Disadvantaged
Midpines/ Jerseydale/ Mariposa Pines	3	3	Medium-Low	Mix: None/Disadvantaged
Ponderosa Basin	3	6	High	None
Triangle	3	6	High	None
Wawona	3.5	1	Low	Mix: Disadvantaged/Severely Disadvantaged
Yosemite/ El Portal	4	3	Medium-Low	Mix: None/Severely Disadvantaged

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Table 12. Comparison of 4 Assessment Metrics for the Yuba IRWM communities.

Community	Community Capacity Score	Socioeconomic Status Score	Community Well-being Score	DWR Greatest Disadvantaged Status (by Census Block Group, Census Tract or Census Place)
Alleghany/ Sattley	1.5	6	Medium-Low	Disadvantaged
Beal AFB	4	2	Medium-Low	Mix: None/Severely Disadvantaged
Challenge-Brownsville	3.5	2	Medium-Low	Severely Disadvantaged
Dobbins	1.5	5	Medium-Low	Severely Disadvantaged
Feather Falls/ Forbestown	1.5	1	Low	Severely Disadvantaged
Garden Bar	3	5	Medium-High	None
Loma Rica	4	5	Medium-High	None
Meadow Valley/ Bucks Lake	3	4	Medium-High	None
Oregon House/Browns Valley	2	5	Medium-Low	Mix: None/Disadvantaged
Penn Valley	3.5	4	Medium-High	None
Robinson Mill/Forbestown	2	2	Low	None
Rural Lincoln	3	4	Medium-High	None
Smartsville	1.5	2	Low	Mix: None/Severely Disadvantaged
Spenceville	2	4	Medium-Low	None
Strawberry Valley/Camptonville/La Porte	2	4	Medium-Low	Mix: None/Severely Disadvantaged