

Economic Analysis

This chapter delves into the region's economic well-being, cost of living, and industry composition. It prioritizes findings related to equity, sustainability, job quality and access, and economic competitiveness and resilience, and its focus is on macroeconomic conditions, broad trends, and the impacts of these trends on communities. Additional, in-depth information on key industries and the workforce can be found in the Industry Cluster and Labor Analysis chapters, respectively.

Key Takeaways

- ♦ The Redwood Region has suffered from California's differential development, and opportunities for high road development have stalled there as Bay Area economies have taken off. Over the past decade, GDP growth has been comparatively low. Median income across the region is low, and poverty rates are significantly higher than in the state at large.
- ♦ Working families in the region suffer a "coastal cost of living with rural America wages." Cost of living as a proportion of wages is significantly higher than in the rest of the state.
- ♦ In particular, this uneven development burdens the region's residents of color, who are disproportionately represented amongst the working poor and who experience poverty rates up to double those of their peer residents of color in the rest of California.

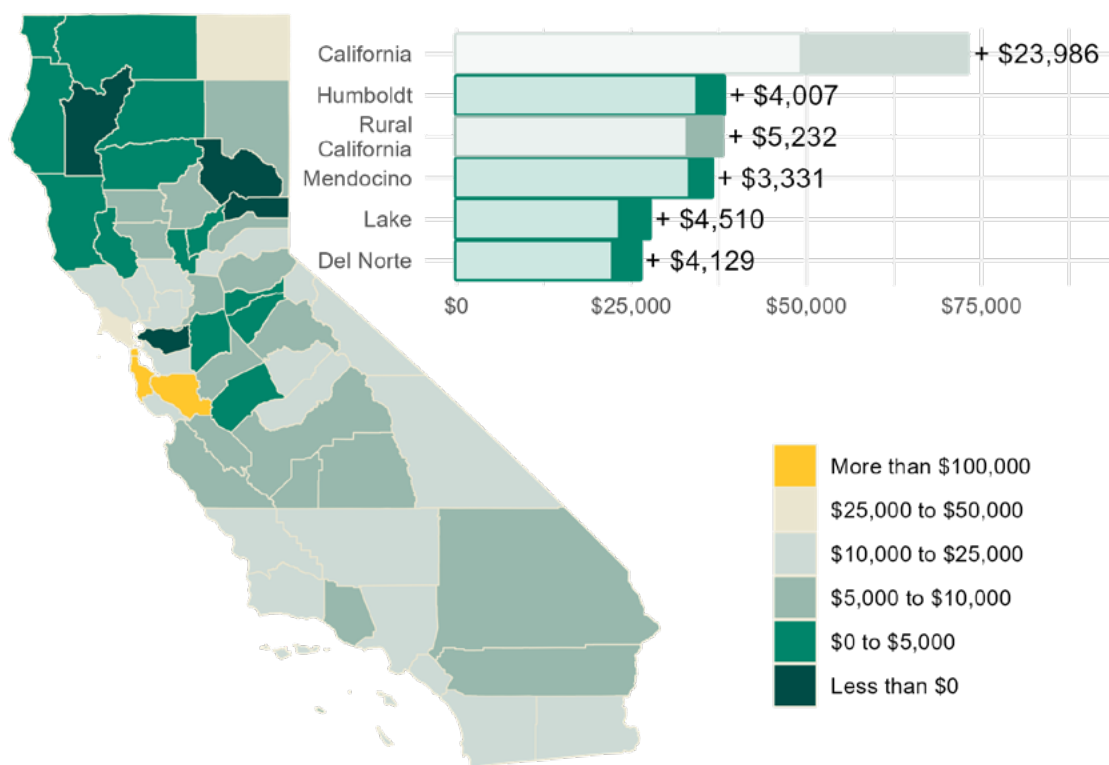
Key Metrics

- ♦ **Median income, poverty rates, and GDP per capita as indicators of overall well-being:** Tracking these metrics allows assessment of the region's economic health and identification of disparities among different communities. Monitoring these changes over time can enable progress towards inclusive growth.
- ♦ **Percentage of total employment by industry as an indicator of diversification:** Analysis of employment distribution across sectors can help gauge the region's economic diversity and resilience.
- ♦ **Ratio of income to expenses for a family with two median earners and two children (i.e., the "Medians"):** Examining the proportion of income spent on essential expenses allows assessment of the financial strain experienced by typical working families in the region.
- ♦ **Housing affordability and availability:** Monitoring housing costs, vacancy rates, and the supply of affordable housing allows identification of barriers to economic stability and growth.

Economic Well-Being and Cost of Living

Much of California's rural and northernmost counties have had an economic trajectory wholly distinct from that of the rest of the state. Since 2001, statewide economic output per capita²⁷ has increased by an average of \$23,986 in inflation-adjusted terms (see Figure 3.1). Much of this growth is concentrated in three Bay Area counties—San Francisco, San Mateo, and Santa Clara—each of which has experienced a doubling of economic output in the past two decades, far exceeding the growth experienced by any other California county. Statewide, output in counties other than these three increased by \$19,307 on average, indicating that strong economic growth was also widespread across the state during the 2001–2021 period. California's most rural counties,²⁸ on the other hand, have experienced much slower growth on average, increasing by just \$5,232 since 2001. Among these, the Redwood Region experienced growth on par with other rural California counties, ranging from an increase of \$4,510 in Lake to \$3,331 in Mendocino. On average, per capita output in the Redwood Region was 62% of the statewide average in 2001 and is now 47% of the statewide average, indicating that the region has fallen even further behind.

Figure 3.1 Change in Economic Output Measured by Real Gross Domestic Product (GDP) per Capita (2001–2021)

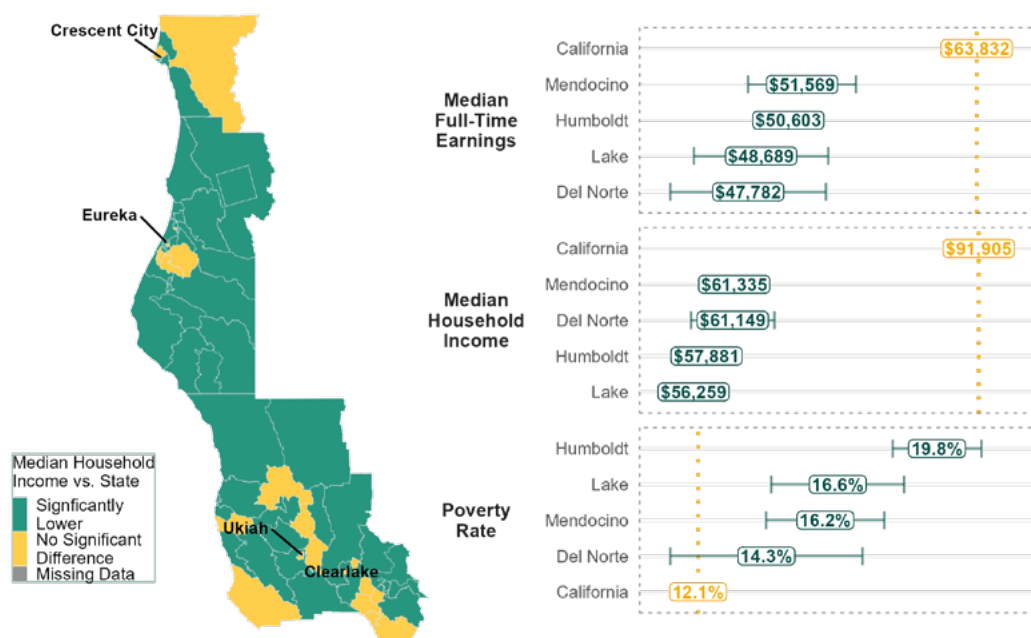


Note. GDP data sourced from the Bureau of Economic Analysis. Population estimates for 2001 and 2021 were sourced from the California Department of Finance, Table E-2.

²⁷ Economic output is the total market value of all goods and services produced in a region during a period of time.

²⁸ These counties are defined with an Index of Relative Rurality (IRR) greater than 0.5. This includes the four Redwood Region counties and 14 other counties.

Figure 3.2 Indicators of Economic Well-being (2018–2022)



Note. Data sourced from the American Community Survey.

Economic Well-Being

As shown in Figures 3.2 & 3.3, the Redwood Region’s median full-time earnings and household income are lower than in the rest of the state, and its poverty rate higher. The region’s overall relatively poorer economic well-being can be attributed to several factors. The region’s economy is more reliant on such industries as tourism, agriculture, and forestry, which typically offer lower-wage jobs compared to sectors like technology, healthcare, or professional services that are more prevalent in other parts of the state (see the Industry Cluster Analysis). In addition, the Redwood Region has relatively few large employers or corporations that typically offer higher salaries and more comprehensive benefits packages (see Figure 3.12).

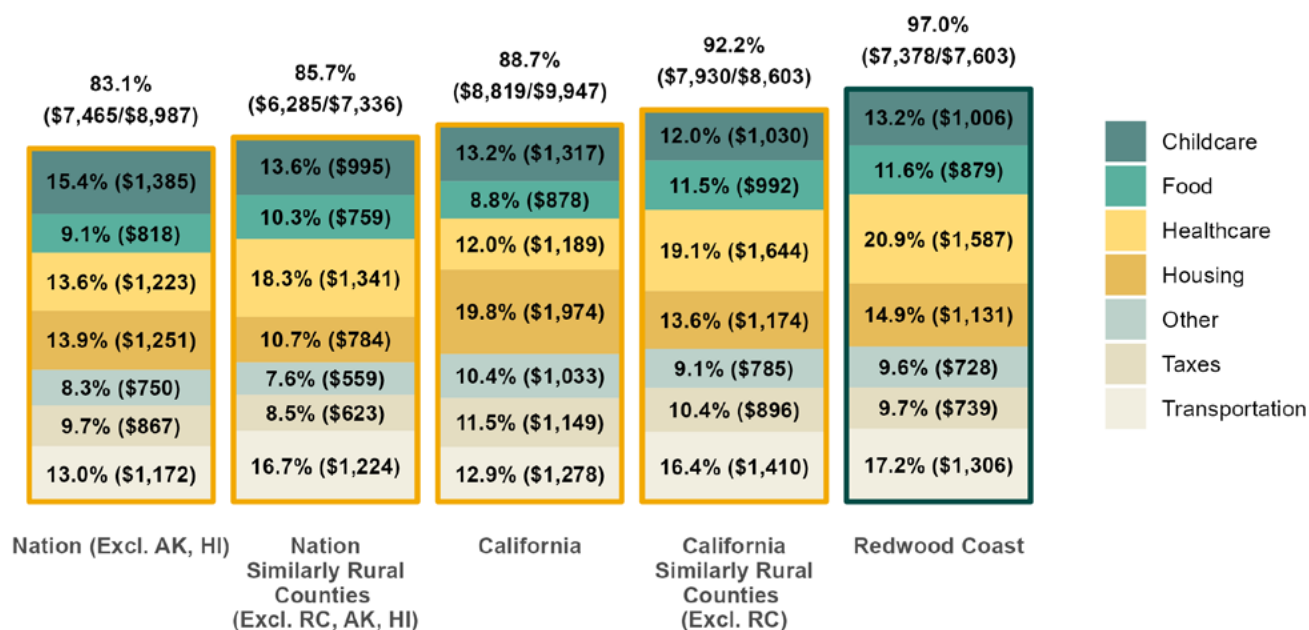
Cost of Living

Compared to the other counties throughout California, those that make up the Redwood Region are, on average, more expensive places to live.²⁹ Thus, whereas the region’s household earnings are typical of those in similar rural areas throughout the United States, the cost of living is substantially higher. The figure below shows the ratio of estimated household expenditures to income for a hypothetical family of two full-time working adults³⁰ and two children. In the Redwood Region, this hypothetical family—the “Medians”—has a monthly income of \$7,603 and total estimated expenses of \$7,378, 97.0% of their income. This leaves the Medians with very little income for wealth accumulation or unexpected expenses. Compared to similar families in other rural areas of the country, the Medians spend a much more substantial proportion of their income on food, healthcare, housing, taxes, and transportation. If the Medians were to move to a typical United States county with a level of rurality similar to that of the Redwood Region (see “Nation Similarly Rural Counties” in the figure), their income would fall slightly from \$7,603 to \$7,336, but their estimated cost of living would decline substantially, from \$7,378 to \$6,285.

²⁹ The Redwood Coast has a cost-of-living index (COLI) of 129. This is calculated by measuring the consumer expenditure amounts for six major categories: grocery items, housing, utilities, transportation, health care, and miscellaneous goods and services. This measure provides a baseline for understanding to what extent regional costs are related to those of other regions and of the nation as a whole. A cost-of-living index above 100 indicates that living in that region is relatively more expensive than elsewhere, whereas a COLA at or below the baseline of 100 indicates a lower cost of living there.

³⁰ Total household income assumes two median full-time incomes and no other cash or in-kind income.

Figure 3.3 Monthly Cost of Living for a Family of Two Full-Time Working Adults and Two Children as a Ratio of Labor Income (2017–2021)



Note. Data sourced from the Economic Policy Institute's Family Budget Calculator, the American Community Survey, and the Index of Relative Rurality (IRR). See footnote for the methodology used.³¹

"People that I grew up with are trying to find a cheaper place to live."

Housing Availability and Affordability

Housing costs in the Redwood Region are lower than the statewide averages but substantially higher than for similar rural areas nationwide. Moreover, because of the region's lower wages and income, affordability is substantially worse compared to that of similar rural regions. Moreover, a related indicator below suggests that some segments of the population may be more severely impacted by affordability than others. Statewide, 44.8% of renters spend more than 35% of their household income on housing expenses, while regional figures (i.e., in Humboldt) reach 54.0%.³²

In addition, both the quantity and quality of the available housing are problematic. As shown in Figure 3.4 on the next page, rental vacancy rates are lower than the statewide average, indicating far more competition for renters. Much of the region's housing supply is older and in need of repair.

³¹ The Index of Relative Rurality (IRR) ranks all counties in the United States from 0 (most least rural) to 1 (most rural). Rural comparison regions "Nation Similarly Rural Counties" and "California Similarly Rural Counties" include counties in the nation or state that have an IRR that is at least as high as the lowest IRR and no higher than the maximum IRR in the Redwood Region. Regional averages were calculated as a population-weighted average of the county-level data using American Community Survey's (ACS) five year estimates (2017 – 2021). Median full-time earnings sourced from ACS five year estimates. Rurality measured by the Index of Relative Rurality (IRR). "California 0.5 ≤ IRR ≤ 0.53" includes Amador, Calaveras, Glenn, San Benito, Tehama, and Tuolumne counties. Five counties were not included in the national estimates due to missing data. "Other" is short for "Other Necessities."

³² Humboldt's figure is likely distorted by the presence of Cal Poly Humboldt's student population.

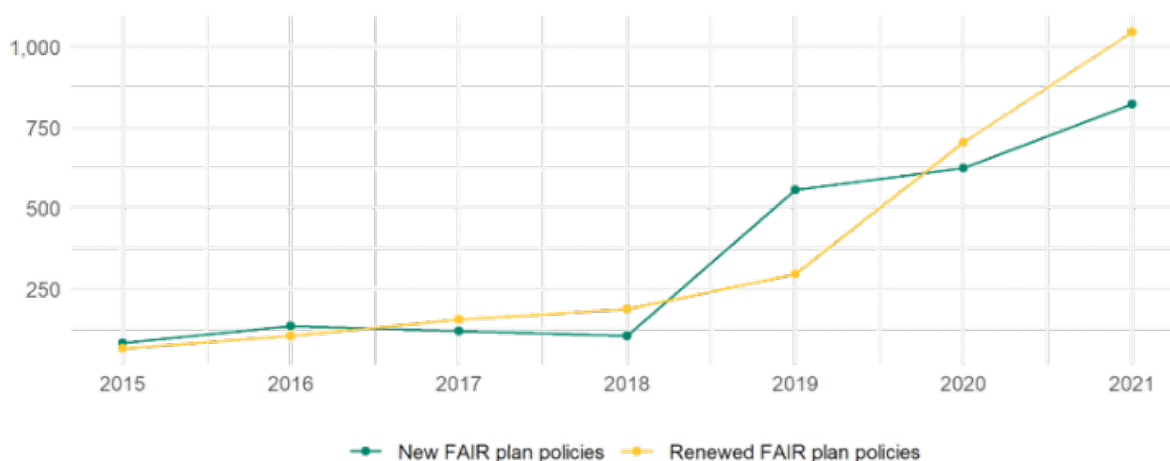
Figure 3.4 Regional Housing Data

County name	Median House Value	Housing Units	Occupied Housing Units	% Occupied Housing Units	Home Owner Vacancy Rate	Vacant Housing Units	% Vacant Housing Units	Median Monthly Rent	Rental Vacancy Rate
Del Norte	\$237,700	11,093	9,531	85.9%	1.5%	1,562	14.1%	\$999	1.1%
Humboldt	\$344,800	62,137	53,729	86.5%	1.0%	8,408	13.5%	\$1,079	2.9%
Lake	\$260,600	34,309	26,307	76.7%	1.7%	8,002	23.3%	\$1,116	2.8%
Mendocino	\$417,100	41,276	34,183	82.8%	1.4%	7,093	17.2%	\$1,176	2.3%
Region-Wide	\$315,050	148,815	123,750	82.9%	1.4%	25,065	17%	\$1,093	2.3%
California	\$573,200	14.34 M	13.22M	92.2%	1.0%	1.11M	7.8%	\$1,698	3.9%

Source: Lightcast™ (2022)

Exacerbating the housing crisis, wildfires have destroyed thousands of structures throughout the region, particularly in Lake (which lost 60% of its housing stock in the 2015/16 fire season) and Mendocino Counties and in Tribal Lands. Additional, widespread effects of these wildfires are increases in home insurance costs and availability, increasing the total housing costs of both homeowners and of renters, who will ultimately shoulder much or all of this additional cost through higher rents. Since 2018, there has been a sharp increase in the number of residents in Lake and Mendocino counties forced into higher cost, last-resort FAIR plans (see Figure 3.5).³³

Figure 3.5 Number of New and Renewed Fair Access to Insurance Requirement (FAIR) Plan Policies in Lake County by Year



Note. Data sourced from the California Department of Insurance.

Also lacking are sufficient numbers of skilled trades workers to construct the number of housing units needed to satisfy demand or replace those lost to wildfires. However, this lack of skilled trades workers also presents an opportunity to develop high-wage jobs that meet a genuine economic need for the region. In particular, Employment Development Department (EDD) projections show carpentry to be one of the most in-demand occupations in the region through 2030.

³³ Fair Access to Insurance Requirement (FAIR) plans are state-mandated property insurance plans for individuals and businesses unable to secure insurance in the standard, voluntary market (Fair Access to Insurance Requirements [FAIR] Plans, n.d.).

There are limited sites available in the region suitable for housing development, a statewide challenge. In 2019, Governor Newsom took several actions to make state and local public lands available for affordable housing development, including the following:

- ◆ Making Executive Order N-06-19 making excess state land available for affordable housing .
- ◆ Connecting affordable-housing developers to local surplus land and strengthening enforcement of the Surplus Lands Act (AB 1486, Ting, 2019).
- ◆ Requiring cities and counties to inventory and report surplus and excess local public lands for inclusion in a statewide inventory (AB 1255, Robert Rivas, 2019).³⁴

Only two counties in the region have sites identified in the inventory—Humboldt County (14 sites) and Lake County (27 sites). The current status of housing development on these sites is unknown.

Digital Access and Broadband Development

Compared to the rest of California, significantly more households in the Redwood Region lack internet access in the home (see Figure 3.6). In some communities, particularly those in the most remote areas of the region, about one-third of households lack access to home internet. Across the U.S., only 65% of Tribal populations have broadband access compared to 98 percent (both Tribal and non-Tribal populations) in urban areas (UCLA, 2022). Broadband services can be critical to the health, well-being, and economic development of communities, and so a lack of equitable access presents a serious human rights issue. Of particular importance for all communities in the Redwood Region is access to telehealth services, a much more time- and cost-effective way for people living in remote areas to consult a healthcare professional, especially in non-emergent circumstances.

Broadband is a necessary infrastructure component for the region's regions to utilize telehealth and capitalize on other emerging opportunities to build health and wealth. Figure 3.6 below displays the region's broadband access compared to that of the rest of the state. Efforts to improve the region's broadband infrastructure are already underway, however. Phase 1 of the state's Broadband Middle-Mile Network will add 581 miles to the network that are within the Redwood Region, and Phase 2 will add an additional 110 miles to the region.

Case Study

Tribal Broadband Efforts Case Study

Hoopa Valley, CA: Connecting a Community Through Resilience and Innovation

In the heart of California's Redwood Region, the Hoopa Valley Tribe has been working tirelessly to bridge the digital divide and empower its community through improved internet access. Despite the challenges posed by the rugged terrain and limited infrastructure, the Tribe has shown remarkable resilience and innovation in their pursuit of connectivity.

The launch of Acorn Wireless in 2021, a Tribally-owned and operated internet service, marked a significant milestone in the Tribe's journey towards digital equity. Under the leadership of Linnea

³⁴ For more information on State policies with respect to housing site development see <https://www.hcd.ca.gov/planning-and-community-development/public-lands-affordable-housing-development>

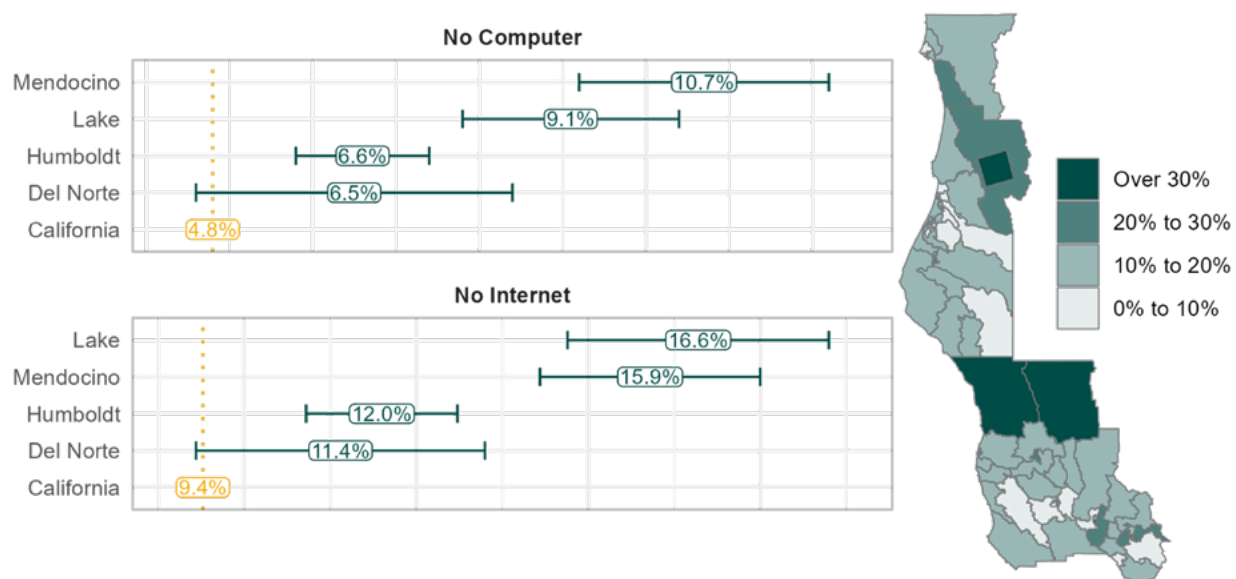
Jackson, general manager of the Hoopa Valley Public Utilities District, the service has already made a tangible impact on the lives of many residents. From tribal elders like Marcellene Norton, who can now attend online council meetings and share important information with the community via Facebook, to youth leaders like Danielle Frank, who rely on internet access to coordinate climate action and salmon-restoration efforts, Acorn Wireless has opened up new opportunities for civic engagement and community development.

However, the Hoopa Valley Tribe's aspirations extend far beyond the current reach of Acorn Wireless. With the recent influx of \$65 million in federal funding, the tribe is set to embark on a transformative expansion of their internet infrastructure. The introduction of fiber optic cables directly to homes, coupled with the expansion of the wireless network, will bring reliable, high-speed internet to 1,000 households, 64 businesses, and 19 community institutions. Moreover, the Tribe's commitment to digital literacy and education, exemplified by their participation in the Digital Navigator Corps program, ensures that all members of the community will be equipped with the skills and knowledge to fully harness the power of connectivity. As the Hoopa Valley Tribe continues to navigate the challenges and opportunities of the digital age, their story serves as an inspiring example of how communities can come together to build a more connected, resilient, and empowered future.³⁵



³⁵ REF

Figure 3.6 Householders Without Internet Access (2017–2021)



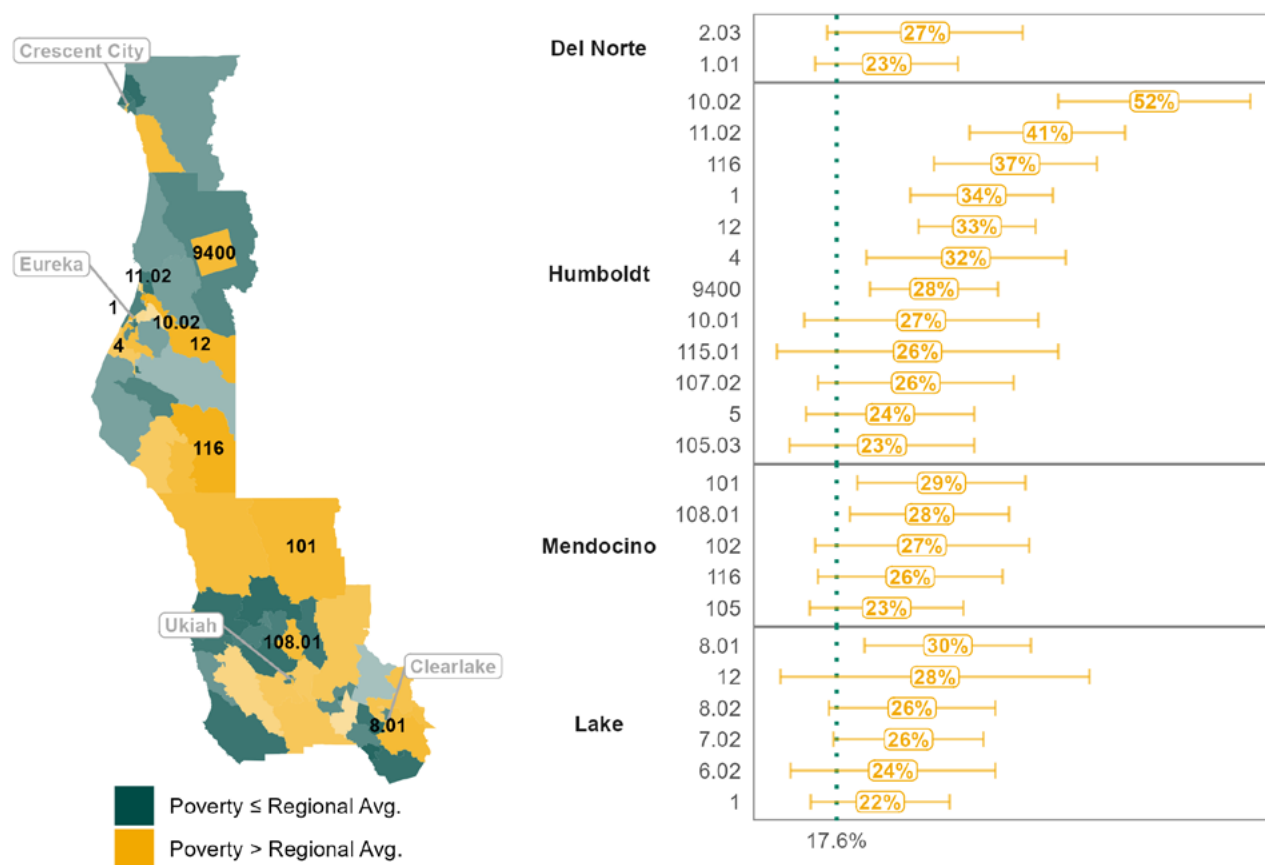
Note. Data sourced from the American Community Survey (ACS). Map indicates percentage of households lacking any form of internet subscription.

Unequal Development in the Region

While California Jobs First criteria characterize the entire region as disinvested, patterns of inequity and uneven development are observable across the region, driven by a multitude of factors including disenfranchisement and marginalization of communities of color; deep rurality and barriers to accessing services; decline in unionized industries; lack of traded sectors; flight of skilled labor to higher wage, more urban areas south of the region; a legacy of natural disasters (e.g., the low-income coastal areas); and ever-increasing climatic risks (i.e., the disinvested inland areas); and departure of land-based industries and a subsequent lack of remediation of brownfield sites created by those former industries. There are, however, positive departures from the experiences of the rest of rural and inland California. The unemployment rate in the Redwood Region more closely mirrors that of the nation at large, as does educational attainment. Despite this, the proportion of families struggling under the burden of a high cost of living and comparably low wages is higher than in the rest of coastal California (Little Hoover Commission, 2022).

Figures 3.7 and 3.8 present key indicators of economic well-being, allowing comparison to state and regional averages: household income, poverty rates, and earnings by census tract. Consistent across these analyses is the role rurality has played in historic disinvestment. The areas of the region most affected are a swath of northern Humboldt County extending from the Humboldt Bay inland, the parts of Del Norte County south of Crescent City, Southern Humboldt, and Northern Mendocino County through eastern Lake County, and these comprise potential areas of new investment for RRRISE.

Figure 3.7 Intraregional Variation in Poverty Rates (2018–2022)



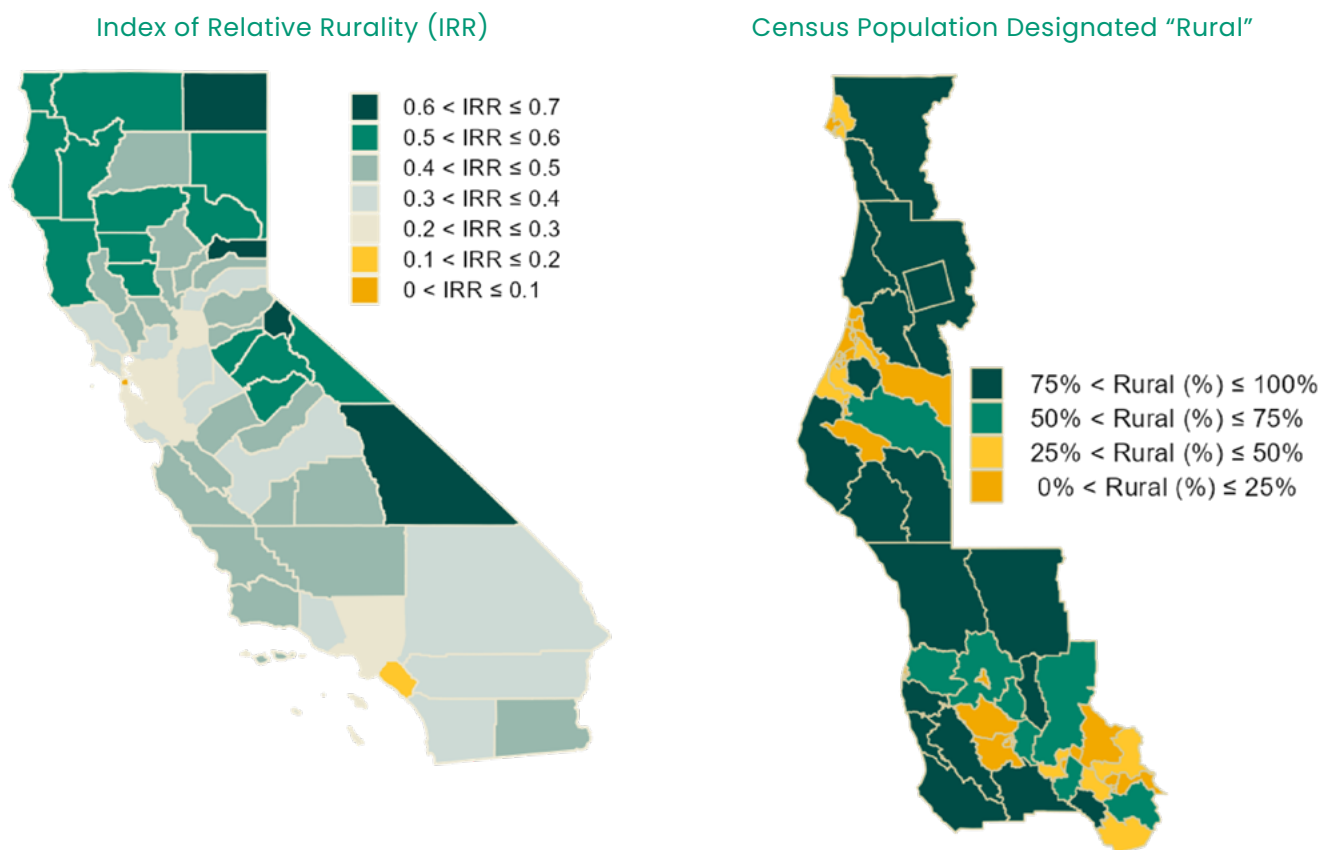
Note. Data sourced from the American Community Survey. Tracts labeled on the left panel have a poverty rate significantly³⁶ higher than the regional average (17.6%). The right panel displays the top 25 highest poverty rate tracts in the region. Horizontal bars represent the 95% confidence intervals, and the dotted vertical line represents the regional average.³⁷

While deep rurality and isolation is a root cause of many economic challenges, it is also a source of regional strength due to its role in the land-based sectors of forestry, agriculture, and tourism and recreation. Figure 3.8 displays the exceptionally rural areas of the region. The region has only 14 incorporated municipalities, a paucity that has implications for economic development (see the SWOT analysis in Chapter 8). While the presence of renowned conservation areas are a boon to the region's tourism and recreation sector, counties like Del Norte must also contend with a smaller tax base as a result of having more land under conservation status.

³⁶ This only accounts for the margin of error on tract level data. A confidence interval for the aggregated regional average cannot be generated.

³⁷ The regional average was calculated by taking the population-weighted average of the four counties comprising the Redwood Region.

Figure 3.8 Measures of Rurality (2010)



Note. Left Panel: IRR scale ranges from 1 (most rural) to 0 (least rural). Data sourced from Kim and Waldorf's 2018 data set titled "The Index of Relative Rurality (IRR): US County Data for 2000 and 2010." Right Panel: Data sourced from 2010 Decennial Census variables P002001 – P002006.

Diverse Communities and Economic Opportunity

Inequality in the Redwood Region may appear less pronounced than in the rest of California, as evidenced by a lower Gini coefficient (see Figure 3.9).³⁸ However, this seemingly positive indicator is not a consequence of a thriving middle class but rather a reflection of the failure of higher wage industries to establish a strong presence in the area. The resulting lack of high-paying jobs has had a particularly detrimental impact on communities of color, including Black, Latinx, and Indigenous residents, who face significant disparities in income, employment, and overall economic well-being.

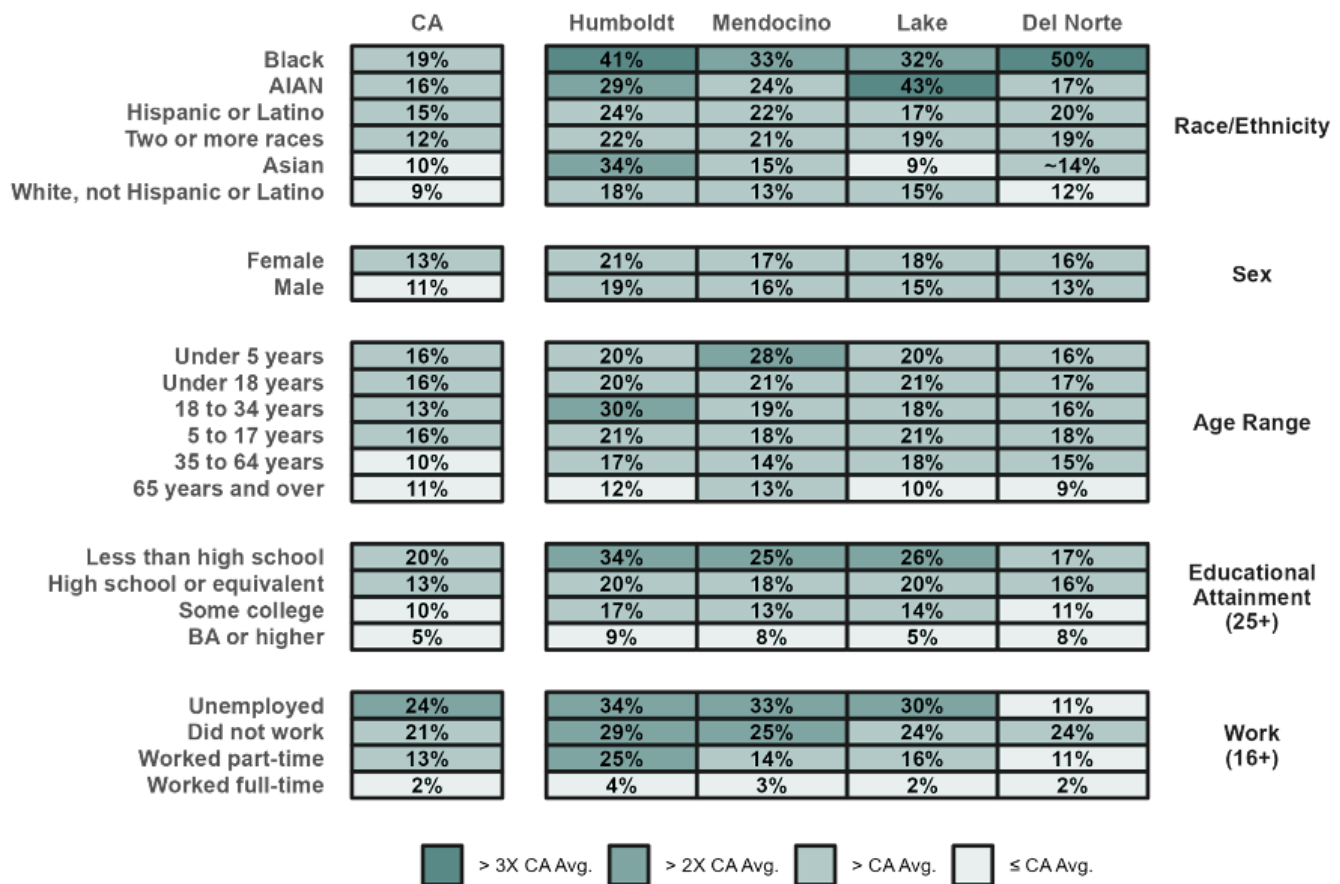
According to the Equity Atlas (2024), which analyzed Redwood Region data from the American Community Survey (ACS) and the Integrated Public Use Microdata Series (IPUMS), people of color are more likely to reside in high-poverty census tracts compared to their white counterparts. They are also more likely to earn less than a living wage, defined as \$15 per hour, and are overrepresented in low-wage occupations and sectors. Analysis of the data revealed that people of color in the region earn less than their white peers at every education level ("California Jobs First: Equity Indicators for the Redwood Coast Region," 2024), indicating that factors beyond educational attainment contribute to these income disparities.

³⁸ Ranging from 0 to 1, the Gini coefficient is a measure of income or wealth inequality within a population. Values close to 0 indicate less income inequality or less dispersion in the distribution of wealth within an area, whereas values closer to 1 indicate greater inequality in wealth.

The factors driving these disparities stem from a multitude of causes, including disenfranchisement and marginalization of communities of color, deep rurality and barriers to accessing services, the decline in unionized industries, lack of traded sectors, flight of skilled labor to higher wage urban areas, and the legacy of natural disasters and increasing climate-associated risks. These have contributed to uneven development across the region, with areas like northern Humboldt, Del Norte south of Crescent City, Southern Humboldt, Northern Mendocino County, and eastern Lake County experiencing particularly high levels of disinvestment.

Moreover, high poverty rates, unemployment, and negative health outcomes are prevalent in many tribal communities in the Redwood Region. For instance, poverty rates on the reservations of the Yurok, Hoopa Valley, and Round Valley Tribes reach 40%, while unemployment rates can go as high as 80% during the winter months (Abinanti et al., 2020). These social problems can be traced to the early days of colonization, which disrupted and destroyed tribal economies while stealing Tribal lands. Poverty and related social issues are a fundamental backdrop of the Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2) crisis, a pattern observed in other regions as well. Tribal communities in the Redwood Region also face continued threats to their safety and well-being in the context of the crisis involving MMIWG2—with California having the fifth highest incidence in the United States (Abinanti et al., 2020).

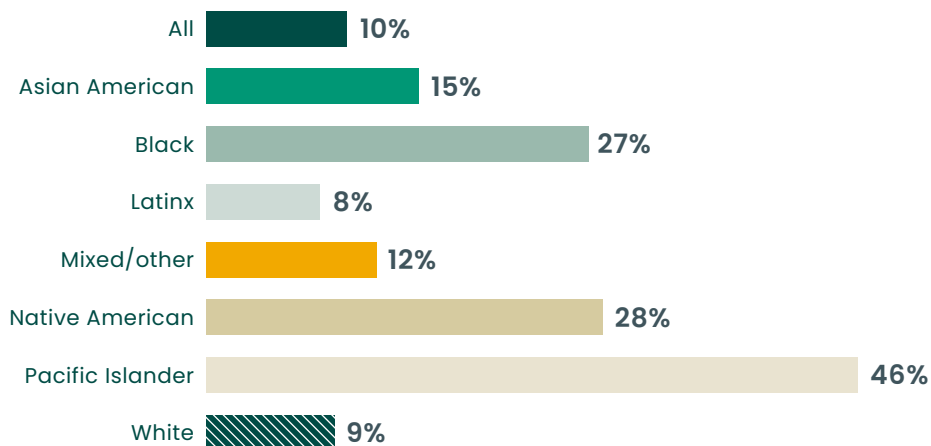
Figure 3.9 Disaggregated Poverty Rates (2018–2022)



Note. Data sourced from the American Community Survey (ACS). (~) denotes statistically unstable estimates.¹⁵

Poverty rates for individuals of color within the region are two or sometimes even three times the California average (see Figure 3.10). Labor force participation is also a key factor that seems to impact individual well-being in the region to a greater degree than in the rest of the state. Under local economic conditions, workers working part-time are especially vulnerable.

Figure 3.10 Ethnic Composition of High Poverty Areas, from PolicyLink’s Equity Atlas



Source: National Equity Atlas analysis of 2020 American Community Survey 5-year Summary File. Universe includes all people.

Note: Data represent the percentage of the population living in high-priority neighborhoods, defined as census tracts with a poverty rate of 30 percent or higher. Data represent a 2016 through 2020 average.

As can be seen in Figure 3.10, many of the areas of concentrated poverty are distant from employment and educational opportunities. These are Crescent City, the Humboldt Bay area, Ukiah, and town centers in Lake County and along the Mendocino Coast. Analysis of high-poverty census tracts in the region revealed the extent of the disparity, with 91% of residents identifying as an ethnicity other than white and so contrasting with the overall population, which is closer to 70% Caucasian.

Industry Composition and Trends

The two largest industries by employment numbers are administrative government and health care and social assistance. These two sectors employ nearly one-third of the Redwood Region’s workers, and both represent a much larger proportion of regional employment than of the state averages. Both industries pay higher than average wages and employ much larger proportions of the region’s workforce compared to state-level trends. Except for construction trades, no other sectors have these qualities, highlighting the importance of government employment in supporting the region’s wages.

Moreover, other high-wage industries are sharply underrepresented (in terms of employment) in the Redwood Region. Almost all occupations across industries have substantial wage gaps in comparison to state averages, with the starkest gaps among high-skilled workers and occupations. Depressed wages are a problem in most of the region’s industries and occupations. Industry and workforce dynamics are discussed in greater depth in Chapters 6 and 7.

Major Employers and Economic Drivers

The vast majority (72%) of businesses in the region are small, with fewer than employees (See Figure 3.11). Notably, the region's top employers tend to be government administrative services or ones in related areas and to be focused primarily on education and health. The Region's Tribal nations and their enterprises are major economic forces within the region. The remainder of its top employers are in the key sectors of construction trades, agriculture, and tourism and recreation, which are discussed more fully later in this report. Figure 3.11 and 3.12 provide information on the major employers in the Region, by sales and number of employees:

Figure 3.11 Number of Businesses by Size Category, Redwood Region Counties (Third Quarter, 2022)

Counties	Number and Percent of Businesses Categorized by Size (Number of Employees)											
	Total	%	0-4	%	5-9	%	10-19	%	20-49	%	50-99	%
Del Norte	784	5%	505	5%	94	6%	86	7%	59	7%	29	12%
Humboldt	6,217	43%	4,280	41%	808	48%	597	49%	380	48%	101	43%
Lake	3,156	22%	2,596	25%	245	15%	158	13%	105	13%	33	14%
Mendocino	4,268	30%	3,004	29%	542	32%	369	30%	244	31%	74	31%
Totals	14,425		10,385		1,689		1,210		788		237	
% of Region			72.0%		11.7%		8.4%		5.5%		1.6%	

Source: https://labormarketinfo.edd.ca.gov/LMID/Size_of_Business_Data.html/.
Firms with more than 100 employees not included.

Figure 3.12 Major Employers in the Redwood Region

Top 10 Employers, by Number of Employees	Employees (Single Site)	NAICS 2022 Code	NAICS 2022 Description
Sun Valley Floral Group, LLC	750	339999	All other Miscellaneous Manufacturing
Blue Lake Casino	370	321150	American Indian and Alaska Native Tribal Governments
Humboldt County Office of Education	370	611110	Elementary and Secondary Schools
Shannon Ranches, Inc.	250	541611	Administrative Management and General Management Consulting Services
Harwood Products	230	321918	Other Millwork (including Flooring)
Robinson Rancheria Citizens Council	200	921140	Executive and Legislative Offices, Combined
Little River Inn, Inc.	176	721191	Bed-and-Breakfast Inns
Running Creek Casino	170	721120	Casino Hotels
The Eureka Hotel Company	150	721110	Hotels (except Casino Hotels) and Motels
Kokatat, Inc.	150	315250	Cut and Sew Apparel Manufacturing (except Contractors)

Source: Dunn & Bradstreet, 2023

Top 10 Employers, by Sales	Sales (USD)	NAICS 2022 Code	NAICS 2022 Description
Adventist Health Clearlake Hospital	\$143,237,060	622110	General Medical and Surgical Hospitals
Family Tree Service, Inc.	\$73,566,132	561730	Landscaping Services
Dunco Builders	\$64,838,943	236116	New Multifamily Housing Construction
Adventist Health Mendocino Coast	\$56,567,120	622110	General Medical and Surgical Hospitals
Humboldt County Office of Education	\$53,835,949	611110	Elementary and Secondary Schools
Sun Valley Floral Group, LLC	\$46,942,200	339999	All Other Miscellaneous Manufacturing
Lake County Tribal Health Consortium, Inc.	\$39,633,663	621210	Offices of Dentists
Humboldt State University Sponsored Programs Foundation	\$36,742,966	611710	Educational Support Services
Northwood Auto Plaza, Inc.	\$33,200,943	441110	New Car Dealers
Harwood Products	\$24,414,322	321918	Other Millwork (including Flooring)

Source: Dunn & Bradstreet, 2023

Economic Shocks and Shifts—Sources of Disparity and of Resilience

The region has experienced major shocks and shifts over the past decades from natural disasters (droughts, landslides, flooding, earthquakes, catastrophic wildfires, and the 2011 Fukushima-related tsunami), economic disruptions (the 2008 recession), policy changes (e.g., Proposition 64, cannabis legalization), and events like the COVID-19 pandemic. These are discussed below.

Natural Disasters

Among the natural disasters affecting the region, wildfires tend to have the largest impact. The 2018 Mendocino Complex Fire burned 459,123 acres, destroyed 280 structures, and caused over \$267 million in damages (CAL FIRE, n.d.), and the 2020 August Complex Fire, which affected Mendocino, Humboldt, and Lake counties, burned over 1 million acres and destroyed 935 structures (CAL FIRE, n.d.-b).

The 2008 Recession

This was accompanied by 1) a significant decline in home prices and a slowdown in new housing construction; 2) job losses in construction-related industries such as lumber and building materials; 3) a sharp rise in unemployment rates, which remained high for several years after the recession ended; and 4) a decline in tax revenues leading to budget shortfalls and cuts in public services.

Policy Changes

Cannabis legalization significantly affected the economies of Humboldt and Mendocino Counties as a result of Proposition 64.³⁹ This decline is indicative of the challenges faced by the local cannabis

³⁹ Humboldt County, once the epicenter of cannabis cultivation in California's renowned Emerald Triangle, has seen a sizable decrease in cannabis business applications since 2018. In April 2024, the county had 1,068 legal marijuana farms, with an additional 400 applications in the pipeline and 657 that have since been denied. The number of new applications submitted in the past two years, however, plummeted to five, contrasting sharply with the approximately 2,000 applications received in 2016.

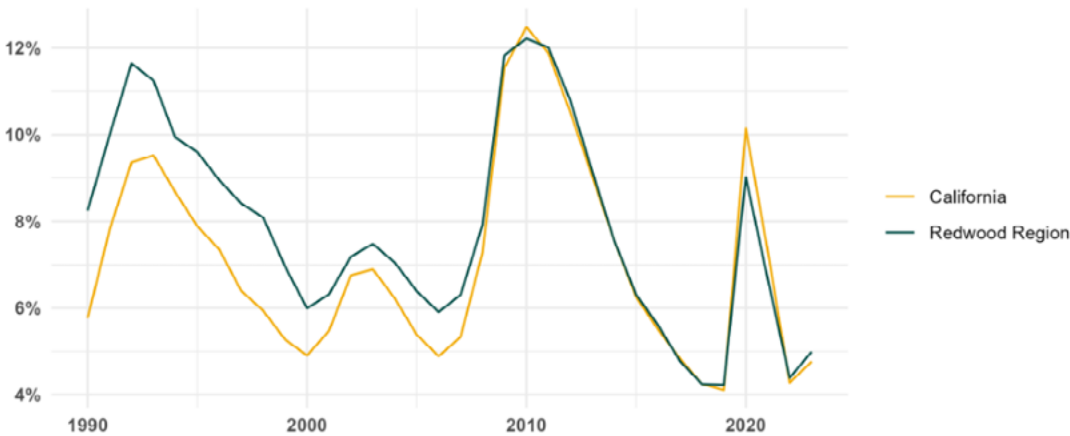
industry, with hundreds of farmers grappling with falling wholesale prices and overproduction, leading many to abandon the (legal) cultivation and marketing altogether (Schroyer, 2024). See the Industry Cluster analysis in Chapter 6.

COVID-19

The pandemic has also had a significant impact on the region, as the closure of businesses and the decline in the tourism and service sectors (among others) also led to job losses and economic hardship. In the four counties making up the Redwood Region, total employment went from 132,970 in February 2020 to 113,120 in April 2020 (Labor Market Information, EDD), a 14.9 percent drop.⁴⁰

Except for influxes of capital, economic disruptions negatively affect employment in most regions of the U.S., and the Redwood Region is no exception. For example, Figures 3.13 and 3.14 below clearly show the impact of the COVID-19 pandemic on regional employment, which dropped almost 15% in just a few months.

Figure 3.13 Redwood Region Unemployment Rate (1990–2023)



Note. Data sourced from the Employment Development Department.

Figure 3.14 Change in Total Employment by County (February 2020–April 2020)

	Humboldt	Lake	Mendocino	Del Norte	Total
	(000)	(000)	(000)	(000)	(000)
February 2020	59.8	27.5	36.7	9.0	133.0
April 2020	50.4	23.7	31.0	8.0	113.1
Change	9.4	3.8	5.7	1.0	19.9
% Change	15.7%	13.7%	15.4%	11.5%	14.9%

⁴⁰ Nationally, the number of active business owners in the U.S. dropped by 3.3 million (22%) between February and April 2020, with losses across nearly all industries. The pandemic had a disproportionate impact on minority-owned businesses, with African-American businesses experiencing a 41% drop in activity, Latinx businesses falling by 32%, Asian businesses dropping by 26%, and immigrant-owned businesses declining by 36%. Female-owned businesses also saw a significant 25% drop in activity (Fairlie, R. W. (2020).

Effects of Disruptions

Disinvested communities in California's Redwood Region are particularly vulnerable to economic disruptions, in part due to significant health disparities and the behavioral risk factors prevalent among them (e.g., elevated rates of tobacco use, substance abuse, and mental health challenges). Such disparities can hinder a region's ability to adapt and recover from economic adversities, particularly when accompanied by inadequate healthcare systems, a shortage of mental health providers, and resulting treatment needs that go unmet, further exacerbating the Redwood Region's vulnerability to economic disruptions (see the Public Health analysis).

Case Study

The Role of Cultural Institutions in Response and Recovery: The Middletown Art Center

The Middletown Art Center (MAC) in Lake County, California, has emerged as a beacon of resilience and community support in the face of repeated wildfire disasters. The MAC has assumed a crucial role in helping the region recover from the devastating effects of the Valley Fire in 2015 and from subsequent wildfires. Despite personal losses suffered by many of the MAC's board members and artists, it has remained a strong presence in the county. After the Valley Fire, the MAC provided free art classes, workshops, and events aimed at helping residents process their emotions and find solace in creative expression. The MAC has also partnered with other organizations to offer yoga and meditation classes, PTSD workshops, and insurance assistance, becoming a hub for community restoration and development.



The MAC's impact extends throughout the entire region, and it has become a gathering place for various community groups and events, such as the Valley Fire Phoenix Rising initiative, whose focus is rebuilding through affordable housing, green design, and local micro-businesses. Supporting the Center's growth and initiatives have been such local organizations as the Lake Area Rotary Club Fire Relief Fund and the #LakeCountyRising Valley Fire Relief Fund. As the MAC continues to expand its reach and programming, it serves as a powerful example of how arts and culture can play a vital role in economic development and community resilience in the face of adversity.⁴¹

The pandemic, for example, has been found associated with increased risk factors for adverse childhood experiences (ACEs) and toxic stress, leading to loss of family members, social isolation, economic decline, family stressors, mental health issues, substance abuse, and work and school disruptions to work and school. These challenges have further compounded the economic and social difficulties faced by families already struggling with poverty, food insecurity, housing instability, and limited access to quality health care, education, and other resources (Humboldt County Community Health Improvement Plan 2022–2027, DHHS, 2023). The region's housing shortage and affordability crisis further compound the effects of these vulnerabilities, (California Department of Housing and Community Development, 2018). California's Housing Future: Challenges and Opportunities, Final Statewide Housing Assessment 2025), increasing the likelihood of outmigration to more affordable regions and enhancing the risk of displacement from eviction and/or foreclosure.

While beneficial for economic development and job creation, economic opportunities of sufficient scale (like offshore wind) have the potential to place additional burdens on already limited healthcare options and housing stock, critical infrastructure, and available workforce (e.g., construction) and could cause increased displacement and unintended, ripple effects (e.g., higher cost of living, workforce supply for key industries, etc.) throughout the region, disproportionately impacting disinvested communities. Humboldt and Del Norte County interest holders have expressed concerns about the potential worsening of the housing crisis due to the development of offshore wind projects in the region. Residents in these counties already face significant housing burdens, spending approximately 39% and 38% of their income on housing, respectively. While the job opportunities brought by offshore wind development could provide economic benefits to the region, the anticipated influx of workers is likely to put an additional strain on the already stressed housing market and community services across Humboldt, Del Norte, and neighboring counties. Furthermore, the increased activities associated with offshore wind could also place pressure on essential community resources, including healthcare services, transportation infrastructure, wastewater systems, and other aging public infrastructure (HCD, 2018; HCDHSS, 2022⁴²; SERC, 2022⁴³).

⁴¹ Source: Karlamangla, 2024; Fire Adapted Communities Learning Network, 2021

⁴² Department of Housing and Community Development. (February 2018). California's Housing Future: Challenges and Opportunities, Final Statewide Housing Assessment 2025; https://www.hcd.ca.gov/policy-research/plansreports/docs/sha_final_combined.pdf; Humboldt County Department of Health & Human Services, Public Health. (2018). 2018 Humboldt County Community Health Assessment; <https://humboldt.gov/DocumentCenter/View/71701/2018-Community-Health-Assessment-pdf>.

⁴³ Jacobson, A., J. Zoellick, R. Anilkumar, Z. Alva, C. Chamberlin, A. Cooperman, G. Chapman, A. Daneshpooy, P. Duffy, W. Musial, A. Mustafa, A. Younes. (2022). Transmission Alternatives for California North Coast Offshore Wind, Volume 1: Executive Summary. Cal Poly Humboldt, Arcata, CA: Schatz Energy Research Center. schatzcenter.org/publications/

The region's existing electricity transmission and distribution, water treatment, broadband, and other critical infrastructure weaknesses and gaps exacerbate existing economic inequities, including lack of access to housing and healthcare and decreased openings for jobs having upward mobility potential and paying a “livable” wage. Potential disruptions to food supply chains and job losses lead to increased food insecurity, while limited access to technology and crucial information, services, and remote work opportunities (in both business-as-usual and disruptive times) also increases food and other forms of insecurity, widening the opportunity gap even further (North Coast Resource Partnership, 2018).

Economic Development Opportunities

In addition to the threats they pose, economic disruptions can present new economic development opportunities that help communities reimagine their priorities and discover public sector activities that they may have previously ignored, including: 1) the development of trust in and the creation of new partnerships and relationships with disinvested populations that have historically been excluded from policy and planning processes and 2) the development of new priorities and ideas to improve equitable access to public resources.

Case Study

Lessons in Resilience, Blue Lake Rancheria's Toma Resilience Campus

The Blue Lake Rancheria's (BLR) Toma Resilience Campus, a 15,000 square-foot facility designed to serve as a business incubator and workforce development hub (currently under construction as of Summer 2024), is designed to address the concerns of infrastructure shortages and promote regional resilience in the face of economic and environmental challenges. As a facility with a regional focus, BLR anticipates that the facility's programming will impact thousands of regional residents.

The Resilience Business Incubator (RBI), housed within the Toma, will support entrepreneurs from underrepresented groups and provide workforce development opportunities for underserved populations across the Redwood Region. By offering entrepreneurship courses, startup assistance, skills training and certifications, job placement assistance, and ongoing coordination with regional economic, education, workforce, and community-based organizations, the RBI will foster a regional economy with increased resilience and sustainability.

The facility features a wide range of amenities in addition to the business incubator, including office space, training facilities, a digital design and fabrication lab, and a commercial teaching kitchen. These facilities enable the campus to focus on developing entrepreneurial and adaptive workforce skills that address current and emerging hiring needs in sustainable agriculture, smart technology, clean energy, light manufacturing, disaster preparedness, and production of other resilience-related products and services. By fostering innovation and collaboration in these critical areas, the Toma is designed to strengthen the region's ability to adapt and thrive in the face of disruption and change.

Furthermore, the Toma Resilience Campus will serve as an integral component of a regional innovation ecosystem developed in partnership with Cal Poly Humboldt, College of the

Redwoods, and multiple partners from across the region, state, and nation. This collaborative approach will ensure that the campus can leverage the expertise and resources of its partners to create a comprehensive support system for regional residents, entrepreneurs and businesses, and communities (Tribal and non-Tribal), ultimately increasing the resilience and sustainability of the Redwood Region's economy.⁴⁴



California Energy Commission

CEDS documents from across the region highlight specific opportunities that generally fall within three categories: industries, infrastructure, and skills, and the following summary provides a high-level overview of these strategies appearing in two or more of the plans.

Industry Strategies

The primary focus of industry strategies is to diversify local industries and foster the growth of industries that can provide living-wage jobs. These can be achieved through several key initiatives:

⁴⁴ Source: BLR Business Incubator Feasibility Study, 2018, Agnew Beck Consultants

-
- ◆ Developing niche brands of tourism, such as culinary, cultural, eco-, and experiential tourism, to attract a diverse range of visitors and create new job opportunities.
-
- ◆ Expanding the cultivation, processing, distribution, and sales of specialty foods to bolster the local economy and create additional employment options.
-
- ◆ Supporting sustainable agricultural, forestry, and fishery products, while developing new forest industry, biomass, and timber products.
-
- ◆ Expanding programs that apply traditional ecological knowledge and that preserve aquatic resources, traditional diets, and wildfire management.
-
- ◆ Investing in fire mitigation and safety practices to protect local communities and businesses.
-
- ◆ Growing technology-based firms across industries, increasing and supporting light manufacturing, fostering the growth of healthcare enterprises, and investing in the development of renewable energy.
-

Infrastructure Strategies

Ensuring that suppliers, residents, and visitors can easily access resources and opportunities throughout the region is the primary goal of infrastructure strategies. Key components of this objective include:

-
- ◆ Investing in harbor/port infrastructure to facilitate the efficient movement of goods and people.
-
- ◆ Developing and preserving water resources, including storage, management, and wastewater treatment, to support local industries and communities.
-
- ◆ Investing in airports and expanding and constructing emergency routes to improve connectivity and safety within the region.
-
- ◆ Expanding highways and roads to accommodate supply chain routes, commuters, and visitors.
-
- ◆ Developing regional multi-modal and active transit options, as well as enhancing public transportation options, to facilitate access to employment opportunities and services.
-
- ◆ Delivering broadband to rural communities to ensure that all residents have access to online resources and opportunities.
-
- ◆ Establishing community hubs that provide such community benefits as education, work, recreation, and disaster preparedness.
-
- ◆ Increasing the availability of ADUs, workforce housing, and affordable housing by addressing permitting and zoning issues.
-

Skills Strategies

Ensuring that businesses and residents are prepared and resourced to participate in the local economy is the primary focus of skills strategies. Key initiatives in this area include:

- ◆ Upskilling the workforce in the skills needed for the blue, green, and creative economies.
- ◆ Investing in ocean/marine science education and other high-demand career paths to ensure that the local workforce is well-prepared for emerging job opportunities.
- ◆ Training on cooperative development and ownership to empower local residents to take a more active role in the local economy.
- ◆ Supporting business entrepreneurship and fostering a thriving small business environment to contribute to economic growth and job creation.
- ◆ Developing research and lab space to grow emerging industries and attract new businesses.
- ◆ Increasing childcare affordability and availability to enable parents to participate in the workforce.
- ◆ Developing quality messaging, outreach, and marketing to promote local businesses and attract new investment to the region.

Introducing Key Sectors

The RRRISE Convening team worked closely with the Collaborative to identify key sectors to prioritize in the region's economic development and diversification strategies. The process used to do so was as follows:

1. Review previous Industry Cluster analyses, such as the EDD's "Targets of Opportunity" report (November 2021), exploring industry clusters in Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity counties. The RRRISE convening team consulted the authors of that report to understand the methodology and any challenges that arose during report preparation.
2. Receive qualitative input from the Collaborative during listening sessions during which participants identified opportunities and threats on the horizon from the perspective of key drivers in the region and industry strengths. The ATLAS.ti software program was used to identify themes and nodes of regional interest in different industry sectors.
3. Map and survey partners to identify key industries by the "people power" needed to develop them. Collaborative members (107 in total) responded to a survey querying them as to the key issues needed for economic development. What emerged were 10 priority areas that received strong agreement and corresponded with previous assessments.
4. Analyze publicly available quantitative data to obtain the findings reported in Chapter 6 .

The result was the ultimate articulation of key RRRISE focal areas, which are as follows:

Priority Sectors	
Cluster	Related Industries
Arts, Culture, and Tourism	Performing Arts; Museum, Historical Sites, etc; Scenic and Sightseeing Transportation; Food Services and Drinking Places; Accommodation; Transit and Transportation; Motion Picture and Sound Recording; Amusement, Gambling, and Recreation.
Health and Caregiving	Hospitals; Social Assistance; Ambulatory Health Care Services; Nursery and Residential Care Facilities; Health and Personal Care Stores.
Renewable and Resilient Energy	Construction; Repair and Maintenance; Utilities.
Working Lands and Blue Economy	Leather and Allied Products Manufacturing; Beverage Manufacturing, Fishing, Hunting Trapping; Animal Production and Aquaculture; Food Manufacturing; Textile Mills; Crop Production; Wood Products Manufacturing; Support Activities for Agriculture; Furniture and Related Products Manufacturing; Forestry and Logging; Building Materials and Garden Equipment.
Cross-Cutting Issues and Sector Enablers	
Housing Broadband Entrepreneurship Education and Training Health and Caregiving ⁴⁵	

Workforce development is so central to the California Jobs First initiative that it is mainstreamed throughout Collaborative consideration of these sectors and enablers. This report references the four priority sectors that drive the sector strategies developed and reported on in *Regional Plan Part 2*.



⁴⁵ In *Regional Plan Part 2*, development strategies for the health and caregiving sectors include both sector growth strategies and expanding access and addressing social determinants of health.