California's Working Landscapes:

Evolving Contributions to National, State, and Regional Economies

By Alec Dompka, Alexandra E Hill, Aaron Wilcher

November 2025

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

Practical. Connected. Trusted.

For over 100 years, UC Agriculture and Natural Resources (UC ANR) has been the local UC connection, delivering the power of UC research in agriculture, natural resources, nutrition, and youth development to Californians in their own communities to improve lives and livelihoods.

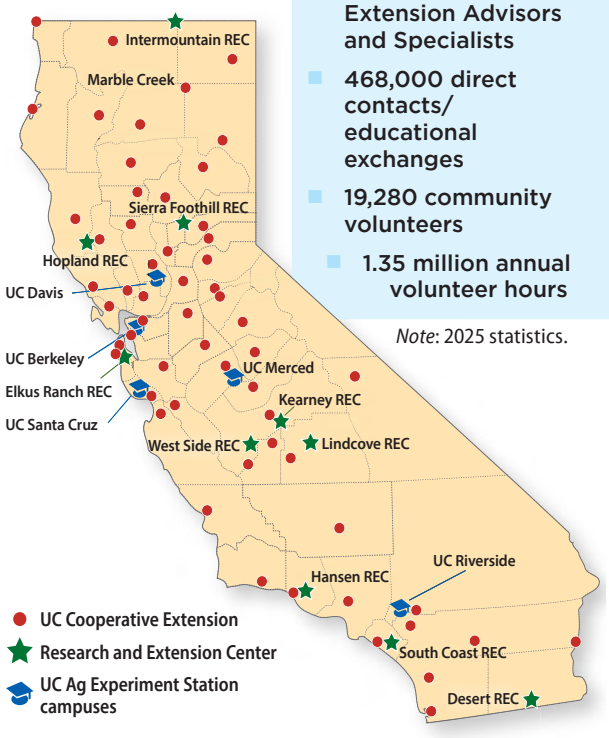
UC ANR achieves its land grant mission through the work of UC Cooperative Extension academics conducting research at nine UC campuses, nine Research and Extension Centers (RECs) and throughout California, serving all 58 counties. By working and living among those we serve, UC ANR expands UC's reach to engage all people and communities in California, ensuring equal access to the UC system. In many regions, UC ANR provides access to UC resources for residents who may never set foot on a UC campus.

Statewide Reach

UC ANR delivers its mission through 16 statewide programs including 4-H Youth Development, UC Master Gardeners, UC Integrated Pest Management, and CalFresh Healthy Living, UC. UC ANR's Nutrition Policy Institute is integral to developing research-based public policies related to nutrition and physical activity, and our California Institute for Water Resources is the state's hub that develops and communicates research-based solutions to water resources challenges.

- 295 Cooperative Extension Advisors and Specialists
- 468,000 direct contacts/ educational exchanges
- 19,280 community volunteers
- 1.35 million annual volunteer hours

Note: 2025 statistics.



Statewide Programs & Institutes

- **UC Research & Extension Centers** — University of California Agriculture & Natural Resources
- **UC ANR Policy Institute** — University of California Agriculture & Natural Resources
- **UC ANR Innovate** — University of California Agriculture & Natural Resources
- **Informatics & GIS** — University of California Agriculture & Natural Resources
- **UC Integrated Pest Management** — University of California Agriculture & Natural Resources
- **California Institute for Water Resources** — University of California Agriculture & Natural Resources
- **UC Sustainable Agriculture Research & Education Program** — University of California Agriculture & Natural Resources
- **UC Small Farms Network** — University of California Agriculture & Natural Resources
- **UC Organic Agriculture Institute** — University of California Agriculture & Natural Resources
- **UC Master Food Preserver** — University of California Agriculture & Natural Resources
- **4-H Youth Development Program** — University of California Agriculture & Natural Resources
- **UC Master Gardener** — University of California Agriculture & Natural Resources
- **UC Environmental Stewards** — University of California Agriculture & Natural Resources
- **UC Cooperative Extension** — University of California Agriculture & Natural Resources
- **UC ANR Fire Network** — University of California Agriculture & Natural Resources
- **Nutrition Policy Institute** — University of California Agriculture & Natural Resources
- **Community Nutrition & Health** — University of California Agriculture & Natural Resources
- **California EFNEP** — University of California Agriculture & Natural Resources
- **CalFresh Healthy Living, UCCE** — University of California Agriculture & Natural Resources

Table of Contents

Executive Summary

California is well known to be the nation's largest agricultural producer and sole producer of many specialty agricultural products. However, California's working landscapes extend beyond agriculture and the major agricultural production areas in the state. The state's vast and diverse working landscapes are key contributors to regional, statewide, and national economies.

This study updates and builds on a pioneering 2019 report which identified nine segments associated with working landscapes and analyzed their economic contributions across the state. As in its predecessor, this report focuses on nine segments of the working landscapes: agricultural distribution, agricultural processing, agricultural production, agricultural support, fishing, forestry, mining, outdoor recreation, and renewable energy. We analyze how these segments contribute to the state, regional, and national economy in 2024 by summarizing the number of jobs they provide, total worker earnings, total industry sales, and number of businesses.

Collectively, these segments contribute significantly to the state's economic vitality and account for many jobs in the labor market. In 2024, California's working landscapes accounted for nearly 6% of total industry sales in the state, placing as seventh most important among all California sectors in terms of sales. The working landscapes sector supported nearly 1.5 million jobs and 75,500 businesses while generating $404 billion in sales and providing $103 billion in worker earnings.

Exhibit 1. Total California 2024 sales for all 20 industry sectors, with new "working landscapes" sector.

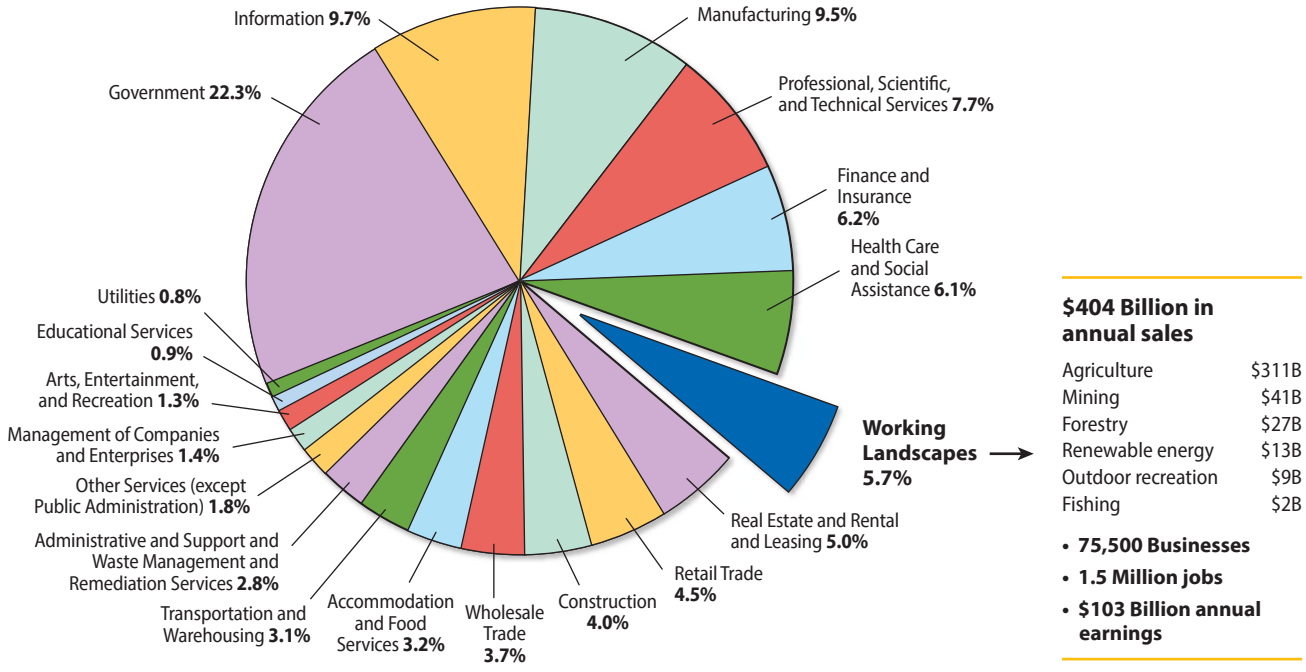
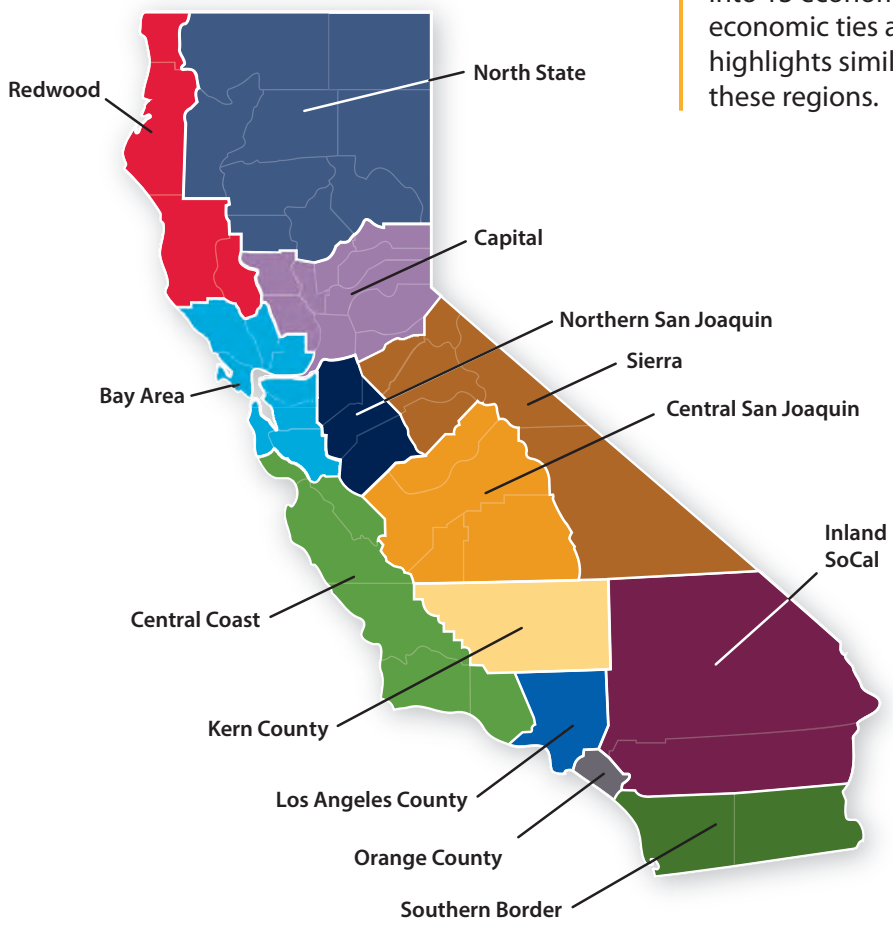


Exhibit 2. California Jobs First Regions



California Jobs First grouped the state's counties into 13 economic regions based on their shared economic ties and local connections. Our analysis highlights similarities and differences across these regions.

Combined, the four agricultural segments—distribution, processing, production, and support —account for $311 billion in annual sales, create more than 1.2 million jobs, and provide $84 billion in worker earnings.

Agricultural processing leads the state in terms of sales, generating $124 billion in 2024 alone, accounting for more than 30% of total sales in the working landscapes sectors. Agricultural support is the most important working landscapes segment in terms of jobs, providing more than 333,000 jobs in 2024, but is followed closely by the other agricultural segments, with agricultural distribution, production, and processing all having annual average employment levels above 255,000. The largest industry within the agricultural support sector is farm labor contracting, which increasingly provides much of the seasonal and temporary labor for the state's crop producers. Agricultural distribution leads the state in terms of worker earnings, providing almost $24 billion in the form of wages and benefits, accounting for nearly a quarter of total worker earnings in the working landscapes sector.

The four agricultural segments of the working landscape—agricultural distribution, processing, production, and support—emerge as economic powerhouses within the working landscapes.

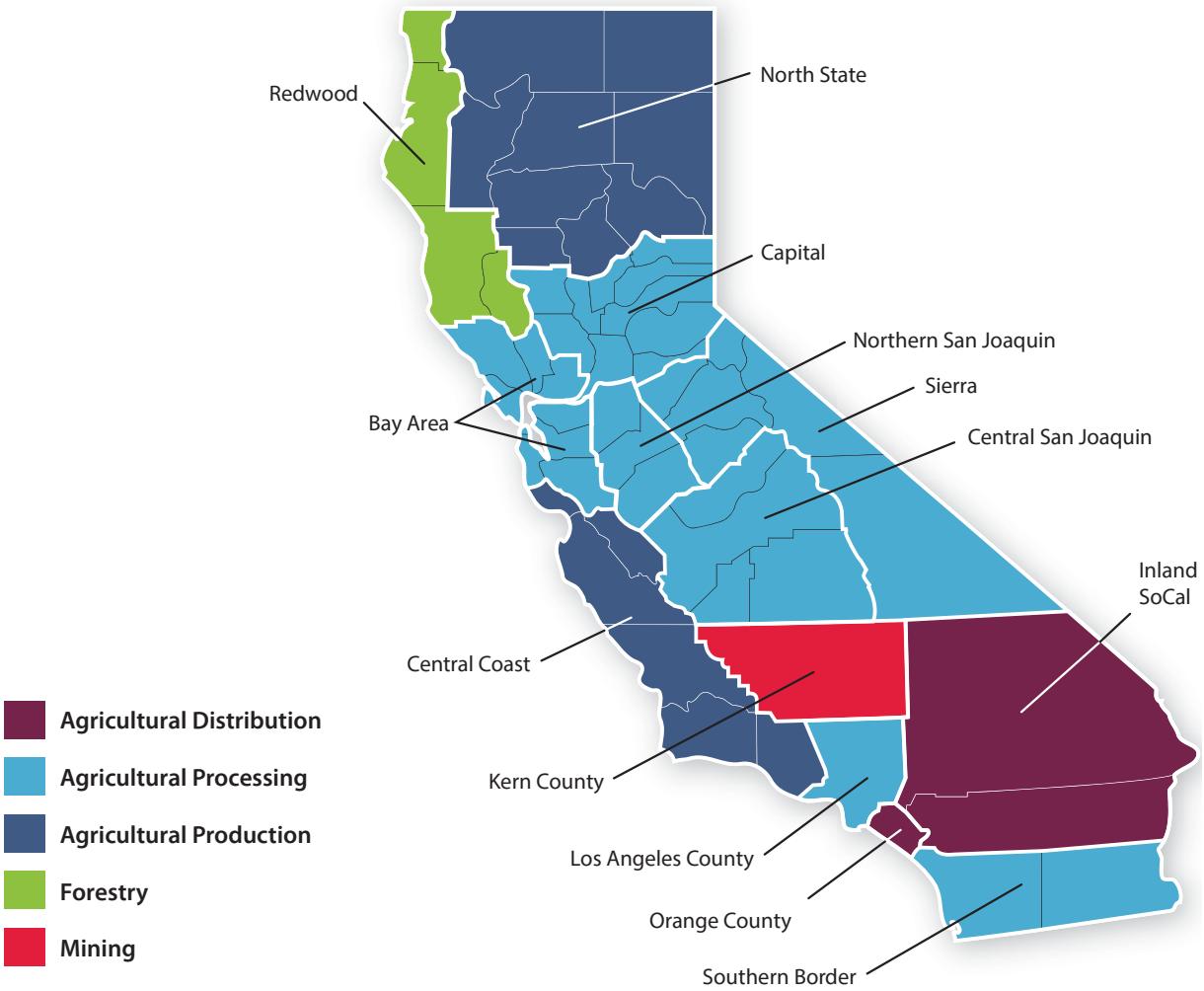
At the other end of the spectrum, the fishing, outdoor recreation, and renewable energy segments are the smallest of California's working landscapes segments across all metrics. However, while these segments are small relative to others in the state's working landscapes, they are incredibly important nationally. In terms of sales, California's

outdoor recreation and renewable energy industries are the most important of any state, accounting for 11% and 23% of their respective national industry sales in 2024. California's fishing industry is the fourth most important of any state, following only Alaska, Washington, and Massachusetts. A general theme of our analysis is that California's working landscapes segments all contribute substantially to the national economy and play important roles in key areas within the state.

This study also examines the geographic concentration—by CA Jobs First Regions—of economic indicators for each of the nine segments. Our analysis unveils that, perhaps surprisingly, **Los Angeles County and the Bay Area are the state's largest working landscapes contributors**, providing a total of $137 billion in sales, 440,000 jobs, and $35 billion in earnings, from 28,000 businesses.

Across the state, different regions specialize in different working landscapes segments. In terms of sales, the top segments by region range from forestry in the Redwood Coast, to agricultural production in the North State and Central Coast, to agricultural processing in much of central California and the Southern Border, to agricultural distribution in Orange County and Inland SoCal, and to mining in Kern County.

Working landscape segment with highest sales in 2024 for each CA Jobs First Region



Introduction

Since before its statehood, California's working landscapes have proved to be an economic powerhouse. Today, the working landscapes play a critical role in California's economy, contributing to the state's recent emergence as the fourth largest economy in the world and shaping its longstanding position as the nation's leading agricultural producer.[1] Recognizing this, University of California Agriculture and Natural Resources directed members of its Community Economic Development Program Area to provide an updated report on the economic impacts of California's working lands. This report builds on the seminal work by the Centers of Excellence and UC ANR, released in 2019, entitled *California's Working Landscapes*: A Key Contributor to the State's Economic Viability, which was the first effort to quantify the contributions of Californians whose livelihoods are tied to the land.[2]

This report builds on and updates the 2019 report by capturing more recent data (from 2024), summarizing data for each of the state's newly delineated economic regions (the 13 California Jobs First regions[3]), and adding several additional analyses, particularly to frame California's working landscapes' importance within the national economy.

The term "working lands" has typically been used to describe conservation efforts focused on protecting rural lands, specifically agricultural land, forests used for timber production, and range lands. As in the 2019 report, we have adopted the broader term "working landscapes" to encompass the economic benefits derived not only from traditionally defined working lands but also from ocean fishing, renewable energy generation, mining, and public lands used for outdoor recreation. In addition to the economic value of their products, working lands are complex systems encompassing many other dimensions that are more difficult to measure, and which some might deem priceless—dimensions of social, cultural, aesthetic, and ecological importance.[4]

> Through policies and strategic goals, California's decision-makers have long prioritized initiatives that protect its working landscapes.

Through policies and strategic goals, California's decisionmakers have long prioritized initiatives that protect its working landscapes. They have successfully leveraged the state's working landscapes as avenues for nature-based

UCCE biocontrol program protects California's citrus industry against serious pest

First detected in California in 2010, Asian citrus psyllid (ACP) is a serious pest of citrus that spreads a bacterium, *Candidatus* Liberibacter asiaticus (CLas), which, in turn, causes the lethal citrus disease, huanglongbing (HLB). ACP easily spreads between urban and agricultural areas, which makes it a particularly challenging pest to control. ACP devastated citrus production in Florida and was expected to do the same in California, where it is valued at approximately $2.5 billion annually. To prevent that, a UCCE Entomology Specialist at UC Riverside initiated research and extension efforts on the biological control of ACP, which are now showing significant results. ACP pest populations have declined, on average, by about 70% in California. After more than 15 years, ACP-CLas is still largely limited to urban areas, and there have not been major outbreaks of

ACP-CLas in commercial citrus production areas. Overall, the long-term viability of commercial citrus production in California is now far more likely given the highly reduced threat posed by ACPCLas. (Mark Hoddle)

climate solutions and have engaged in continuous efforts to update and revise strategies for using natural and working landscapes to achieve carbon neutrality and build climate change resilience. In 2020, Governor Newsom issued Executive Order N-82-20 to establish a state goal of conserving 30% of California's lands and coastal waters by 2030—a goal commonly known as 30x30.[5] The 30x30 goal intends to accelerate conservation of lands and coastal waters through voluntary, collaborative action with partners across the state.[6] Since this executive order, the state has made notable progress toward the 30x30 goal—as of June 2025, 26.1% of California's lands and 21.9% of its coastal waters are under long-term conservation and care—and has set a new example for other states and nations to pursue similar objectives.[7,8]

California's 30x30 commitment is part of a global effort to increase biodiversity conservation, including in the United States. In January of 2021, the Biden administration issued an executive order on tackling the climate crisis and committed the United States to 30x30 through its America the Beautiful initiative, which has prioritized working lands' role in nature-based solutions and climate solutions.[9,10]

Various other states, such as North Carolina and Oregon, are also working to preserve and enhance their working lands. The US Climate Alliance reports that of its 24 member states and US territories, 20 have greenhouse gas inventories and 14 have "conservation or sequestration goals."[11] North Carolina completed a Working Lands Action Plan in 2020 and continues to implement its findings across the state.[12] With large agricultural, forestry, and ecological resources, North Carolina's assessment and recommendations focused on policy or system changes, and protection, restoration, and enhancement for working lands, including forests, agricultural land, urban green space, and native habitats.[13] Oregon is taking a carbon mitigation-focused look at its working lands planning and development, attempting to build a framework to inventory the working lands' carbon assets and related needs.[14]

Recognizing the global, national, and regional importance of working landscapes, this study analyzes nine key industry segments to illustrate the working landscapes' overall contribution to California's economy.

The nine working landscapes segments and the industries that comprise them contribute massively to the state's business and economic development and account for many jobs and substantial earnings for Californians. These nine segments follow the same designation as those from the 2019 California Working Landscapes report, as these sectors continue to be vital contributors to the working landscape economy.

Working Landscape segments

- Agricultural Production
- Agricultural Support
- Agricultural Processing
- Agricultural Distribution
- Fishing
- Forestry
- Mining
- Outdoor Recreation
- Renewable Energy

The California Department of Food and Agriculture (CDFA) estimated that California's 62,900 farms and ranches received produced $59.4 billion in output in 2023, securing its position as an agricultural behemoth and the nation's most agriculturally productive state.[15] California exports of agricultural products have trended upward over the last decade, and in 2023 the state exported $22.4 of its agricultural production, illustrating California's expanding importance in the global agricultural economy.[16]

Rural working lands also benefit nearby urban markets. A Minnesota study showed that close to 30% of the spending and investment increases from rural agribusiness gains are realized in urban areas.[17] And the benefits from working lands radiate well beyond the agricultural sector, including into downstream processing and manufacturing sectors. For example, a 2017 Fresno State study reported the food and beverage processing sector accounts for $123 billion or 5% of California's GDP.[18] The Outdoor Industry Association estimated the California outdoor recreation industry generates $92 billion in consumer spending annually.[19]

In 2024, California was the fourth-largest total electricity producer in the nation, with 57% of in-state energy generation coming from renewable sources.[20]

Solar energy generated over 80,000 jobs in California in 2023.[21] California is also a leader in mining. California hosts the nation's largest rare earth mine.[22] California is the fourth-largest non-fuel mineral-producing state, accounting for 5.8% of the national total output.[23]

Structurally, this report provides an overview of California's working landscape and its economic contribution by taking a detailed look at these nine industry segments, illustrating their importance to regional, statewide, and national economies. We quantify their importance using four primary metrics: employment, earnings, total sales, and number of businesses.

Innovative efforts to expand solar power by covering canals

A UC Cooperative Extension Specialist located at UC Merced collaborated with UC Merced and UC Santa Cruz researchers on a study of energy and water co-benefits from covering irrigation canals with solar panels in the Central Valley. As a result, the Turlock Irrigation District is implementing the nation's first construction of solar panels over water canals with a $20 million award from the California Department of Water Resources. Results show potential water savings of 63 billion gallons of water annually, which is comparable to the amount needed to irrigate 50,000 acres of farmland or meet the residential water needs of more than two million people. Moreover, the 13 gigawatts of solar power the panels would generate annually equals about one-sixth of the state's current installed capacity — roughly half the projected new capacity needed by 2030 to meet the state's decarbonization goals. (Tapan Pathak)

Methodology

The working landscapes are complex and evolving, spanning dozens of industries and industry sub-sectors. Conducting this study required several methodological decisions to define working landscapes industries, define relevant regions across the state of California, and construct accurate estimates of employment, sales, earnings, and business counts for industries and regions.

Defining the Working Landscapes Industries

The research team defined the working landscapes using industry codes from the North American Industry Classification System (NAICS) and following the classifications assigned in the prior iteration of this report. In the 2019 California Working Landscapes report, the research team grouped nearly 200 industries into nine segments based on knowledge of the business structures, relationships, and supply chains of the organizations in the working lands sector. These nine segments consist of agricultural distribution, agricultural processing, agricultural production, agricultural support, fishing, forestry, mining, outdoor recreation, and renewable energy. Appendix table A1. shows the complete list of NAICS codes used to define each of the nine segments related to working landscapes in this report. In this report, we retain these same working lands segments as the prior report and follow its same NAICS classifications with two updates.

Our first change to these classifications is because the NAICS codes are periodically updated as industries contract and expand. In this report, we use the most recent NAICS codes which were released in 2023, whereas the prior report used the 2017 NAICS codes. Most often, these recodings combined multiple industries under one NAICS code. For example, the 2017 NAICS had separate codes for gold and silver ore mining (212221 and 212222), whereas the 2023 NAICS has a single code for gold and silver ore mining combined (212220). In other cases, the recodings involved small changes in the name or numerical code. For example, meat markets (445210) were re-named as meat retailers and were also re-coded (445240) to capture this change. Appendix table A2. lists all of the 2017 NAICS codes that were assigned to Working Landscapes segments in the 2019 Report that were reclassified to new NAICS codes with the 2023 update.

Second, we have included two additional NAICS codes in working landscape sectors. We added NAICS 721211 for RV (Recreational Vehicle) Parks and Campgrounds to the Outdoor Recreation segment, and we added NAICS 325315 for Compost Manufacturing to the Agricultural Processing Sector. We believe that these two NAICS were missed in the prior report, as similar NAICS were included in those segments.

Defining California's Regions

An objective of this study is to measure the importance and impact of the nine working landscape segments for the state as a whole and separately by regions within the state. For example, some segments, although relatively small in terms of employment or sales income, are cornerstones of local economies and play a critical role in the livelihoods of communities.

In the previous version of this report, these geographic regions were constructed by the University of California Agriculture and Natural Resources. In this version of the report, we use the 13 California Jobs First Regions, which group together counties with shared economic ties and local connections to encourage interrelated areas to work together on projects that promote economic resilience and equitable growth. These regions and their associated counties are defined in Appendix B.

In the previous version of this report, these geographic regions were constructed by the University of California Agriculture and Natural Resources. In this version of the report, we use the 13 California Jobs First Regions,[24] which group together counties with shared economic ties and local connections to encourage interrelated areas to work together on projects that promote economic resilience and equitable growth. These regions and their associated counties are defined in Appendix B.

Analytical Methods

This report uses data and output from Lightcast.io, which is the replacement of EMSI—the software used for the previous report. We use Lightcast V2025.1 to produce all estimates in the report and pull data at either the state-NAICS level or county-NAICS level. Note that, particularly at the county-NAICS level, some data are redacted for confidentiality reasons, which can lead to lower estimates of jobs, sales, earnings, and businesses in the detailed industry segment sections than in the state overview. The totals for the regional segment values thus do not add up to the overall statewide totals in some cases.

This study uses four metrics to gauge the contribution of industry segments to the regional economies and the state's overall economy:

- Employment (number of annual jobs)
- Earnings (total annual payments to all workers)
- Sales (total income generated by all business establishments)
- Businesses (number of establishments each year reporting payroll expenses)

We focus mostly on employment, earnings, and sales, as these three metrics are common variables that are indicators of the strength, weakness, or health of an economy. However, all four metrics affect the livelihoods of people and contribute value to the state's economy as a source of financial well-being that creates spending ripple effects through local and state economies. We provide the details on how these measures are constructed by Lightcast in Appendix C.

Definitions of Working Landscape Measures

Employment: Also referred to as "jobs." This is any position in which a worker provides labor in exchange for monetary compensation. This includes those who work as employees for businesses (a.k.a. "wage and salary" employees) and proprietors who work for themselves.

Earnings: Total industry earnings for a region. Includes wages, salaries, supplements (additional employee benefits), and proprietor income.

Sales: An estimate of each industry's total annual sales (gross receipts), both to other industries and to consumers, estimated through input–output modeling.

Businesses: Also referred to as "establishments" or "payrolled business locations." This is a single physical location of some type of economic activity (a business) used for reporting purposes in government data sources. A single company may have multiple establishments.

Producing estimates of employment, earnings, and sales using the Lightcast software requires first defining the relevant "worker types." For this report, we include all worker types, consisting of Quarterly Census of Employment and Wages (QCEW) Employees, Non-QCEW Employees, Self-Employed, and Extended Proprietors. We provide the formal definitions of each of these worker types in Appendix C.

This report also focuses on industry sales, which has important differences from the typical measure of economic production, gross domestic product (GDP). GDP by industry represents the value added by each industry and is constructed by subtracting the cost of intermediate inputs from total sales. Summing total sales across industries include some double counting because products sold from one industry can then be used as inputs in a second industry. Therefore, the total sales outlined in this report are larger than measures of GDP. We estimate total California sales across all industries in 2024 at $7.1 trillion, whereas the 2024 state GDP, according to the Bureau of Economic Analysis, is $4 trillion.[25]

Figures and tables in the report were produced using multiple programs, Python MS Excel, and Adobe Illustrator.

Ecosystem Services

The focus of this report is on producing estimates of market-based impacts from industrial activities in California's working landscapes using established economic impact methods. However, for decades, researchers and policymakers have offered frameworks and valuation methods under the banner of "ecosystem services valuation" to provide a more comprehensive picture of the benefits that result from nature and the environment than what is captured in these established economic impact models. We acknowledge that these frameworks and valuation methods are important and would drastically increase our estimates of the value of the states' working landscapes, but these approaches are beyond the scope of this report and were also omitted from the prior iteration of this report. This section briefly overviews the estimation approaches to more fully valuing working landscapes by accounting for "ecosystems services" and discusses the implications of omitting these additional social benefits from our analysis.

Estimating the value of ecosystem services originated as a tool to improve natural resources and the natural environment. This concept is also based on the idea that market failures have historically resulted in underinvestment in nature and the environment, the sources of natural capital and ecosystem services, which are fundamental to human society.[26]

Research advances planning and policy efforts using ecosystem services valuations

An interdisciplinary network of researchers centered at UC Davis and the US Forest Service partnered on the Southern California Ecosystem Services Assessment. Among other projects, the team has produced estimates of the monetary values of chaparral in four national forests that include assessing the value of ecosystem services, estimating impacts from wildfire, identifying effects on water quality for downstream residents, documenting effects of restoration, and appraising the return on investment from fuels reduction.

Source: Southern California Ecosystem Services Assessment. https://socalecosystemservices.ucdavis.edu/

Research on ecosystem services focuses both on the extent of impacts to nature and the environment, and the effectiveness and prescription for current government policy and private management to protect and enhance the benefits of ecosystem services to human society.[27] Whereas working landscapes are the spheres of direct economic and labor activity on the land, ecosystems services are the direct, indirect, and intangible benefits humans derive from the natural environment itself and those working landscapes within it.[28]

The 2005 United Nations Millenium Assessment (MA) has acted as a benchmark framework for ecosystem services valuation, which the report defined as "the benefits people receive from ecosystems." The MA offered four categories of services including Provision Services (food, water, timber, and fiber); Regulating Services affecting climate change, floods, disease, waste, and water quality; Cultural Services that provide recreational aesthetic and spiritual benefits; and Supporting Services like soil formation and nutrient cycling.[29]

The MA and many efforts since have focused on the opportunities to overcome various policy, market, technology, and societal gaps and barriers to protecting and enhancing the sources of ecosystem services. An important touchstone for this work is the notion that ecosystem services face market gaps owed to inadequate monetized valuations of "natural capital," the services and economies centered around natural capital, and the benefits they provide to humans.[30]

In the face of pressures from various sources, land use planning and development, working landscapes management practices, or urban industrial business practices, ecosystem services valuations could show cost-benefit comparisons for conservation and biodiversity practices in financial terms. The challenge often lies in developing and adopting standard methods to quantify values and in translating them to inform policymakers and other influential decision-makers; many of these methods are not well understood outside of academia or are otherwise inaccessible due to information gaps or the costs associated with conducting these assessments.

Research and policy valuations involve assessments of avoided costs and willingness to pay for conservation measures.[31] Such methods quantify the monetary values of tangible occurrences like mitigating erosion and intangible benefits like recreation opportunities or community pride of place.[32] Ecosystem services valuations also could support the creation of novel policy incentives and financial instruments like Enhanced Infrastructure Finance Districts and expanded markets for carbon sequestration to enhance conservation practices that benefit working landscapes and ecosystem services.[33]

California has made efforts to advance the ecosystems services approach such as the CA Roundtable on Ag and Environment (CRAE) developed guidelines for working landscapes in 2012 for ecosystems services.[34] The CA Department of Food and Agriculture and its Office of Agricultural Resilience and Sustainability adopted a definition of ecosystem services.[35] And the California Air Resources Board and its California Climate Investments (Cap and Trade) program studies the monetized ecosystem services values from its investments in agriculture, wetlands, forests, neighborhood greening, water and energy efficiency, and waste diversion.[36]

The previous iteration of this report highlighted ecosystem services valuations done by the Sonoma County Ag + Open Space Trust in their Healthy Lands Healthy Economies report with Earth Economics. The study, issued in several reports, was conducted on behalf of three county agencies including the Resource Conservation District of Santa Cruz County and the Santa Clara Valley Open Space Authority and addressed three key areas: the benefits and economic values of working and natural lands; return on investment from conservation investments; and viable financial instruments to support conservation and working lands.[37] In the case of Santa Clara County, the Open Space Authority leveraged the assessment in its Regional Conservation Investment Strategy, its Santa Clara Valley Agricultural Plan, and the specific plan for the Coyote Valley, south of San Jose, where open space faces development threats.[38]

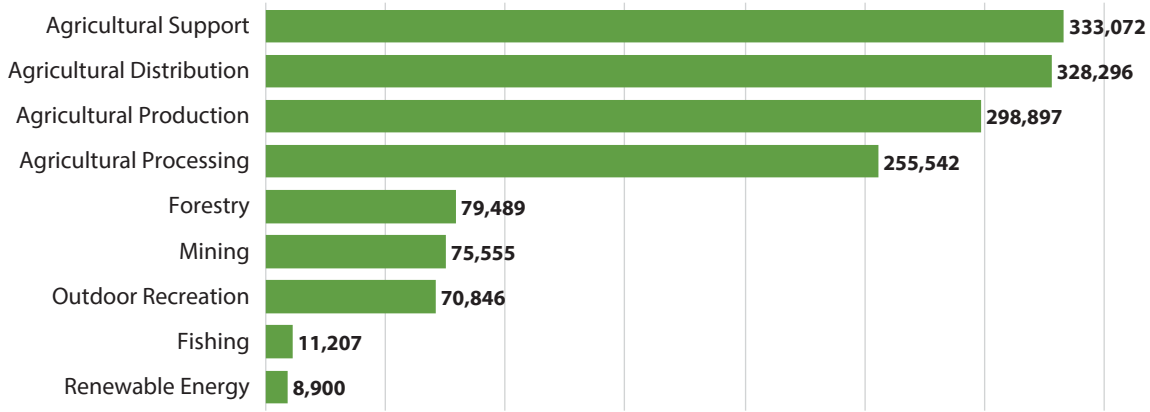
Other planning and policy efforts, like the Bay Conservation and Development Commission and Metropolitan Transportation Commission and Association of Bay Area Governments used ecosystem services as a framework for risk assessment, specifically in a 2020 vulnerability assessment for sea level rise. While the assessment acknowledged monetary valuation as a potential opportunity, it did not calculate values.[39]

Working Landscape Employment

In total, the nine working landscape segments provide nearly 1.5 million jobs in the state. When looking at employment, the segments in California's working landscape that have the most jobs are agricultural support, agricultural distribution, agricultural production, and agricultural processing (Exhibit 3).

Combined, agricultural production, support, distribution, and processing account for over 80% of all working landscape jobs in the state, demonstrating the importance of agriculture and its associated jobs to the state's working landscapes and overall economy. In total, these four segments employ 1.2 million people. Forestry jobs are also a significant contributor to working landscape employment. This segment counted almost 80,000 jobs in 2024. This segment is followed by mining, which employs more than 75,000 people, and by outdoor recreation, which employs more than 70,000 people. The smallest segments in terms of employment are fishing and renewable energy.

Exhibit 3. Jobs by working landscape segment, 2024



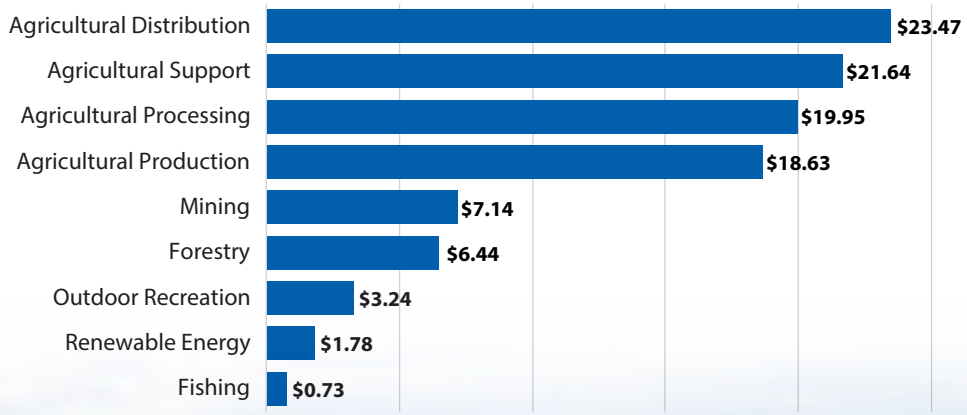
Growers increase revenue through produce safety certifications

In the Imperial Valley, farmers increased their revenues by working with UCCE to attain regulatory compliance. A UCCE Food Safety and Organic Production Area Advisor delivered Produce Safety Rule certification workshops in English, Spanish, and Korean, reaching many small and first-time farmers. A follow-up with 40 growers who attended the Produce Safety Alliance Grower Training course and received certificates of completion revealed an average 7% increase in sales prices when selling to large retailers. Five farmers secured new contracts with major chains, including Walmart and Kroger, resulting in an estimated $12,000 average annual revenue increase per certified farm. The percentage of small-scale farmers in both counties who completed the Produce Safety Alliance training course and received certificates increased from 60% to 78%. This work shows how UCCE strengthens food safety and regional food systems while also improving the financial stability of California's farms and farmers. (Cuong Huu Nguyen)

Working Landscape Earnings

Overall, the state's working landscapes generated over $103 billion in earnings in 2024 (Exhibit 4). Earnings were highest in the agricultural distribution ($23.5B) and agricultural support sectors ($21.6B). Agricultural processing paid the third-highest amount, $20 billion, followed by agricultural production, at $18.6 billion. Together, these four agriculture-related segments accounted for 81% of total earnings paid to workers by the working landscape segments in the state.

Exhibit 4. Earnings by working landscape segment, 2024, in billions ($)

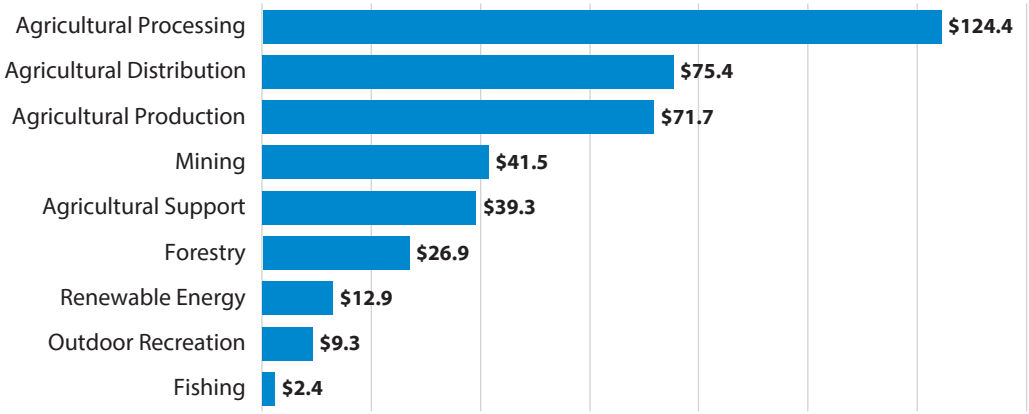


Working Landscape Sales

California's working landscape plays a vital role in the state's economy, generating $404 billion in sales income in 2024 (Exhibit 5). The agricultural processing segment generated the largest amount of sales income, $124 billion, accounting for a third of all sales from the working landscape segments. Agricultural distribution is another leader in sales income. The segment reported $75 billion in sales in 2024. Agricultural production sales totaled $72 billion. Mining, agricultural support, and forestry were the next largest contributors, with $41B, $39B, and $27B in annual sales, respectively. Renewable energy, outdoor recreation, and fishing were the smallest contributors.

A noteworthy finding of this study is that although mining employment is smaller than the agricultural segments of the working landscape, it generates slightly more sales income than the agricultural support segment. California is one of the nation's leaders in terms of mining revenue. California's mineral production value is the fourth largest in the United States, after Nevada, Arizona, and Texas.[40] Although the outdoor recreation segment generated a smaller amount of sales income compared with other working landscape segments, a total of $9 billion in 2024, its impact is considerable. By sales, California has the largest outdoor recreation economy of any state in the nation, accounting for more than 11% of total national outdoor recreation sales. With its nearly 71,000 jobs, it accounts for 2.7% of all jobs in the state.

Exhibit 5. Sales by working landscape segment, 2024, in billions ($)



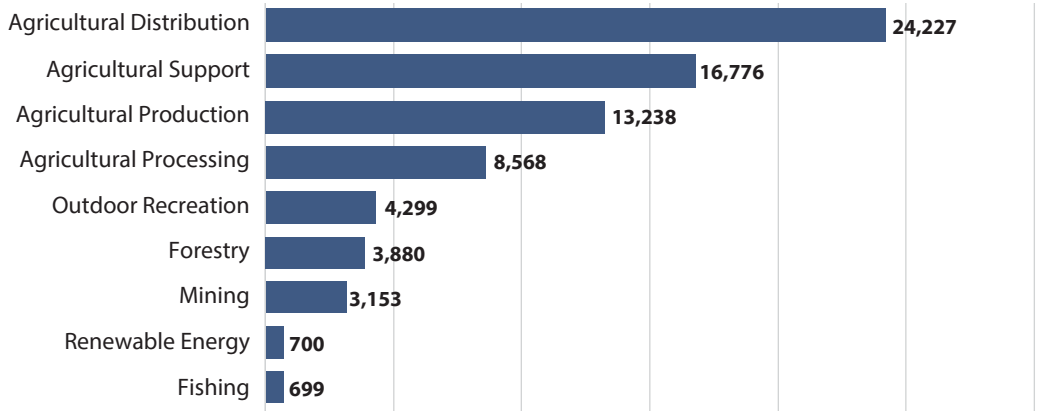
Working Landscape Establishments

In California, there are over 75,000 businesses represented by industry codes associated with the working landscape (Exhibit 6). Among these identified establishments, the agricultural distribution segment has the most establishments, over 24,000, followed by agricultural support, near 17,000, and agricultural production, over 13,000. Agricultural processing has the fourth highest number of establishments at 8,500.

Industries within the working landscape segments that have the most establishments include other scientific and technical consulting services, crop production, stores (beer, wine, and liquor), animal production, wineries, and amusement and recreation industries.

When considering the breadth of establishments in the working landscape, it is important to keep in mind that California is a hub for many industries. One large component is California's wineries, which lead the state and the nation in production. Findings from Wines Vines Analytics indicate there are 11,499 wineries in the United States, and 42% of them are in California. California's net production of wine accounts for 87% of total wine production in the United States.[41]

Exhibit 6. Businesses by working landscape sector, 2024



Working Landscapes Across the State

California is a large and diverse state; not surprisingly, the profile and contributions of its working landscapes vary across regions. Exhibit 7 shows the contributions of the working landscape sectors in terms of sales, and Exhibit 8 shows the contributions in terms of jobs across California Jobs First regions. Los Angeles County emerges as the largest contributor to the working landscape economy in terms of both sales, at $69B, and jobs, at 228K, followed by the Bay Area, with $68B in sales and 215K in jobs. These regions might not immediately come to mind when considering working lands, but they show that effective working lands are essential for every Californian. The Central Coast and central San Joaquin Valley are the next most important areas, whereas the less populated Eastern Sierras, North State, and Redwood Coast are the smallest contributors.

Across the state, the agricultural sectors are generally the largest contributors to the working landscapes economy. But different regions also specialize in different working landscapes segments (see Exhibit 2 in the executive summary). In terms of sales, the top segments by region include agricultural production, processing, and distribution as well as forestry and mining. In terms of jobs, the top segments across all regions in the state are agricultural distribution, production, and support.

Exhibit 7. Working landscapes sales by region

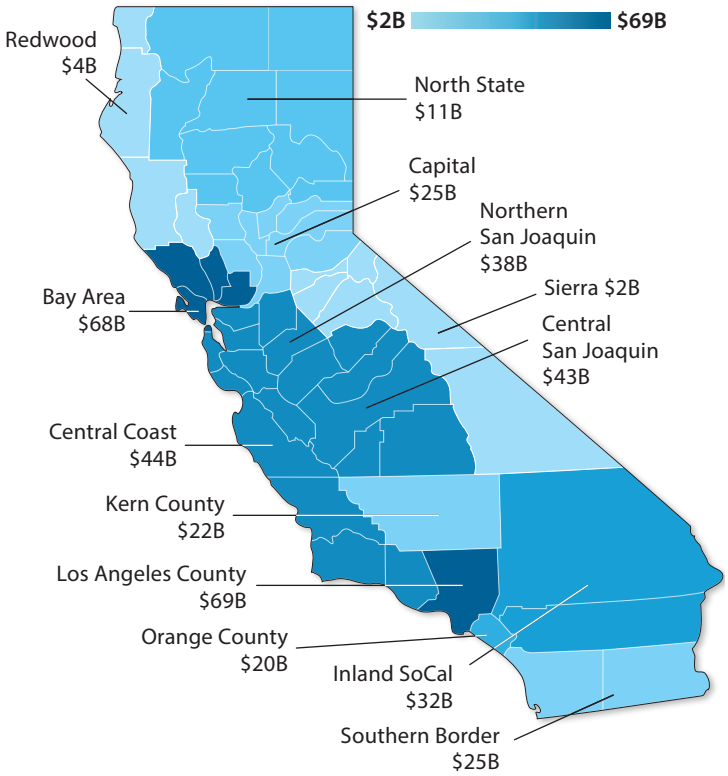
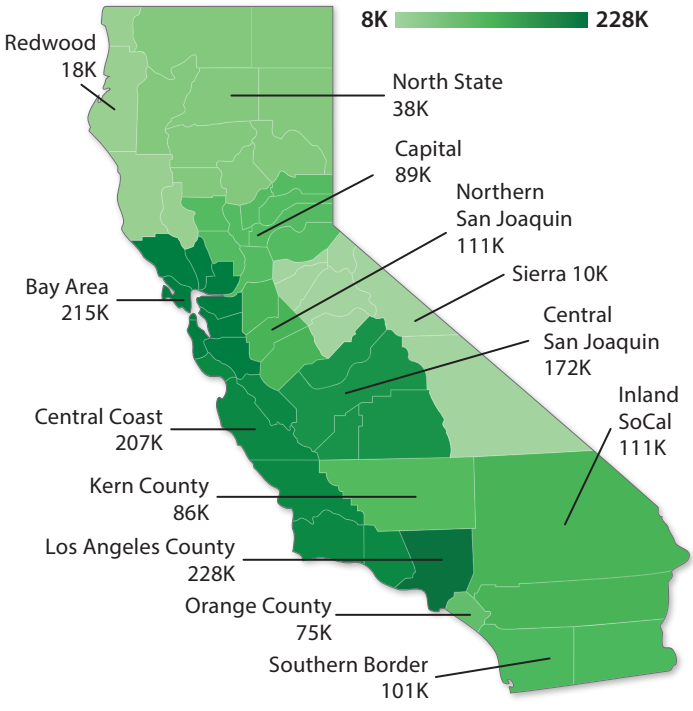


Exhibit 8. Working landscapes jobs by region



California's Working Landscape Contributions to the National Economy

California's working landscapes make important contributions to not only the state's economy but also the national working landscape economy. Nationally, working landscape industries contribute $4.1 trillion in annual sales, making it the fourth most important sector in the US economy after government, manufacturing, and finance and insurance. California's working landscapes account for almost 10% of national sales, 11% of national jobs, and 12% of national earnings from working landscapes (Exhibit 9). The valuation of California's working landscapes in terms of sales ($404B), jobs (1.5M), and earnings ($103B) is second only to Texas, whose working landscapes contribute $620 billion in annual sales and provide 1.47 million jobs with $119 billion in earnings. The next largest working landscapes states include Florida, Illinois, New York, and Pennsylvania, but each account for less than 5% of national working landscapes sales, jobs, and earnings.

Compared with other states, California's portfolio of major industries in its working landscapes sector is generally more diverse.

Compared with other states, California's portfolio of major industries in its working landscapes sector is generally more diverse.

Compared with other states, California's portfolio of major industries in its working landscapes sector is generally more diverse (Exhibit 10). Texas' top three industries within its working landscape sector account for more than half ($322B) of its working landscape sales and consist of oil-related industries. Its next two top industries—animal production and machinery purchase, rental, and leasing—combined account for another $52B of annual sales.

Exhibit 9. Working Landscapes Jobs By State, Share of National Total

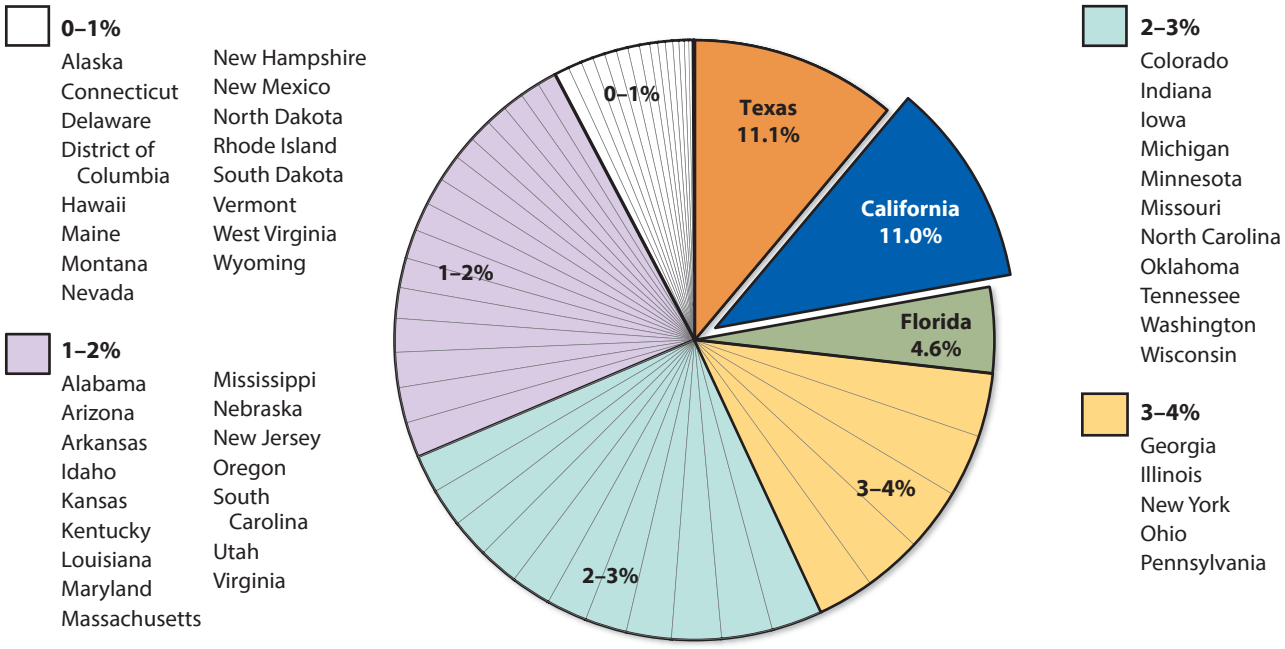


Exhibit 10. California and Texas top five working landscape industries, ranked by total sales

California top five working landscape industries, by total sales

NAICS	NAICS description	Sales ($ billions)	Jobs (1,000's)	Earnings ($ billions)
111000	Crop production	51.75	199.72	11.87
312130	Wineries	18.12	43.03	3.96
112000	Animal production	15.25	38.49	2.67
541690	Other scientific and technical consulting services	12.97	83.25	7.92
211120	Crude petroleum extraction	12.58	13.34	1.15

Texas top five working landscape industries, by total sales

NAICS	NAICS description	Sales ($ billions)	Jobs (1,000's)	Earnings ($ billions)
211120	Crude petroleum extraction	228.39	171.56	23.61
211130	Natural gas extraction	52.12	40.63	5.42
213112	Support activities for oil and gas operations	41.79	125.35	15.73
112000	Animal production	33.40	170.25	6.19
532412	Construction, mining, and forestry machinery and equipment rental and leasing	18.33	22.11	2.53

By comparison, California's top working landscape industry is crop production, and the top five industries account for just over a quarter ($110B) of total working landscape sales in the state. California's top five industries include crop production, wineries, animal production, other scientific and technical consulting services, and crude petroleum extraction. The top industries in terms of sales do not necessarily create the most jobs. Texas's top five industries by jobs includes crop production (employing 106K annually) and other scientific and technical consulting services (employing 43K annually), replacing the natural gas extraction and machinery and equipment rental and leasing industries which, despite their high contributions to Texas' economy in terms of sales, involve relatively fewer jobs. **Overall, California's working landscapes encompass a more diverse portfolio of industries than Texas, where the oil and gas industry largely comprises the economic contributions of the state's working landscapes.**

Agricultural Production

The production basis for agricultural activity in the state

298,900	$19 billion	$72 billion	13,200
Number of jobs	Total earnings	Sales	Number of businesses

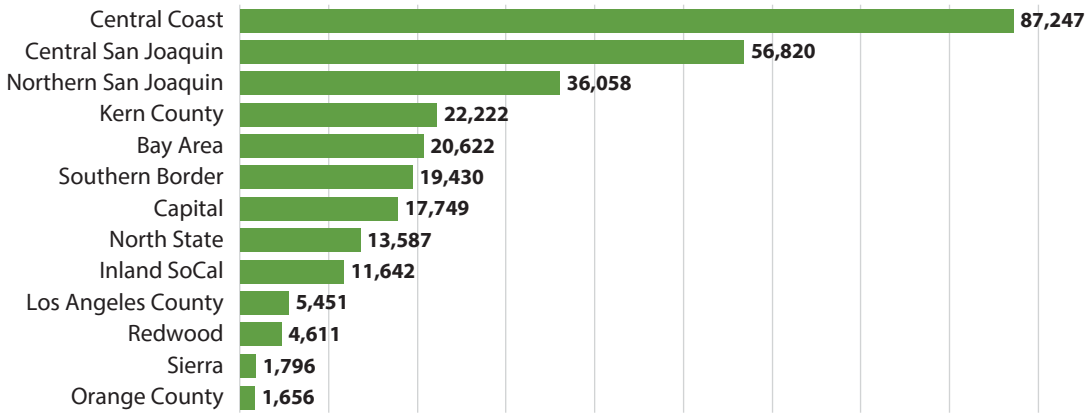
Agricultural production includes major farming and ranching industries, including crop and animal production, field preparation, and crop and postproduction harvesting. The Central Coast and Central and Northern San Joaquin regions represent the largest producers by jobs, sales, and earnings, while the Eastern Sierra and Orange County had the smallest contributions.

Agricultural Production Jobs, 2024

The prior working landscapes report found that the agricultural production segment of the working landscapes provided the most jobs of all nine working landscapes segments, with 320,000 jobs in 2018. In 2024, this segment accounted for 298,900 jobs, placing the segment third in number of jobs provided. We believe that most of these jobs transitioned out of crop production and into support activities for crop production (in particular, farm labor contractors), which is now the leading working landscapes job provider in the state.

A large share of the agricultural production jobs, 60%, are in the Central Coast and Central and Northern San Joaquin regions. Together, these regions provide more than 180,000 jobs in agricultural production through nearly 7,000 business establishments. The Central Coast provides the most jobs, more than 87,000, but ranks third in number of businesses, nearly 2,000, whereas Central San Joaquin ranks second in jobs at 57,000 and has the most business establishments at roughly 2,800 (Exhibit 11).

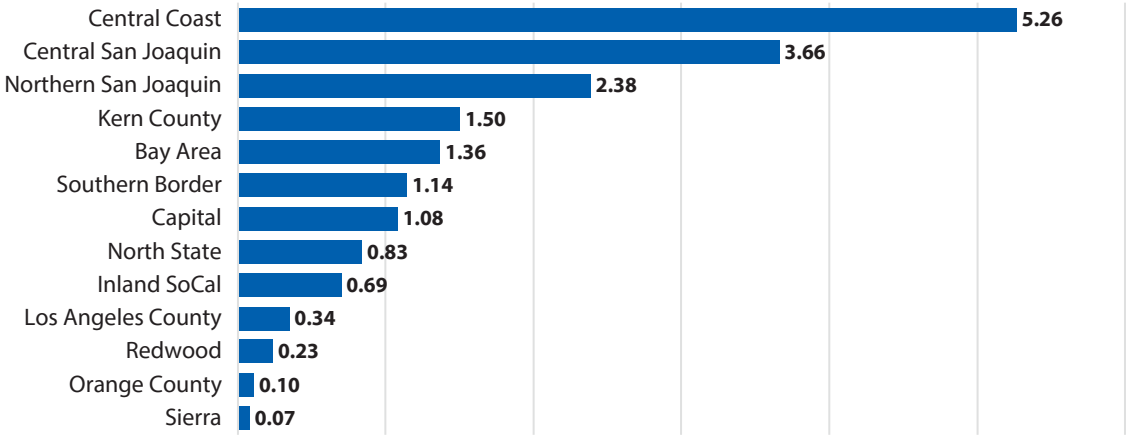
Exhibit 11. Agricultural production jobs, 2024



Agricultural Production Earnings, 2024

Total regional earnings paid by the agricultural production segment is substantial, $18.6 billion in the state in 2024. As with jobs, the Central Coast and Northern and Central San Joaquin regions have the greatest total earnings. The Central Coast accounts for $5.26 billion, Central San Joaquin $3.66 billion, and Northern San Joaquin $2.38 billion (Exhibit 12). Combined, these three regions account for 61% of all earnings paid to workers in the agricultural production segment.

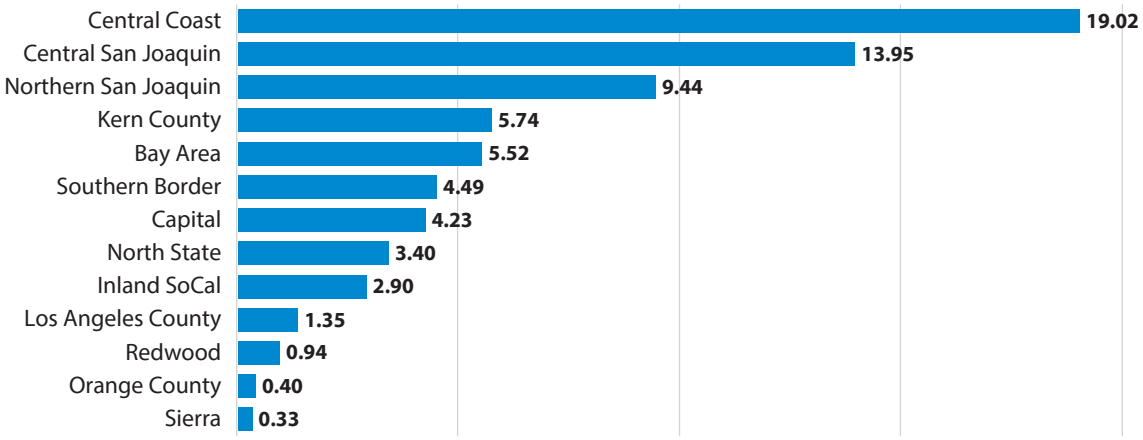
Exhibit 12. Agricultural production earnings, 2024, in billions ($)



Agricultural Production Sales, 2024

Sales income generated by agricultural production statewide totaled $71.7 billion in 2024. Again, the Central Coast and Northern and Central San Joaquin regions are prominent regions for agricultural production regional sales income (Exhibit 13). Sales from these three regions alone total $42.4 billion, accounting for 59% of all agricultural production sales in the state.

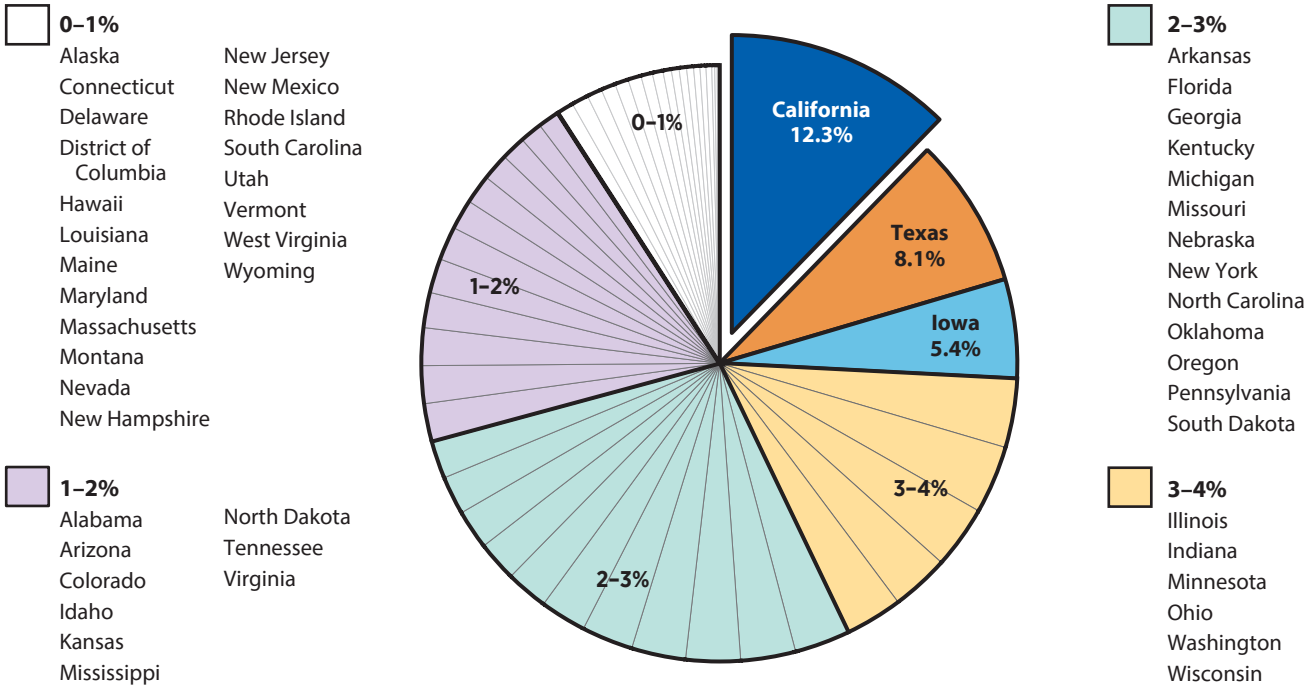
Exhibit 13. Agricultural production sales, 2024, in billions ($)



Agricultural Production Nationally, 2024

California agricultural production is a vital segment in the national economy. California ranks first in terms of sales in agricultural production, with its $71.7 billion accounting for 12.3% of sales in the agricultural production sector in the entire Uniteed States. (Exhibit 14). The next closest state is Texas, which had sales of $47.5 billion in 2024 and accounted for 8% of national sales in the segment. California also ranks first in agricultural production in terms of jobs, earnings, and number of businesses. California accounts for 10.4% of all US jobs in agricultural production, 14.5% of earnings, and 15% of all business establishments.

Exhibit 14. Agricultural production sales by state, 2024



Biocontrol protects California's citrus industry

Asian citrus psyllid (ACP) is a serious pest of citrus that spreads a bacterium, *Candidatus* Liberibacter asiaticus (CLas), which, in turn, causes a lethal citrus disease. ACP easily spreads between urban and agricultural areas, which makes it particularly challenging to control. ACP devastated citrus production in Florida and was expected to do the same in California, where it is valued at approximately $2.5 billion annually. In response, a UCCE Entomology Specialist at UC Riverside initiated research and extension efforts on the biological control of ACP, which have shown significant results. ACP pest populations have declined, on average, by about 70% in California. Since being detected 15 years ago, ACP-CLas is still largely limited to urban areas, and there have not been major outbreaks in commercial citrus production areas. (Mark Hoddle)

Agricultural Support

Urban metros in LA and the Bay Area are among the leading regions with the most jobs of any working landscapes segment

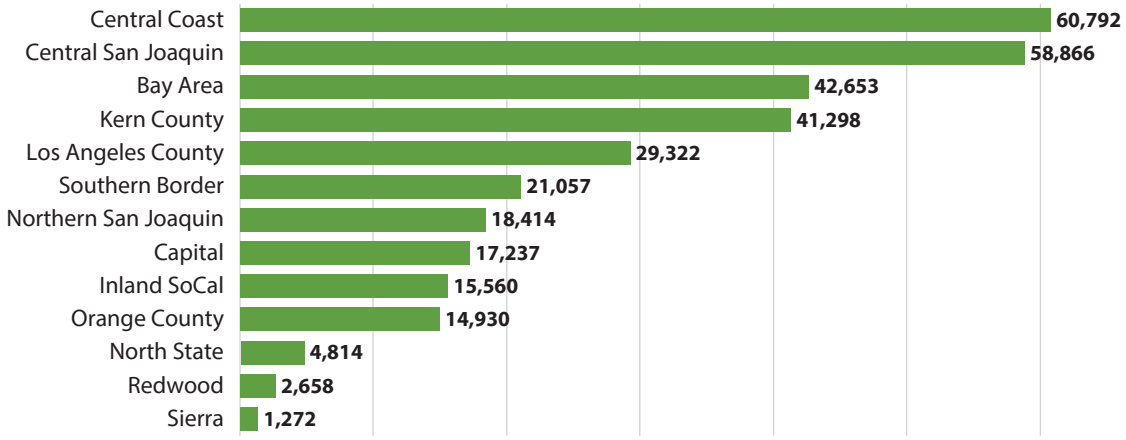
333,100	$22 billion	$39 billion	16,800
Number of jobs	Total earnings	Sales	Number of businesses

The agricultural support segment includes farm management and labor contractors, environmental consulting, and wholesale and farm supply stores. The segment also includes a range of manufacturing industries including fertilizer, pesticide, and machinery and equipment. Traditional leading production regions also top jobs, sales, and earnings figures. Here, Los Angeles and the Bay Area are also among the leading regions. There is a relatively even distribution of jobs, sales, and earnings throughout the state in these industries.

Agricultural Support Jobs, 2024

Agricultural support has the largest number of jobs of any of the nine segments (333,125). The Central Coast, Central San Joaquin, Bay Area, and Kern County regions make up the leading regions in the state. Los Angeles is not far behind. The Central Coast is the leading region in the segment, with just under 61,000 jobs in 2024 (Exhibit 15). The Central San Joaquin Valley is not far behind, with about 59,000 jobs. The Bay Area and Kern County have over 42,500 jobs and 41,300 jobs, respectively. There are less than 5,000 segment jobs in each of the three rural parts of the state—Sierra, Redwood Coast, and North State.

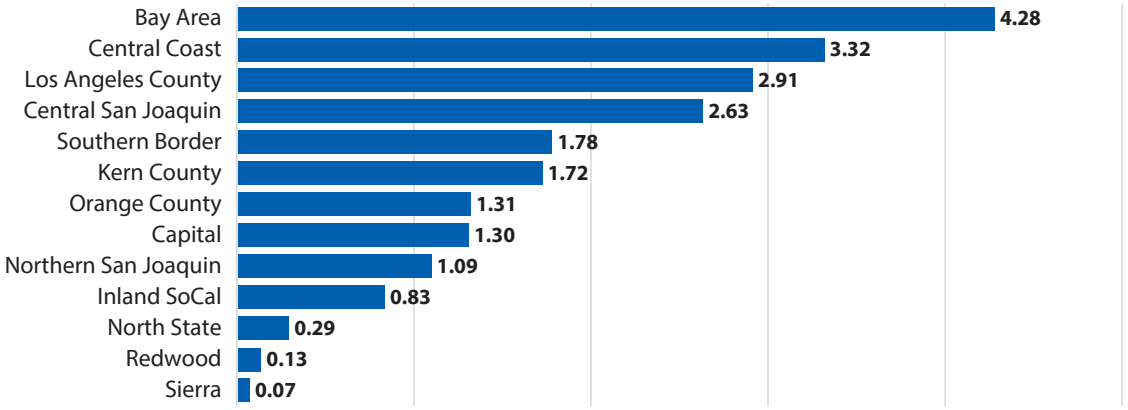
Exhibit 15. Agricultural support jobs, 2024



Agricultural Support Earnings, 2024

Agricultural support has the second highest earnings among the nine sectors. In 2024, this segment accounted for $21.6 billion in earnings paid to workers. While the Bay Area ranks third in number of jobs, it ranks first in worker earnings at $4.3 billion, reflecting relatively higher wages and benefits paid to workers in that region. The Central Coast, top in jobs, ranks second in earnings at $3.3 billion. Los Angeles County ranks third at $2.9 billion, while the North State, Redwood, and Sierra regions have the lowest agricultural support earnings at less than $1 billion each (Exhibit 16).

Exhibit 16. Agricultural support earnings, 2024, in billions ($)

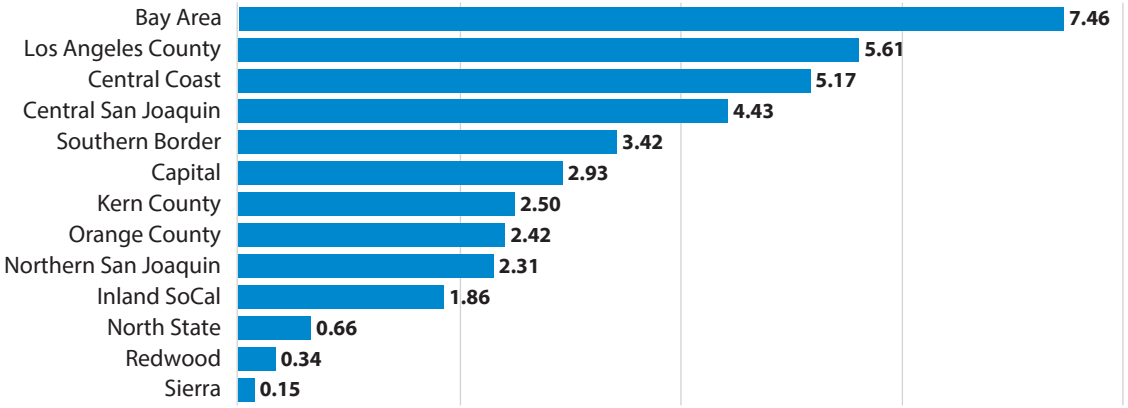


Agricultural Support Sales, 2024

While agricultural support jobs and earnings rank highest among the working landscape segments, sales income in the sector is middle amongst the working landscape sectors in the state. Given that this sector is largely based on supporting the agricultural production and processing sectors, sales income generated in those sectors is, in part, due to services provided through these support services.

In 2024, statewide agricultural support sales totaled $39.3 billion, the fifth largest amount of all the working landscape segments. Again, the Bay Area, Los Angeles County, and Central Coast regions are the largest in terms of sales (Exhibit 17). Together, the three regions comprise nearly half (46%) of all agricultural support sales in the state.

Exhibit 17. Agricultural support sales, 2024, in billions ($)



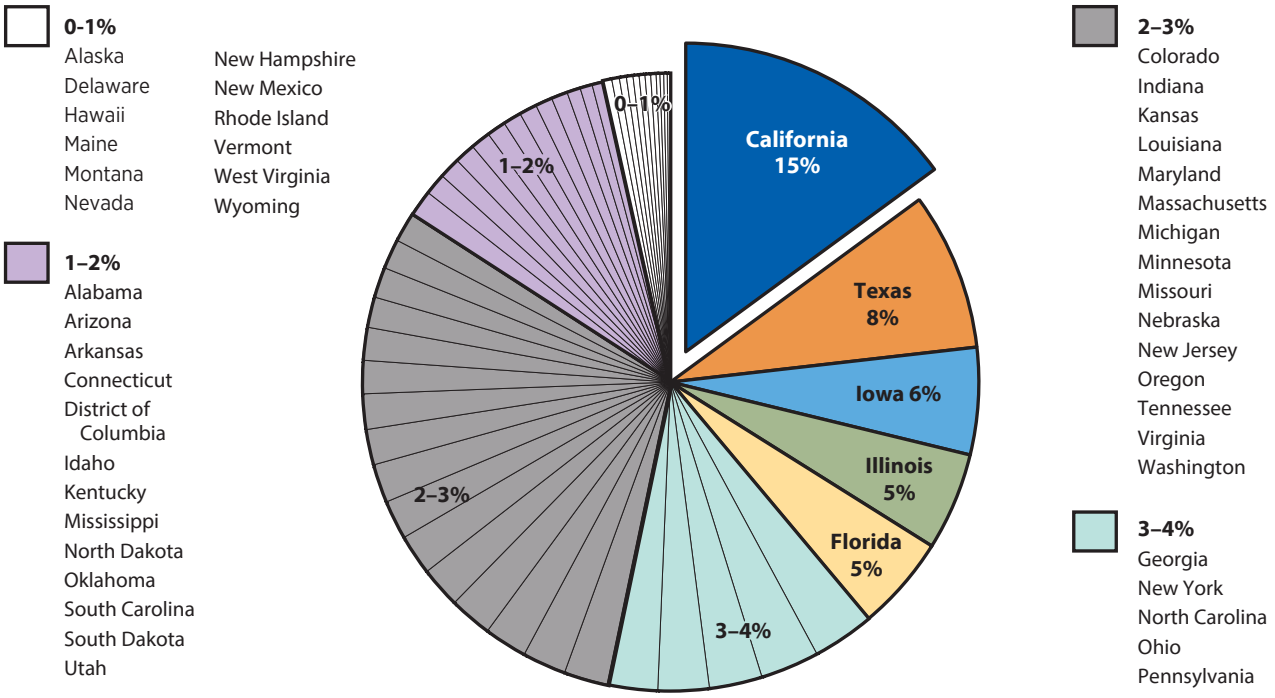
Using farmworker feedback to improve working conditions

UCCE collaborates with the Napa Valley Farmworker Foundation to use the unique agriculture-specific workplace assessment tool they developed, which queries workers and provides direct feedback to employers. As a result of using the tool, a small group of Napa Valley grape growers adjusted compensation and communications between workers and managers. They observed changes among their teams, including higher morale, greater motivation, and lower turnover and absenteeism. (Monica Cooper)

Agricultural Support Nationally, 2024

California leads the nation in agricultural support by all metrics. In terms of sales, California's agricultural support segment accounts for nearly 15% of all agricultural support sales nationally (Exhibit 18). It also accounts for 21% of all jobs, 20% of earnings, and 14% of businesses. Texas is the second largest contributor across all metrics, but its agricultural support sector contributes roughly half as much as California's, with $22 billion in annual sales from the industry accounting for 8% of national sales.

Exhibit 18. Agricultural support sales by state, 2024



Agricultural Processing

California's national powerhouse of food and agriculture product manufacturing, the leading segment in sales

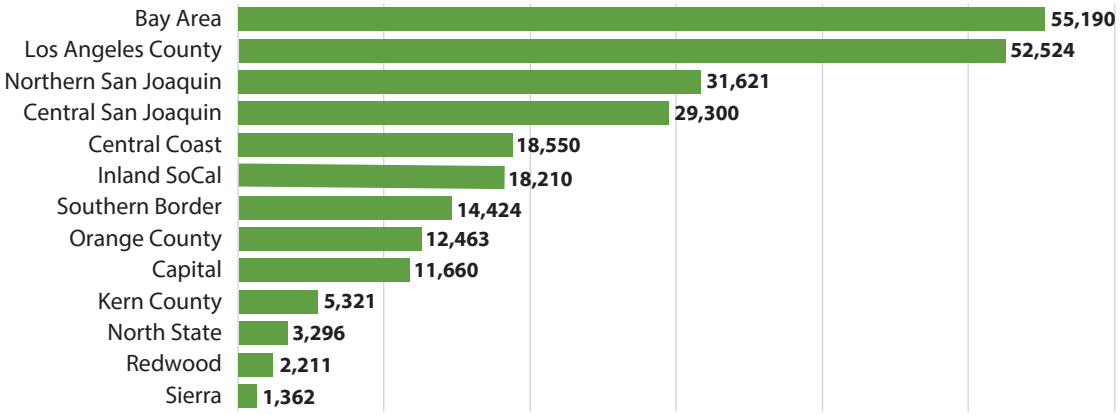
255,500	$20 billion	$124 billion	8,600
Number of jobs	Total earnings	Sales	Number of businesses

California is a powerhouse in manufacturing food and agricultural products. The agriculture processing segment includes processing for an array of commodities and products, with the top grossing processing industries being wineries, cheese and fluid milk manufacturing, and breweries. Although the segment ranks fourth among California's nine working landscape segments in jobs, it is the clear leader on sales and ranks first compared with other states across all metrics. In 2024, California's agricultural processing industries had $124.4 billion in sales.

Agricultural Processing Jobs, 2024

Across all regions, agricultural processing provided nearly 255,600 jobs in 2024, ranking fourth of the segments. More than 40% of this segment's jobs are located in the Bay Area and Los Angeles County. As with agricultural support, there is a wide distribution of segment employment throughout the state (Exhibit 19). These jobs are provided through the state's 8,568 agricultural processing businesses, with nearly half (49%) located in the Bay Area and Los Angeles County and the fewest in Sierra and Kern County, each with fewer than 100 agricultural processing business establishments.

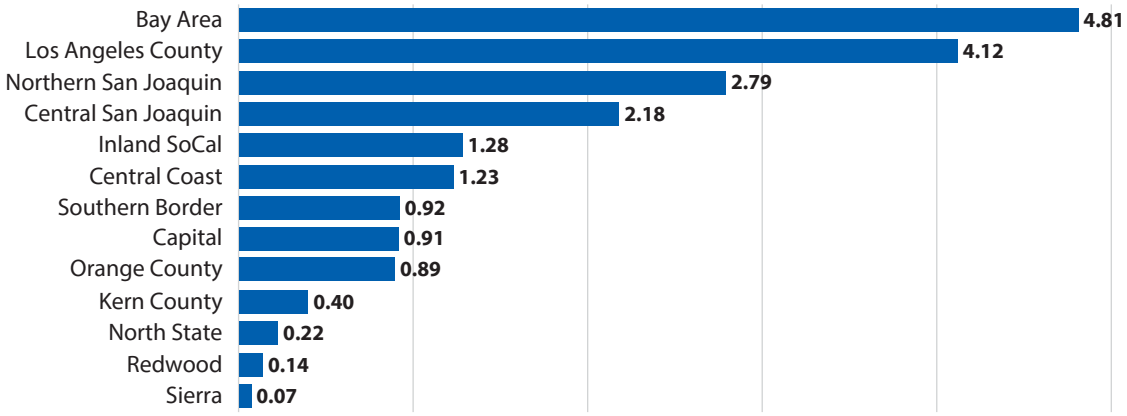
Exhibit 19. Agricultural processing jobs, 2024



Agricultural Processing Earnings, 2024

The agricultural processing segment accounted for $19.9 billion in earnings in 2024, led by the Bay Area ($4.8 billion) and Los Angeles ($4.1 billion); these regions had earnings levels far higher than the next ranking regions, the Northern San Joaquin ($2.8 billion) and Central San Joaquin ($2.2 billion). Earnings in these major regions dwarf the most rural regions in the state like Kern County, North State, Redwood, and Sierra (Exhibit 20).

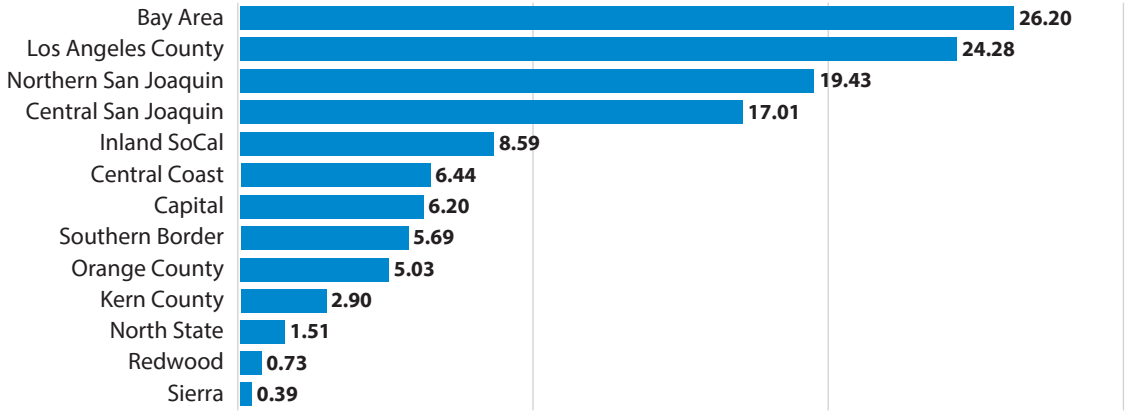
Exhibit 20. Agricultural processing earnings, 2024, in billions ($)



Agricultural Processing Sales, 2024

California's agricultural processing sales are massive. The segment dominates the nine segments, totaling $124.4 billion in 2024, led by the urban metropolitan regions. The Bay Area leads the state with $26.2 billion in sales, with Los Angeles not far behind at $24.3 billion. The Northern San Joaquin ($19.4 billion) and Central San Joaquin ($17 billion) regions also have massive totals. Again, four regions, Kern County, North State, Redwood, and Sierra, combined account for just 4.4% of agricultural processing sales (Exhibit 21).

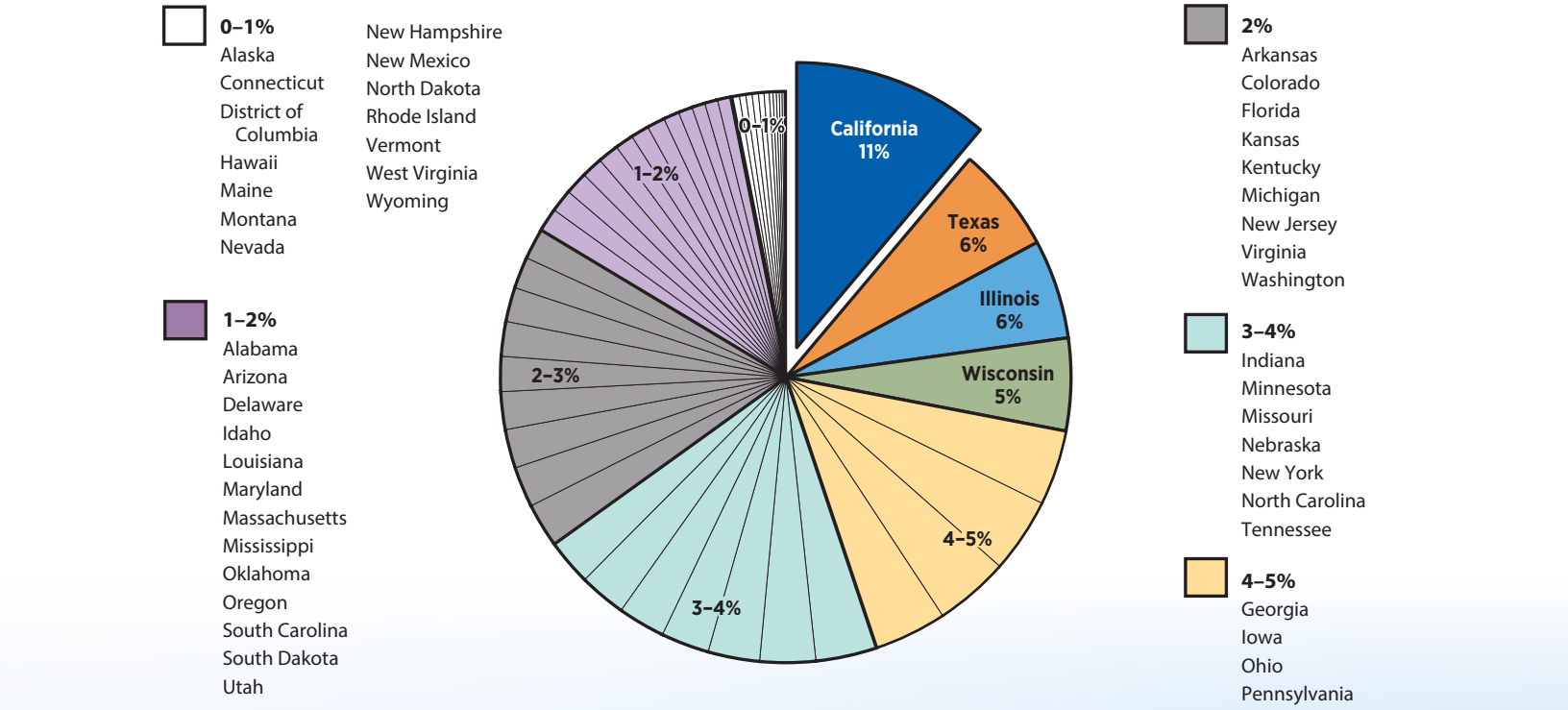
Exhibit 21. Agricultural processing sales, 2024, in billions ($)



Agricultural Processing Nationally, 2024

Much like the other agricultural segments, California leads the nation in the agricultural processing segment. California's agricultural processing sales account for 11% of national sales in the segment, almost double the contributions of the next largest contributing state, Texas, with $6 billion in total sales (Exhibit 22). California accounts for 11% of jobs, 12% of earnings, and 14% of business establishments in the national agricultural processing segment economy.

Exhibit 22. Agricultural processing sales share by state, 2024



Agricultural Distribution

These industries warehouse, ship, and sell California's agricultural products to local and global markets; the leader in earnings

328,300	$23 billion	$75 billion	24,200
Number of jobs	Total earnings	Sales	Number of businesses

The industries that comprise the agricultural distribution segment warehouse and ship California's agricultural products to local and global markets; they represent the transportation, wholesale, and retail segments of the working landscapes sector. The Bay Area and Los Angeles lead here again, but other regions with transportation and distribution hubs rise in the rankings, including Inland SoCal, Orange County, the Southern Border, and Central Coast. The segment includes merchant wholesalers for grocery products; beer, wine, liquor, and farming supplies as well as some retailers, including florists, fruit and vegetable markets, confectionery and nuts, and meat markets. The segment also includes specialized freight trucking. The segment accounts for more than 328,000 jobs and $75.4 billion in sales, each ranking second of all the working landscapes segments.

California's growing elderberry industry

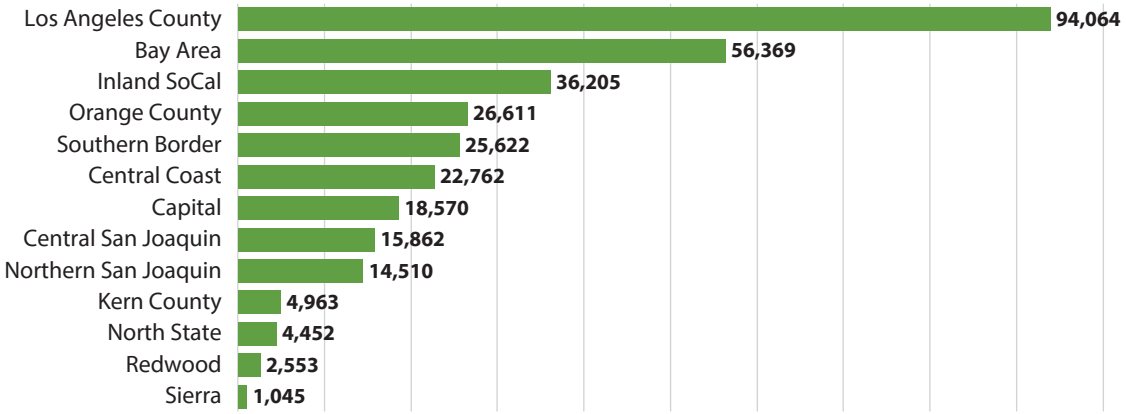
Western blue elderberry (*Sambucus nigra* subsp. *cerulea*), a native plant with long-standing ties to Indigenous cultures, grows widely throughout California's natural landscape. Elderberry is also among the top-selling herbal supplements in the United States, with over $200 million in annual sales. The UC Sustainable Research and Education Program (UC SAREP) team collaboratively co-led workshops on best practices for harvesting and processing elderberries, which are increasingly grown in California's agricultural hedgerows. After the workshops, participants reported stronger intent to adopt or engage with various elderberry processes, including making value-added products, adopting food safety practices, freezing, drying, growing, and selling. (Erin DiCaprio, Gwenaël Engelskirchen, Alicia Baddorf, and Sue Mosbacher)

Agricultural Distribution Jobs, 2024

Like the other agricultural working landscape segments, the number of jobs in agricultural distribution dwarfs the non-agricultural segments. There are more jobs in agricultural distribution than in the five non-agricultural segments combined. Here too, the urban metro regions lead in all categories, including jobs. Los Angeles accounts for 94,000 jobs. The Bay Area has nearly 56,400 jobs. These two regions make up about 46% of the state's jobs in the segment. Jobs in this segment are provided through 24,227 business establishments, nearly half of which (11,327) are located in the Bay Area and Los Angeles County.

Not surprisingly, other regions with major distribution hubs also posted significant jobs numbers including Inland SoCal (36,200 jobs), Central Coast (27,700), Orange County (26,600), and the Southern Border (25,600) (Exhibit 23).

Exhibit 23. Agricultural distribution jobs, 2024



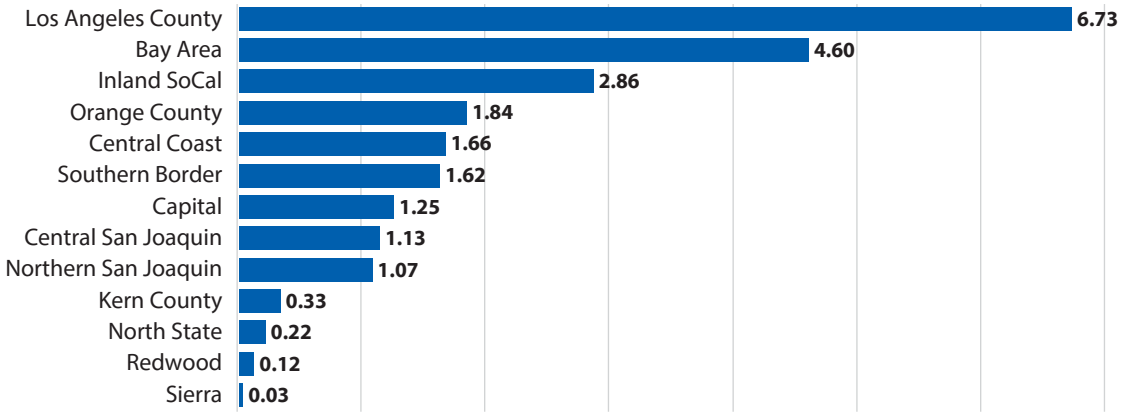
UCCE Advisors guide the formation of local emergency food systems

Several UCCE Advisors on California's North Coast have partnered with community organizations and local governments to strengthen local emergency food systems. Sonoma County has included plans for emergency food response in the county's Recovery and Resiliency Framework, which has already been utilized during the pandemic. Several counties in California's North Coast have developed a three-year plan to form a centralized food hub and have already formed the Emergency Food System Committee for Humboldt and Del Norte counties. These efforts have positioned the California North Coast to respond quickly and effectively to periods of food insecurity during emergencies. (Dorina Espinoza, Julia Van Soelen Kim)

Agricultural Distribution Earnings, 2024

This segment led all nine segments in terms of earnings ($23.5 billion). The regional rankings follow those of sales and earnings, exactly with Los Angeles ($6.7 billion) and the Bay Area ($4.6 billion) leading other regions that also have transportation and logistics hubs: Inland SoCal ($2.9 billion), Orange County ($1.8 billion), Central Coast ($1.7 billion), and the Southern Border ($1.6 billion) (Exhibit 24).

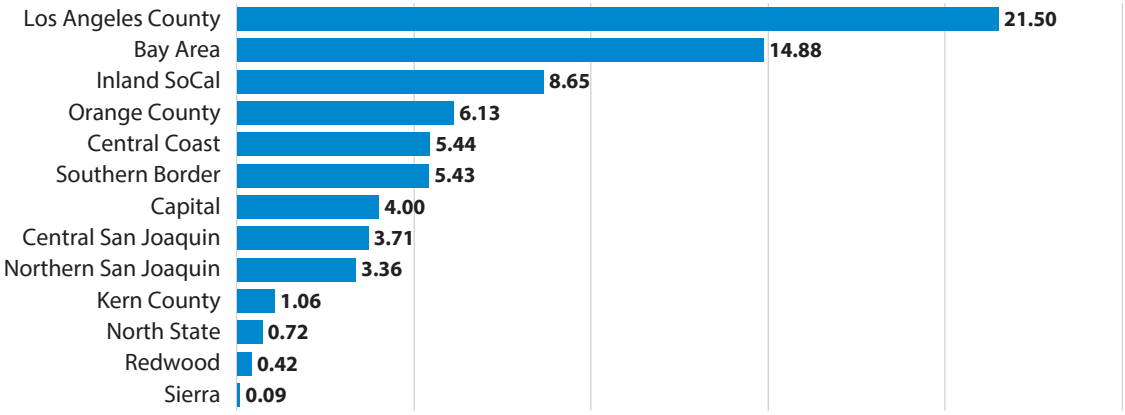
Exhibit 24. Agricultural distribution earnings, 2024, in billions ($)



Agricultural Distribution Sales, 2024

Agricultural distribution leads all segments in sales. The segment registered $75.4 billion in sales in 2024. Here, the Bay Area and Los Angeles County, with major port operations, have much larger sales totals than other regions. Los Angeles totaled $21.5 billion in sales, and the Bay Area totaled $14.9 billion (Exhibit 25).

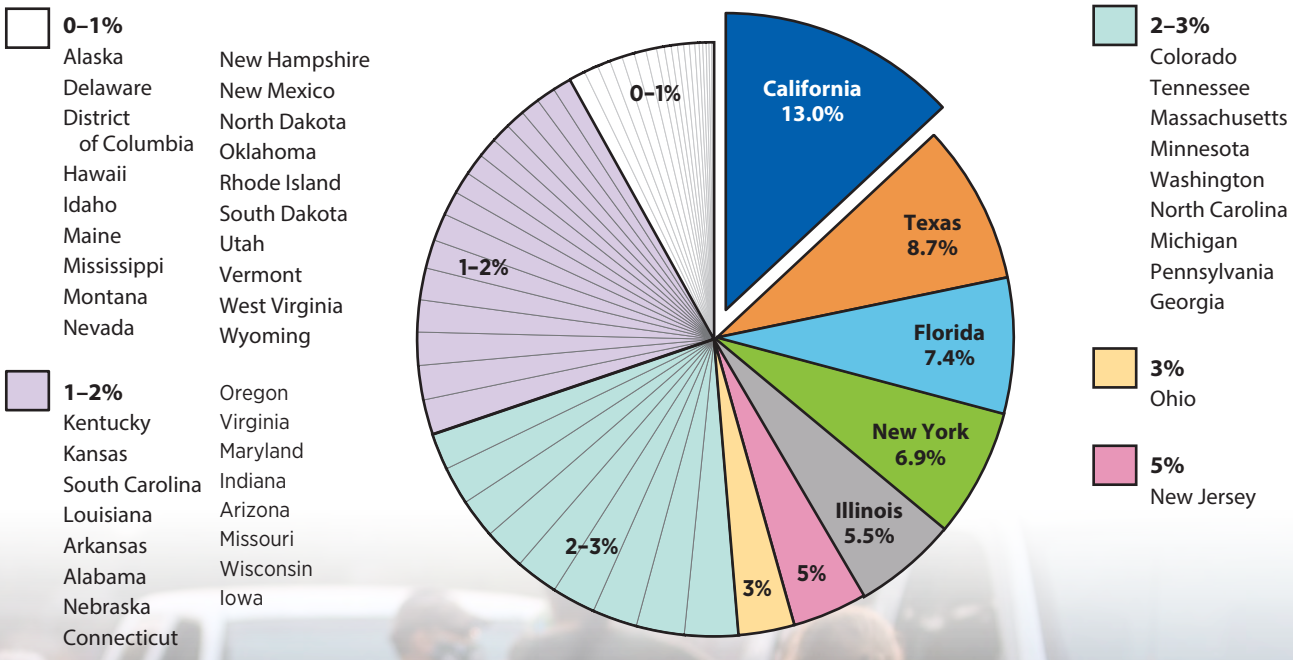
Exhibit 25. Agricultural distribution sales, 2024, in billions ($)



Agricultural Distribution Nationally, 2024

Nationally, California's agricultural distribution segment again dominates contributions by individual states. California is the highest contributor to the national agricultural distribution economy by all metrics, contributing 13% of national segment sales (Exhibit 26), 12% of jobs, 13% of earnings, and 12% of businesses. The next largest states in the agricultural distribution segment are Texas, Florida, and New York, with $50 billion, $43 billion, and $40 billion in annual segment sales, respectively.

Exhibit 26. Agricultural distribution sales by state, 2024



Fishing

Los Angeles County accounts for half of the state's fishing value

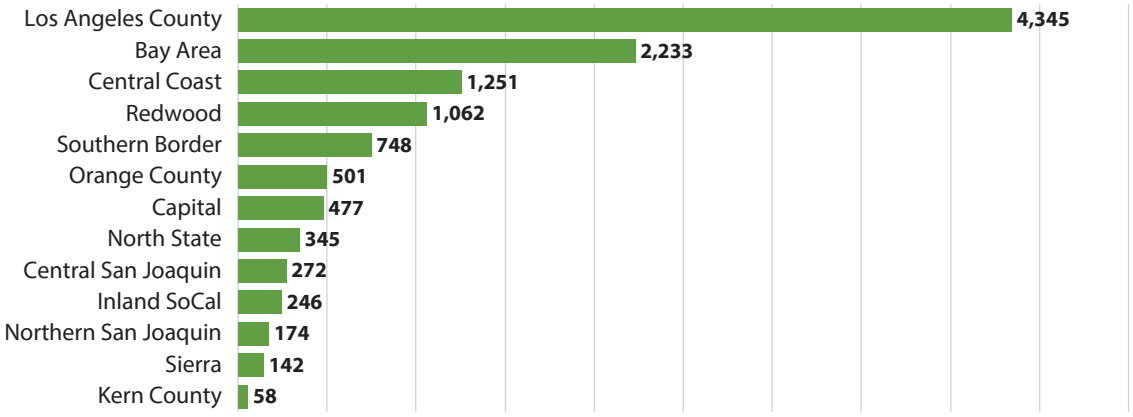
11,200	$1 billion	$2 billion	700
Number of jobs	Total earnings	Sales	Number of businesses

This segment includes the state's commercial fishing activities, including finfish and shellfish. The segment also includes manufacturing activities, including product preparation and packaging, and wholesale activities. By a large margin, the segment has the second fewest jobs of the nine behind renewable energy, just over 11,000 jobs, but the smallest totals otherwise—$2.4 billion in sales and $725 million in earnings. Los Angeles has by far the most activity, and accounts for half of the sales and earnings value, and nearly four out of ten segment jobs. For places like the Central Coast and Redwood Coast, commercial fishing is a critical driver in the local economy. Generally, inland California has less commercial fishing activity. The bottom nine regions account for about 2,500 jobs.

Fishing Jobs, 2024

The fishing segment has the second smallest number of jobs of all segments: 11,208. Los Angeles (4,300 jobs) and the Bay Area (2,200), with large local markets and distribution centers, lead all other regions on employment totals (Exhibit 27). The fishing segment also accounts for more than 1,000 jobs in the Redwood and Central Coast regions (Exhibit 27). Whereas the bottom nine regions combined account for about 2,500 jobs. Fishing jobs are provided through 699 business establishments, two-thirds of which (461 businesses) are in the Los Angeles County, the Bay Area, and Redwood regions.

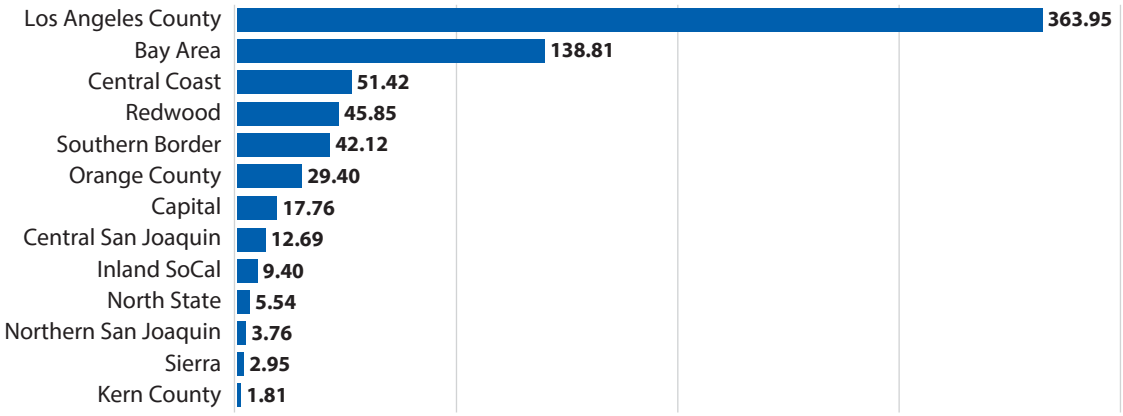
Exhibit 27. Fishing jobs, 2024



Fishing Earnings, 2024

The segment accounts for $725 million in earnings, the smallest of the nine working landscape segments. Los Angeles accounts for one-half of the state's fishing earnings ($364 million), followed by the Bay Area ($139 million). Every other region each had less than $60 million in earnings, with five regions paying out less than $10 million in annual earnings to workers (Exhibit 28).

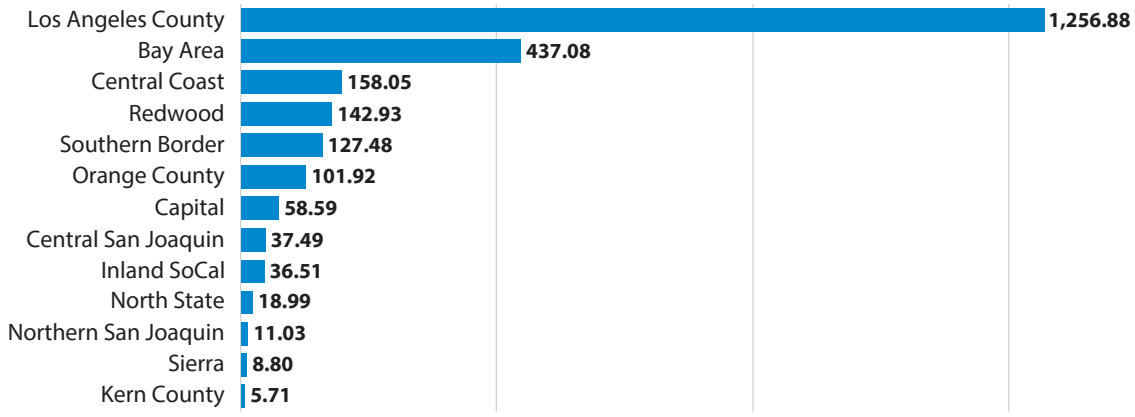
Exhibit 28. Fishing earnings, 2024, in millions ($)



Fishing Sales, 2024

Again, Los Angeles dominates the figures, and accounts for just over one-half of the state's commercial fishing sales ($1.26 billion). The Bay Area represents $437 million in sales. No other region topped $200 million in sales (Exhibit 29).

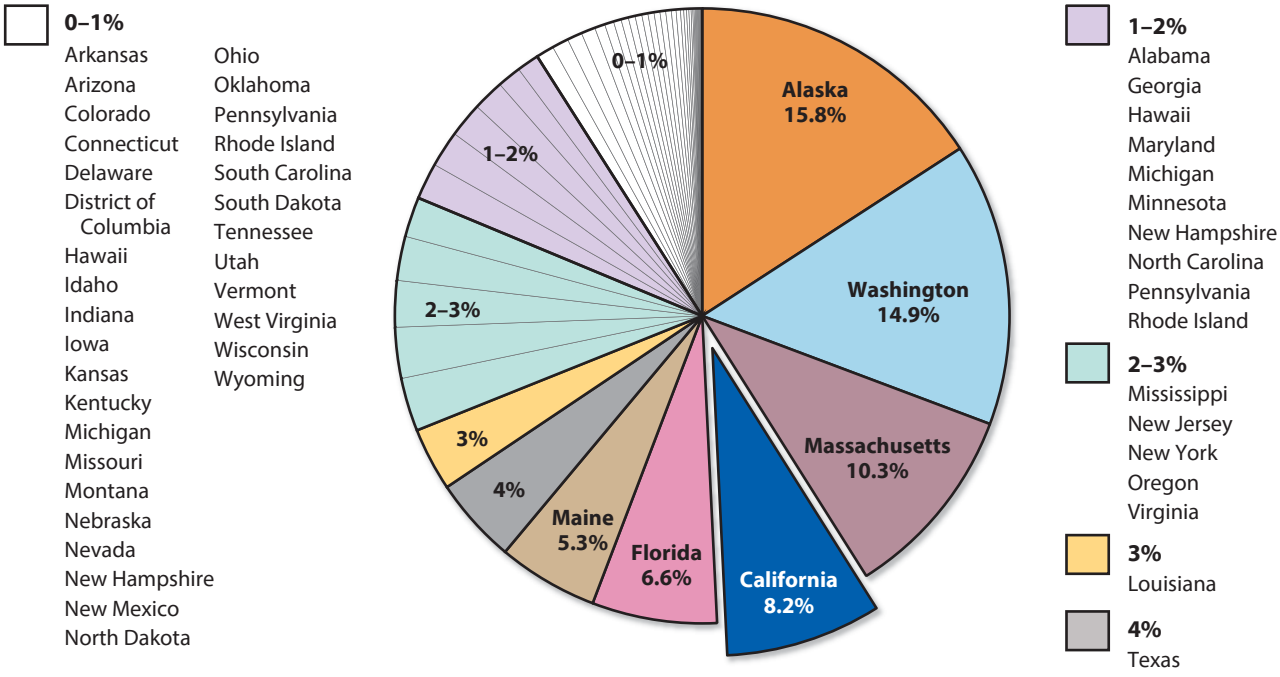
Exhibit 29. Fishing sales, 2024, in millions ($)



Fishing Nationally, 2024

Given the size of California's fishing segment relative to other working landscape segments, it is perhaps not surprising that California does not lead the nation in fishing sales. California comes in fourth among all states in terms of sales, jobs, and earnings in the fishing sector, accounting for 8% of national totals for each metric. Interestingly, California emerges as the leader in the number of businesses, accounting for 12% of all fishing business establishments in the United States, and suggesting that, compared with other states, California's fishing industry has smaller operations. The states that rank above California are Alaska (16% of national sales), Washington (15%), and Massachusetts (10%) (Exhibit 30).

Exhibit 30. Fishing sales by state, 2024



California leads the nation in improving animal welfare in aquaculture

Four California producers represent 90% of all farmed sturgeon in the United States and the state houses extensive Chinook salmon hatcheries as well. A UCCE Specialist at UC Davis works with aquaculture producers to improve animal welfare by switching to humane slaughter techniques, such as a nonpenetrating captive bolt gun (NPCB) for percussion stunning. All four sturgeon farms plus the two largest fish hatcheries in California are now exclusively using the NPCB, increasing the welfare of more than 50,000 fish annually while continuing to support local economies. (Jackson Gross)

Forestry

Money grows on California's trees

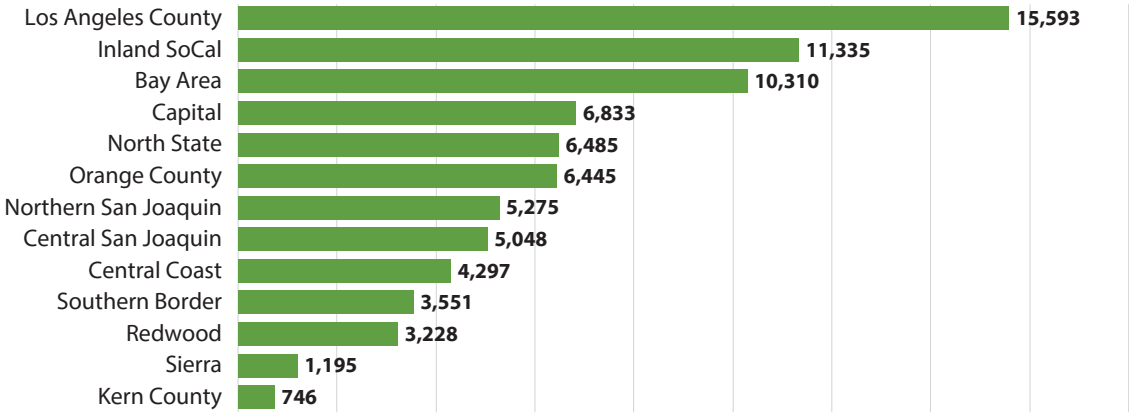
79,500	$6 billion	$27 billion	3,900
Number of jobs	Total earnings	Sales	Number of businesses

The forestry segment includes activities related to gathering and processing forest products. It's largest industries in terms of sales are corrugated and solid fiber box manufacturing, lumber, plywood, millwork, wood panel merchant wholesalers, and sawmills. The forestry segment also includes logging activities and support activities for forestry, which includes wildland and forest firefighting, fire prevention, forest thinning, and reforestation activities.

Forestry Jobs, 2024

Forestry activities in the state provided 79,489 jobs in 2024, just above the mining sector and down about 6,700 jobs since 2019. As with nearly all other working landscape segments, the Los Angeles County region leads the state with the highest number of forestry jobs, nearly 15,600 (Exhibit 31). This is followed by Inland SoCal at 11,300 and the Bay Area at 10,300. These jobs are provided through the state's 3,880 forestry business establishments, 46% of which are in these top three forestry job regions. In contrast, the Sierra and Kern County regions combined host about 100 forestry businesses.

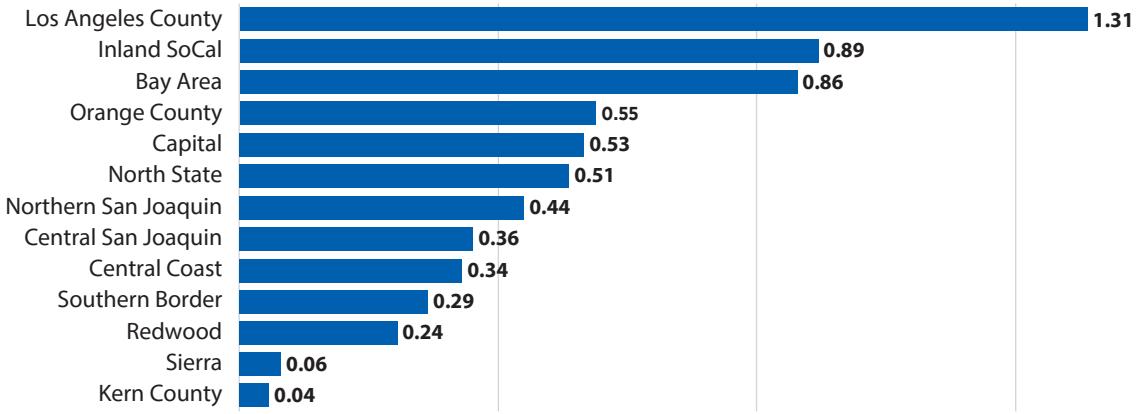
Exhibit 31. Forestry jobs, 2024



Forestry Earnings, 2024

Statewide forestry earnings totaled $6.4 billion in 2024. The Los Angeles County region is a large provider of forestry related activities and pays the largest total earnings to workers in the forestry sector: $1.3 billion. Inland SoCal and the Bay Area are the next largest contributors to worker earnings, both with nearly $0.9 billion in earnings paid in 2024 (Exhibit 32).

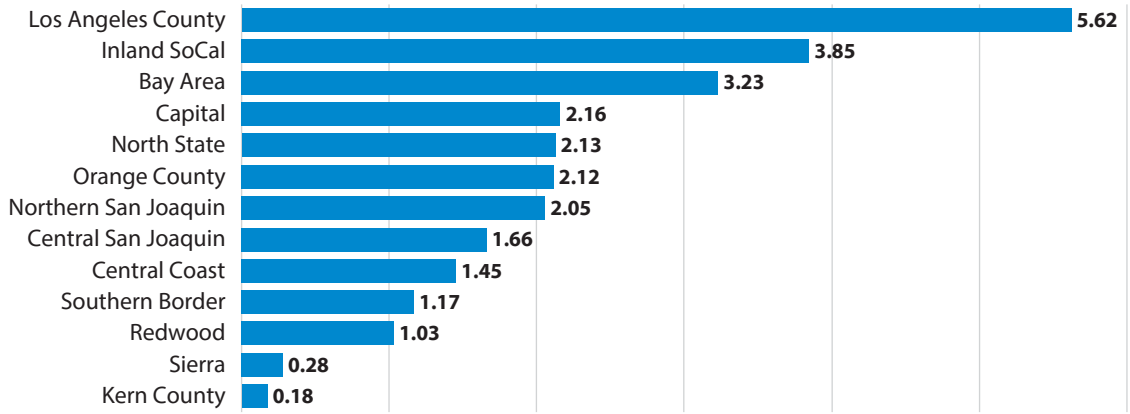
Exhibit 32. Forestry earnings, 2024, in billions ($)



Forestry Sales, 2024

Sales activity from the forestry segment is derived from broader forestry sector activities, like forestry support, manufacturers of wood products, paper mills, and forest product wholesalers. In the state, forestry activity sales totaled $26.9 billion in 2024. The Los Angeles County region generated nearly $5.7 billion in sales in 2024, while the next largest region was Inland SoCal with nearly $3.9 billion in sales, followed closely by the Bay Area with $3.2 billion in sales (Exhibit 33). Interestingly, despite that Humboldt County, in the Redwood region produces one-third of California's timber and has been the highest timber producing county in California for over a decade,[42] the region ranks low relative to others in terms of our measures of economic contributions. This is perhaps because while the region produces large amounts of timber feedstocks, there are very few processing facilities within the region.[43]

Exhibit 33. Forestry sales, 2024, in billions ($)



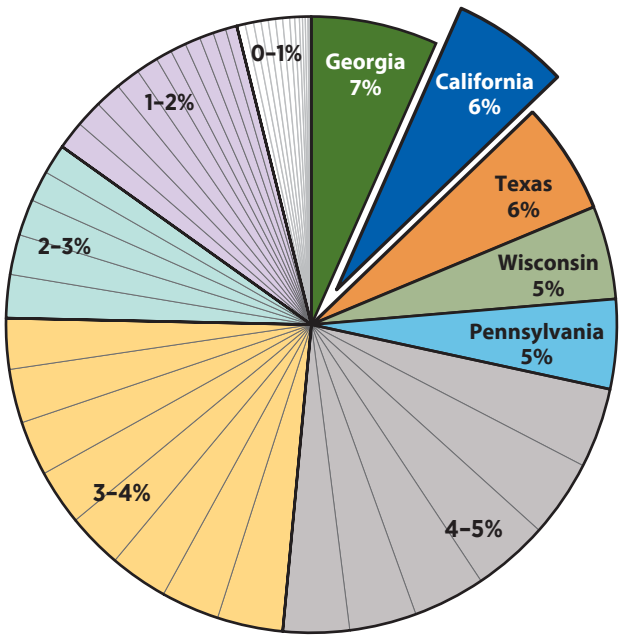
Forestry Nationally, 2024

While the economic contributions of the forestry segment are small by comparison to the agricultural working landscape segments, they are incredibly important nationally. California's forestry segment is the second largest in the nation in terms of sales, accounting for 6% of national forestry sales, just below Georgia which accounts for almost 7% of national sales (Exhibit 34). However, California's forestry segment ranks first in jobs (6% of national forestry jobs), earnings (7%), and number of business establishments (7%).

Exhibit 34. Forestry sales by state, 2024

0–1%
Alaska
Delaware
District of Columbia
Hawaii
Kansas
Montana
Nebraska
Nevada
New Hampshire
New Mexico
North Dakota
Rhode Island
South Dakota
Vermont
West Virginia
Wyoming

1–2%
Arizona
Colorado
Connecticut
Idaho
Maine
Maryland
Massachusetts
Missouri
New Jersey
Oklahoma
Utah



2–3%
Arkansas
Iowa
Kentucky
Louisiana
Mississippi

3–4%
Florida
Illinois
Indiana
Michigan
Minnesota
New York
South Carolina
Virginia

4–5%
Alabama
North Carolina
Ohio
Oregon
Tennessee
Washington

Tahoe-area partnership invests in communities while restoring forestland

West of Lake Tahoe, the French Meadow Partnership spurs regional economic growth through adaptive management of forested watersheds. In the last five years, the collaboration between UCCE, government agencies, community organizations, and natural resource management groups has resulted in 8,700 acres of forest restored across federal and private land in the French Meadows Basin. Through that process, the partnership has also generated over 215 jobs and removed over 5 million board feet of timber to local mills as well as more than 2,500 tons of biomass to local renewable energy facilities. (Safeeq Khan)

Mining

California's mineral resources support rural and urban economies

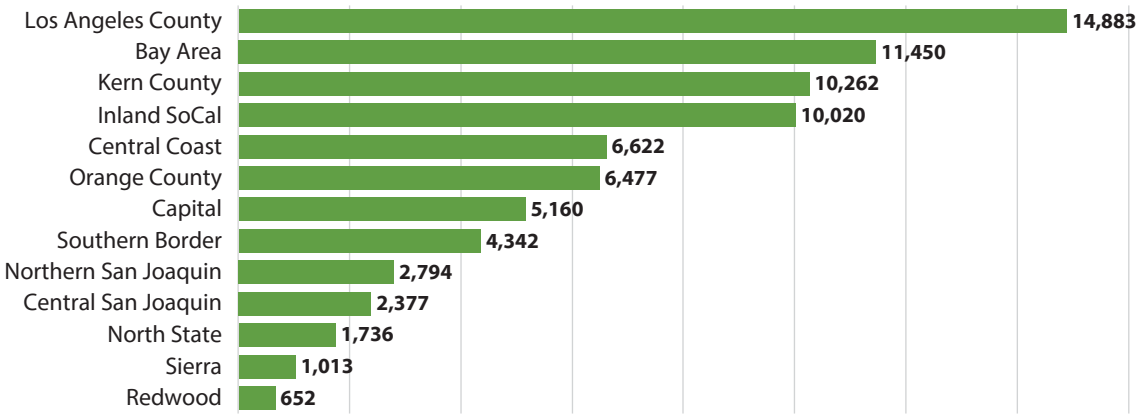
75,600	$7 billion	$41 billion	3,200
Number of jobs	Total earnings	Sales	Number of businesses

The mining sector includes fossil fuel extraction, and their support serves as well as support services for all kinds of mining and machinery manufacturing for those industries. It includes things up and down the supply chain from sand and gravel mine or stone quarrying to concrete manufacturing and some concrete building material manufacturing. Finally, this sector includes metal mining and its support industries.

Mining Jobs, 2024

The mining industries that comprise this working landscape segment include not only the mining of raw materials but support activities and manufacturing of the materials. The mining segment accounted for nearly 75,600 jobs in 2024. This is down from 106,300 in 2018. Los Angeles County provides the most mining jobs, nearly 14,900. The Bay Area region has the next highest jobs, at nearly 11,500, followed closely by Kern County, with nearly 10,300 jobs, and Inland SoCal, with 10,000 jobs (Exhibit 35). Other regions with considerable mining employment include the Central Coast, Orange County, and Capital regions, whereas the Redwood and Sierra regions have the fewest jobs. Jobs throughout the state are supported by the 3,200 mining business establishments, which are concentrated in the same areas as jobs, with Los Angeles County, the Bay Area, and Kern County serving as home to nearly 50% of mining businesses.

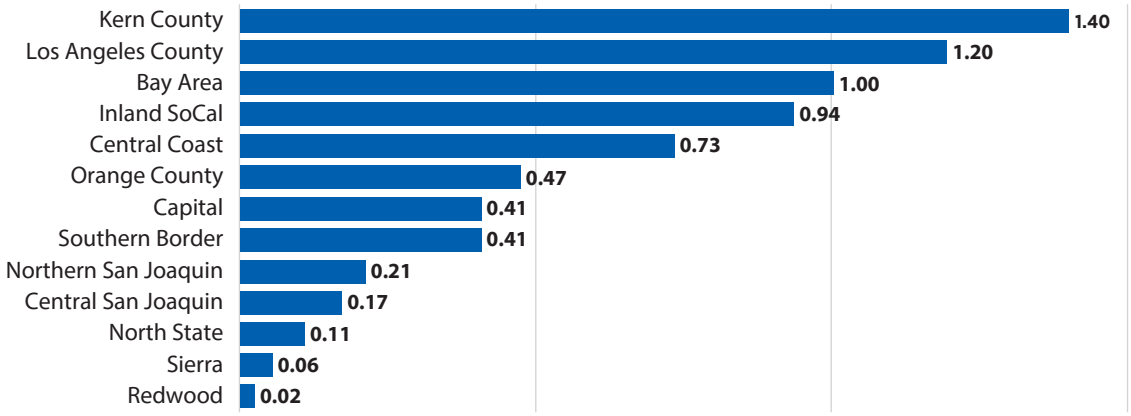
Exhibit 35. Mining jobs, 2024



Mining Earnings, 2024

Another measure of the importance of the mining segment in the state's economy is earnings paid to workers. In 2024, $7.1 billion in total earnings was paid by the mining segment. Kern County with $1.4 billion tops the aggregate wages paid by mining establishments, mining support activities, and the manufacturing of equipment required for the mining category. This is followed by Los Angeles County with $1.2 billion and the Bay Area with $1 billion (Exhibit 36).

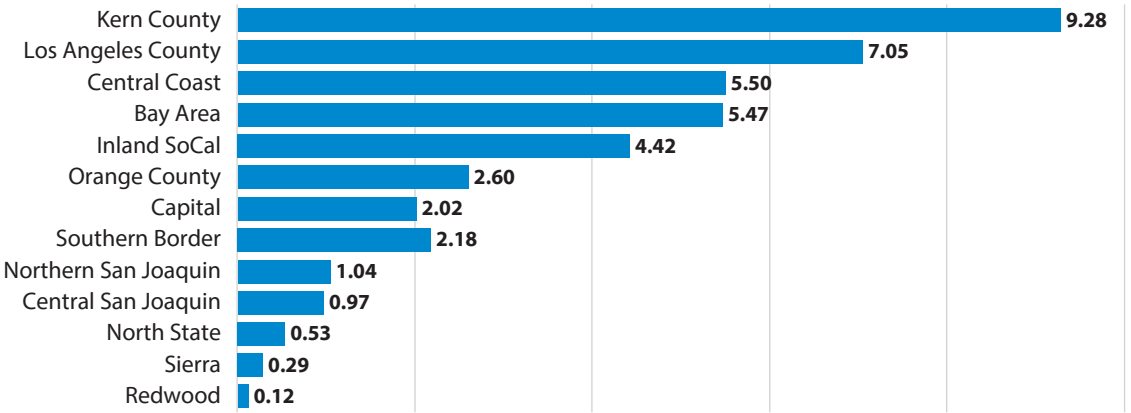
Exhibit 36. Mining earnings, 2024, in billions ($)



Mining Sales, 2024

Mining sales income totaled $41.5 billion in 2024. Kern County was a leader in the state, with $9.3 billion in sales income (Exhibit 37). The second-highest sales amount was generated by the Los Angeles County region, $7.0 billion, and the third-highest region was the Central Coast with $5.5 billion. The mining industries that contributed the most to sales in this segment were crude petroleum extraction and construction, mining, and forestry machinery and equipment rental and leasing.

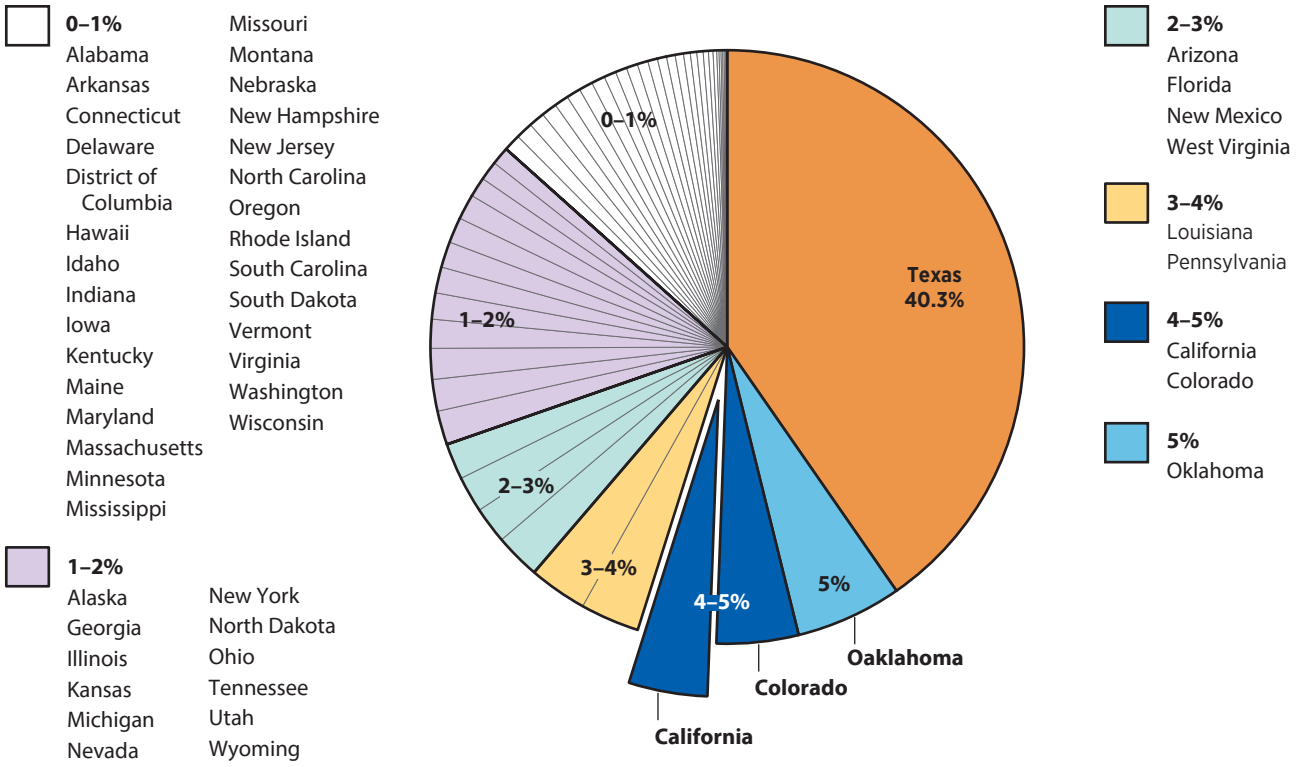
Exhibit 37. Mining sales, 2024, in billions ($)



Mining Nationally, 2024

The national mining sector is dominated by Texas, which accounts for more than 40% of total mining sales in the country. Here, California ranks fourth, following Texas, Oklahoma, and Colorado, and with total mining segment sales accounting for 4% of the national total. California ranks similarly in jobs (ranked third, at 5% of total jobs), earnings (ranked third, at 4% of total earnings), and businesses (ranked third, at 5% of total establishments) (Exhibit 38). California's position as second in its contributions to the national working landscape is due to Texas's dominant position in the mining sector.

Exhibit 38. Mining sales by state, 2024



Lithium extraction in Imperial County could spur regional economy

The California Lithium Valley Project, centered around the Salton Sea, has the potential to significantly improve the regional economy by fostering growth in the lithium supply chain, which is crucial for electric vehicle (EV) production. UC researchers estimate that there are 18 million metric tons of lithium—enough to produce over 375 million EV batteries—that could be extracted from geothermal brines under the Salton Sea, making it one of the largest lithium deposits in the world. Industry estimates suggest the project could bring thousands of jobs to the area, and Imperial County has released a tax funding plan that would dedicate 20% of the lithium excise tax to restoring the Salton Sea and disburse the remaining 80% to local community services and organizations. (Michael McKibben)

Outdoor Recreation

Outdoor recreation, a sizable contribution to urban California economies

70,800	$3 billion	$9 billion	4,300
Number of jobs	Total earnings	Sales	Number of businesses

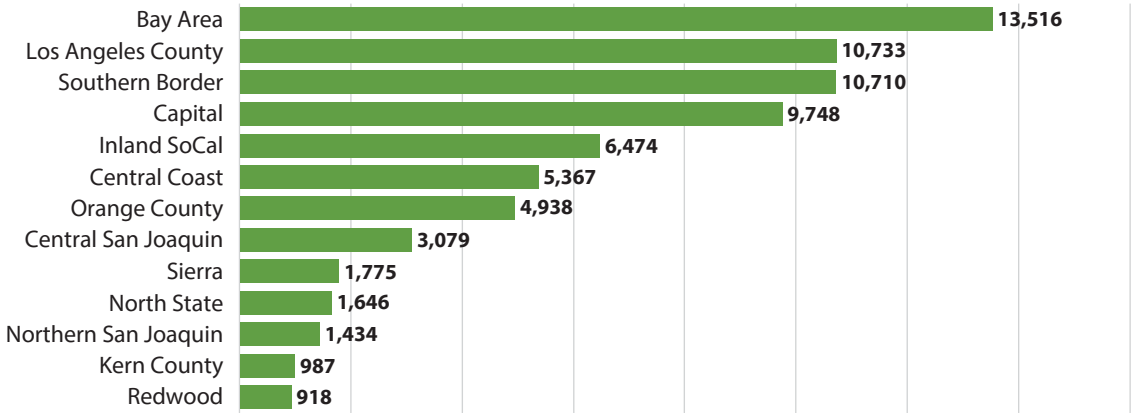
The outdoor recreation industry includes zoos, skiing facilities, parks, and recreational and vacation camps. In terms of employment, earnings, and sales income, the outdoor recreation segment is the third smallest segment of the nine studied in this report, but California's outdoor recreation segment is the largest in the nation. Outdoor recreation has not always been considered with working lands, but many communities in California are putting efforts into supporting this sector as a key working lands component.

Outdoor Recreation Jobs, 2024

In 2024, there were more than 70,800 outdoor recreation jobs in the state. Nearly one-half of all outdoor recreation jobs are in the Bay Area (13,500 jobs), Los Angeles County (10,700), and the Southern Border (10,700) (Exhibit 39).

These jobs were provided by the state's 4,300 outdoor recreation businesses, which have similar geographic concentrations as the segment's jobs, with 50% of businesses in the top three jobs regions.

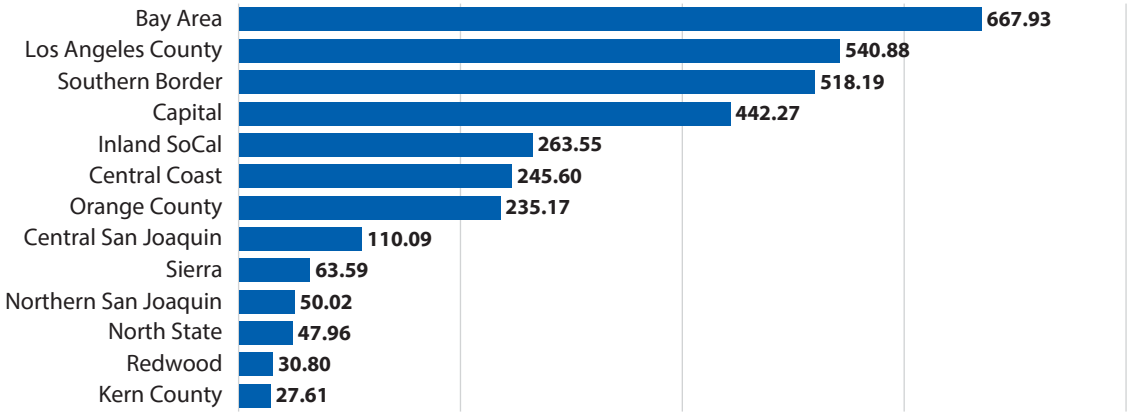
Exhibit 39. Outdoor recreation jobs, 2024



Outdoor Recreation Earnings, 2024

In California, total earnings paid by outdoor recreation establishments in 2024 were $3.2 billion. The earnings by region follow the jobs order with the Bay Area bringing in $668 million, $541 million in Los Angeles County, and $518 million from the Southern Border region (Exhibit 40). Business establishments in the San Francisco Bay Area and the Los Angeles County regions paid the highest amounts of earnings. Together, these three regions comprise almost 54% of all earnings paid to workers in the outdoor recreation segment. In contrast, Sierra, Northern San Joaquin, North State, Redwood, and Kern County all paid out less than $100 million in worker earnings.

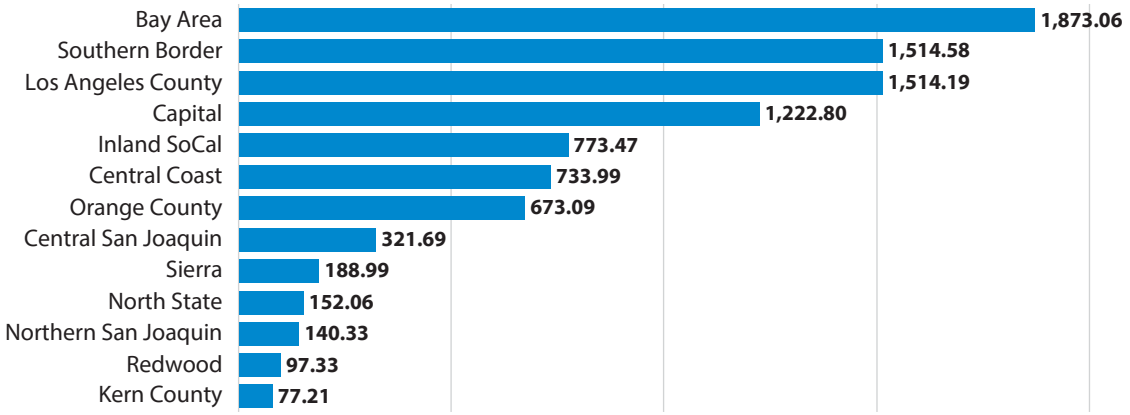
Exhibit 40. Outdoor recreation earnings, 2024, in millions ($)



Outdoor Recreation Sales, 2024

Statewide sales income from outdoor recreation totaled $9.3 billion in 2024. The financial value of outdoor recreation activities, in terms of sales to other industries and consumers is largest in the Bay Area ($1.8 billion), the Southern Border ($1.5 billion), and Los Angeles County ($1.5 billion). The Capital region, which includes Lake Tahoe and its myriad of ski resorts and nature-based businesses, comes in fourth with annual sales near $1.2 billion (Exhibit 41).

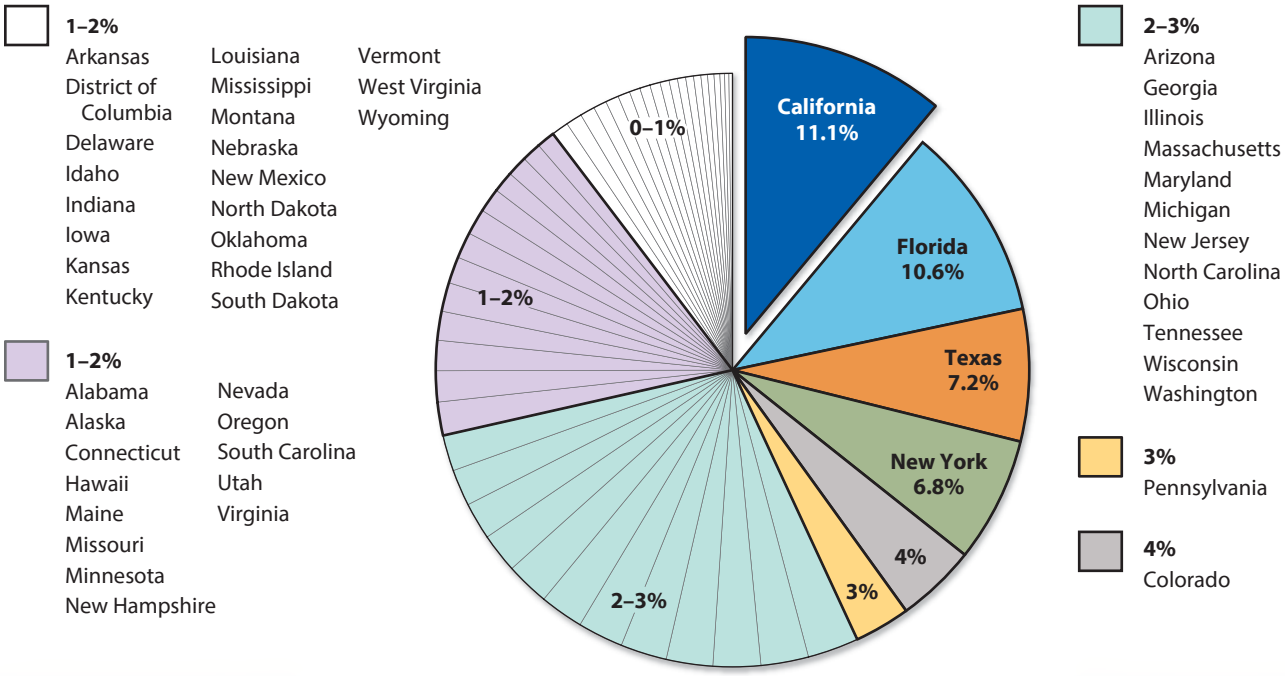
Exhibit 41. Outdoor recreation sales, 2024, in millions ($)



Outdoor Recreation Nationally, 2024

California is first nationally in outdoor recreation sales with 11% of US sales, first in jobs with 10%, and first in earnings with 11% (Exhibit 42). California is known (inter)nationally for its outdoor recreation splendor and its economic success in the sector backs this up. California has the second most outdoor recreation businesses at 8% behind Florida.

Exhibit 42. Outdoor recreation sales by state, 2024



Cattle grazing in regional parks mitigates wildfire risk

Academics at UC Berkeley and their collaborators estimate that cattle grazing on California landscapes reduces overall annual burn probability by 45%, which can save both lives and money. However, the benefits from cattle grazing to manage wildfire risk at the landscape level have not been widely recognized. UC ANR academics work with regional parks across California to encourage grazing as a method to remove common wildfire fuels—such as dry grass and encroaching woody shrubs—in a cost-effective way. Cattle grazing typically costs nothing to land managers and may even generate profit for those who lease to graziers. UC ANR research and extension has supported maintaining grazing on over 389,000 acres of publicly owned land in the San Francisco Bay Area and has facilitated reintroducing grazing to Sycamore Grove, Livermore Area Regional Park District (LARPD) where grazing had been removed for decades. LARPD now offers visitors guided hikes to see the grazing program in action and show the public how cattle can co-exist on, and even care for, recreational lands. (Sheila Barry)

Renewable Energy

Renewable energy: An emerging segment where California leads

8,900	$2 billion	$13 billion	700
Number of jobs	Total earnings	Sales	Number of businesses

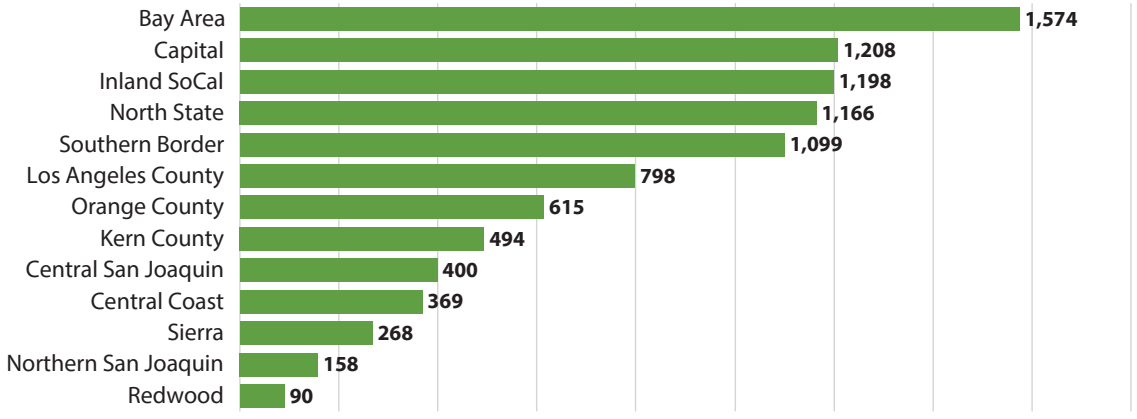
The renewable energy businesses in this segment are limited to renewable energy generation. Including things like hydroelectric, solar, wind, biomass, and geothermal energy production. This segment is tied for the fewest number of businesses with fishing, both at 700. The fishing industry accounts for only $2 billion in sales versus the $13 billion of renewable energy or $2.86 million per business versus $18.57 million per business on average.

Renewable Energy Jobs, 2024

Activities related to renewable energy provide nearly 8,903 jobs across the state through its 700 businesses. The Bay Area employs the most workers in alternative energy generation, a total of 1,600 jobs, followed by the Capital region with 1,200 jobs (Exhibit 43). Five regions support more than 1,000 jobs in this sector and six regions are home to at least 50 renewable energy business establishments.

The segment has grown compared with the 2019 report, where it supported only 6,100 jobs across the state, but it has relatively few jobs compared to other segments in the working landscape and ranks last in terms of employment. However, its impact is magnified through higher earnings and sales income, and while these numbers are small, they still rank above the fishing segment.

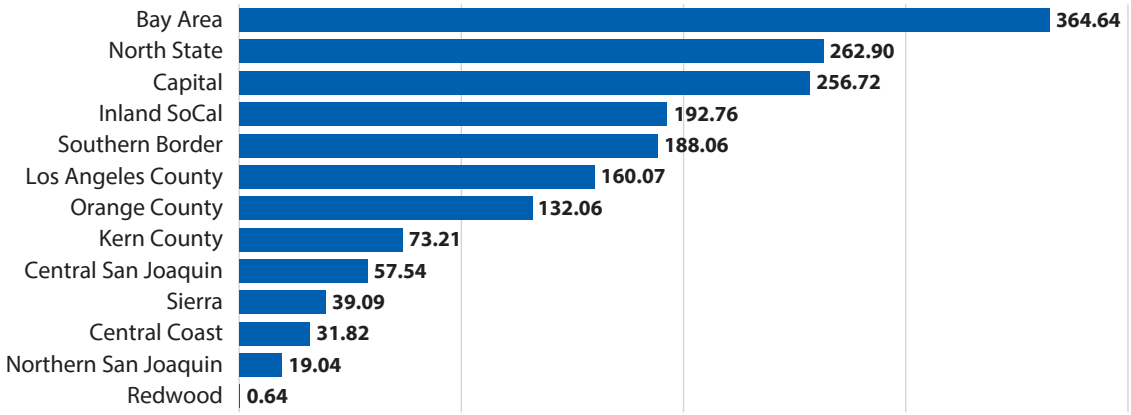
Exhibit 43. Renewable energy jobs, 2024



Renewable Energy Earnings, 2024

Earnings paid to workers in the renewable energy segment totaled $1.8 billion in the state in 2024, almost double the earnings from the prior 2019 working landscapes report. Earnings paid in the Bay Area totaled $365 million, followed by the North State at $263 million, and the Capital region at $257 million (Exhibit 44). The North State and the Bay Area combined make up over 45% of the earning from renewable energy in the state. The sector's growth since the last report is apparent across most regions, region to region comparison due to the state's newly designated regions used in this report.

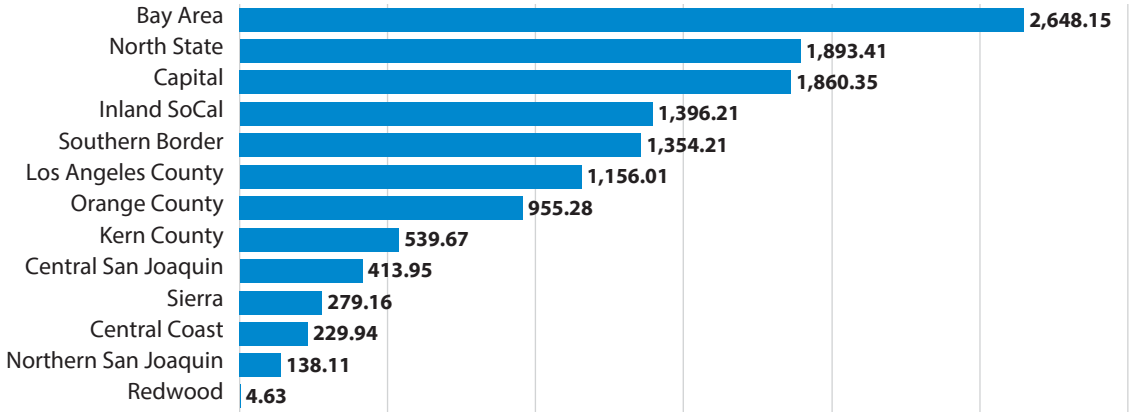
Exhibit 44. Renewable energy earnings, 2024, in millions ($)



Renewable Energy Sales, 2024

Business establishments comprising the renewable energy segment are responsible for the generation of alternative energy, such as hydroelectric, solar, and wind. Statewide, total sales income generated by renewable energy is $12.9 billion. The Bay Area, the region with the most renewable energy jobs in California, also had the most sales in the state in 2024 with $2.6 billion (Exhibit 45). The Bay Area was followed by the North State with sales of $1.9 billion. While the regional boundaries have changed slightly since the 2019 report, the North State (Northern Sierra in the 2019 report) has had a meteoric rise from fourth to second in terms of sales, going from 26% of the Bay Area's earnings to 75% of the Bay Area's sales.

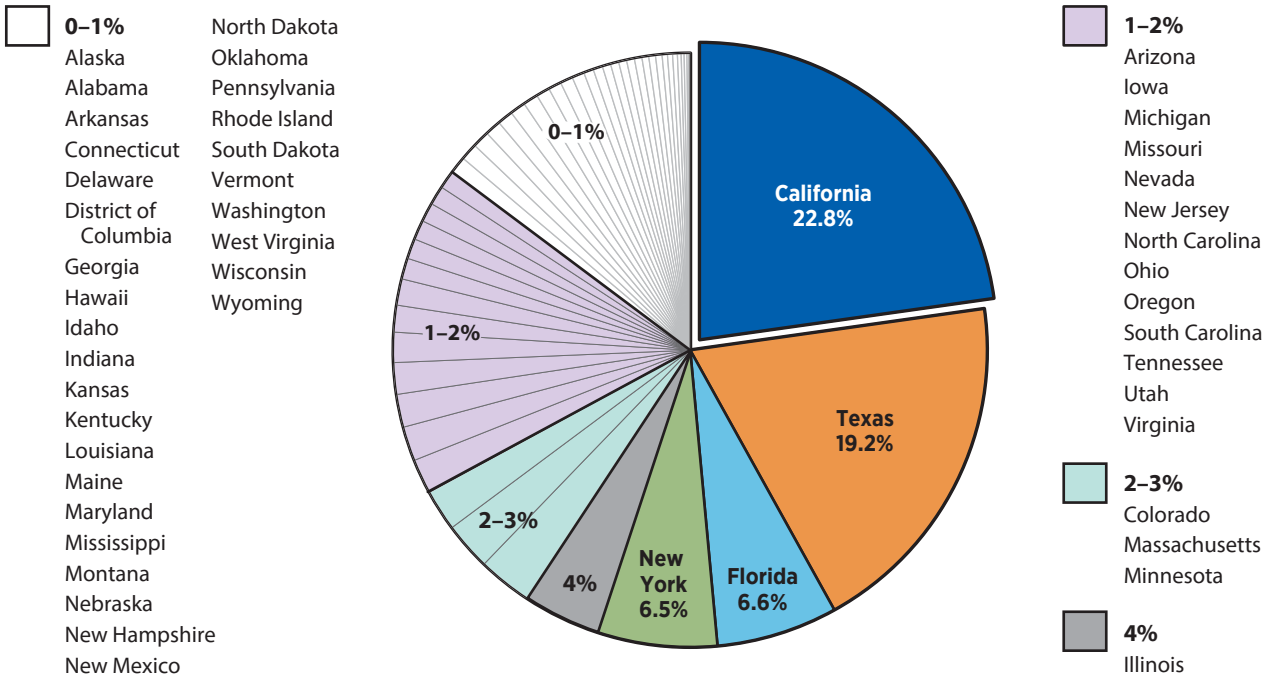
Exhibit 45. Renewable energy sales, 2024, in millions ($)



Renewable Energy Nationally, 2024

California is a national leader in renewable energy. It leads the United States in sales (23%), earnings (22%), and number of businesses (15%), and is second to Texas in jobs, which has 21% to California's 18% (Exhibit 46). Nationally renewable energy generation is dominated by Texas and California.

Exhibit 46. Renewable energy sales by state, 2024



Biomass energy creates jobs to reduce wildfire risk

In the Sierra Foothills, a UCCE Advisor works with local leaders on pathways to improve forest resources protection while expanding community and economic development opportunities through biomass use. Through outreach and needs assessment, the advisor was able to highlight the significance of local biomass use projects and provide the most comprehensive recommendations to the Mariposa County Planning Commission. The Mariposa Biomass Energy Project obtained approval to break ground. The successful establishment of this facility will help pay for the removal of dead trees from around homes and public infrastructure, which will reduce fuel for wildfires, and diversify the local economy with high paying jobs. (Cindy Chen)

Conclusion

This study analyzes the contributions of the nine segments of the working landscapes to California's economy in 2024. For working lands as a whole and each individual segment, we analyze how these segments contribute to the state, regional, and national economy in 2024 by summarizing the number of jobs and total worker earnings they provide, their total industry sales, and the number of businesses they support.

These working landscapes segments—agricultural distribution, agricultural processing, agricultural production, agricultural support, fishing, forestry, mining, outdoor recreation, and renewable energy—contribute significantly to the state's economic vitality and account for many jobs in the labor market. In 2024, California's working landscapes accounted for nearly 6% of total industry sales in the state, placing as seventh largest among all California sectors in terms of sales. The working landscapes sectors supported nearly 1.5 million jobs and 75,500 businesses while generating $404 billion in sales and providing $103 billion in worker earnings.

The four segments, agricultural distribution, processing, production, and support activities, are the largest contributors to the state's working landscape economy. Combined, these four segments account for $311 billion in annual sales, create more than 1.2 million jobs, and provide $84 billion in worker earnings. These industries have evolved over time, with agricultural support growing in terms of jobs and total earnings, seemingly replacing many of the jobs previously housed in the agricultural production segment, since the last report (based on 2018 data).

And while the other working landscapes segments remain small by comparison to the agricultural powerhouse, many of these segments have grown more rapidly than the agricultural segments since the previous report. Our report identifies the renewable energy segment as the fastest growing working landscape segment, with 2024 sales that are 2.2 times larger than their value in 2018. The next fastest growing segment is outdoor recreation, with 2024 sales 1.4 times their 2018 levels, whereas agriculture, forestry, and fishing, had the lowest growth rates, ranging from 1.16 (forestry) to 1.18 (agriculture and fishing) times their 2018 values.

California's working landscapes sector is not only important for the state but is vital to the US economy and California's regional economies. One of the novel contributions of this report is depicting California's working landscapes contributions at the national, state, and county/regional levels. Nationally, we find that California's working landscapes sector is second only to Texas in terms of total sales. This is driven by Texas's strong mining segment, which alone accounts for 40% of national mining sales. By comparison, California's working landscapes capture more diverse industry contributions. California ranks highest nationally in terms of total sales in 2024 in six of the nine segments, including the four agricultural segments as well as outdoor recreation and renewable energy. California ranks in the top four for the remaining three segments, coming in second in forestry and fourth in fishing and mining. Our report also highlights that, within the state, different regions specialize in different working landscape segments. While most of California dominates in agricultural processing and production, the northern coastal Redwood Region specializes in forestry, the southern Inland SoCal and Orange County Regions specialize in agricultural distribution, and the more central Kern County Region leads in mining.

Appendix A

Appendix A. Working Landscapes NAICS Codes

Table A1. Working landscape sector and subsector NAICS codes

NAICS	Industry
Agricultural Production	
111000	Crop Production
112000	Animal Production and Aquaculture
115112	Soil Preparation, Planting, and Cultivating
115113	Crop Harvesting, Primarily by Machine
115114	Postharvest Crop Activities (except Cotton Ginning)
Agricultural Support	
115115	Farm Labor Contractors and Crew Leaders
115116	Farm Management Services
115210	Support Activities for Animal Production
221310	Water Supply and Irrigation Systems
325311	Nitrogenous Fertilizer Manufacturing
325312	Phosphatic Fertilizer Manufacturing
325314	Fertilizer (Mixing Only) Manufacturing
325315	Compost Manufacturing
325320	Pesticide and Other Agricultural Chemical Manufacturing
333111	Farm Machinery and Equipment Manufacturing
423820	Farm and Garden Machinery and Equipment Merchant Wholesalers
444220	Nursery, Garden Center, and Farm Supply Stores
541620	Environmental Consulting Services
541690	Other Scientific and Technical Consulting Services
Agricultural Processing	
115111	Cotton Ginning
311111	Dog and Cat Food Manufacturing
311119	Other Animal Food Manufacturing
311211	Flour Milling
311212	Rice Milling

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Agricultural Processing, continued	
311213	Malt Manufacturing
311221	Wet Corn Milling
311224	Soybean and Other Oilseed Processing
311225	Fats and Oils Refining and Blending
311230	Breakfast Cereal Manufacturing
311313	Beet Sugar Manufacturing
311314	Cane Sugar Manufacturing
311340	Nonchocolate Confectionery Manufacturing
311411	Frozen Fruit, Juice, and Vegetable Manufacturing
311412	Frozen Specialty Food Manufacturing
311421	Fruit and Vegetable Canning
311422	Specialty Canning
311423	Dried and Dehydrated Food Manufacturing
311511	Fluid Milk Manufacturing
311512	Creamery Butter Manufacturing
311513	Cheese Manufacturing
311514	Dry, Condensed, and Evaporated Dairy Product Manufacturing
311520	Ice Cream and Frozen Dessert Manufacturing
311611	Animal (except Poultry) Slaughtering
311612	Meat Processed from Carcasses
311613	Rendering and Meat Byproduct Processing
311615	Poultry Processing
311811	Retail Bakeries
311812	Commercial Bakeries
311813	Frozen Cakes, Pies, and Other Pastries Manufacturing
311821	Cookie and Cracker Manufacturing
311824	Dry Pasta, Dough, and Flour Mixes Manufacturing from Purchased Flour
311830	Tortilla Manufacturing

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Agricultural Processing, continued	
119111	Roasted Nuts and Peanut Butter Manufacturing
311919	Other Snack Food Manufacturing
311920	Coffee and Tea Manufacturing
311930	Flavoring Syrup and Concentrate Manufacturing
311941	Mayonnaise, Dressing, and Other Prepared Sauce Manufacturing
311942	Spice and Extract Manufacturing
311991	Perishable Prepared Food Manufacturing
311999	All Other Miscellaneous Food Manufacturing
312111	Soft Drink Manufacturing
312112	Bottled Water Manufacturing
312113	Ice Manufacturing
312120	Breweries
312130	Wineries
312140	Distilleries
313110	Fiber, Yarn, and Thread Mills
316110	Leather and Hide Tanning and Finishing
316990	All Other Leather Good and Allied Product Manufacturing
333241	Food Product Machinery Manufacturing
333993	Packaging Machinery Manufacturing
Agricultural Distribution	
424410	General Line Grocery Merchant Wholesalers
424420	Packaged Frozen Food Merchant Wholesalers
424430	Dairy Product (except Dried or Canned) Merchant Wholesalers
424440	Poultry and Poultry Product Merchant Wholesalers
424450	Confectionery Merchant Wholesalers
424470	Meat and Meat Product Merchant Wholesalers
424480	Fresh Fruit and Vegetable Merchant Wholesalers

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Agricultural Distribution, continued	
424490	Other Grocery and Related Products Merchant Wholesalers
424510	Grain and Field Bean Merchant Wholesalers
424520	Livestock Merchant Wholesalers
424590	Other Farm Product Raw Material Merchant Wholesalers
424810	Beer and Ale Merchant Wholesalers
424820	Wine and Distilled Alcoholic Beverage Merchant Wholesalers
424910	Farm Supplies Merchant Wholesalers
424930	Flower, Nursery Stock, and Florists' Supplies Merchant Wholesalers
424990	Other Miscellaneous Nondurable Goods Merchant Wholesalers
445240	Meat Retailers
445230	Fruit and Vegetable Markets
445291	Baked Goods Stores
445292	Confectionery and Nut Stores
445298	All Other Specialty Food Stores
445320	Beer, Wine, and Liquor Stores
456191	Food (Health) Supplement Stores
459310	Florists
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
493120	Refrigerated Warehousing and Storage
493130	Farm Product Warehousing and Storage
624210	Community Food Services
Fishing	
114111	Finfish Fishing
114112	Shellfish Fishing
114119	Other Marine Fishing
311710	Seafood Product Preparation and Packaging
424460	Fish and Seafood Merchant Wholesalers

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Forestry	
113110	Timber Tract Operations
113210	Forest Nurseries and Gathering of Forest Products
113310	Logging
115310	Support Activities for Forestry
321113	Sawmills
321114	Wood Preservation
321211	Hardwood Veneer and Plywood Manufacturing
321215	Engineered Wood Member Manufacturing
321214	Truss Manufacturing
321219	Reconstituted Wood Product Manufacturing
321911	Wood Window and Door Manufacturing
321912	Cut Stock, Resawing Lumber, and Planing
321918	Other Millwork (including Flooring)
321920	Wood Container and Pallet Manufacturing
321992	Prefabricated Wood Building Manufacturing
321999	All Other Miscellaneous Wood Product Manufacturing
322120	Paper Mills
322122	Newsprint Mills
322130	Paperboard Mills
322211	Corrugated and Solid Fiber Box Manufacturing
322212	Folding Paperboard Box Manufacturing
322219	Other Paperboard Container Manufacturing
322220	Paper Bag and Coated and Treated Paper Manufacturing
322230	Stationery Product Manufacturing
322291	Sanitary Paper Product Manufacturing
322299	All Other Converted Paper Product Manufacturing
333243	Sawmill, Woodworking, and Paper Machinery Manufacturing

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Forestry, continued	
337110	Wood Kitchen Cabinet and Countertop Manufacturing
337211	Wood Office Furniture Manufacturing
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers
Mining	
211120	Crude Petroleum Extraction
211130	Natural Gas Extraction
212114	Surface Coal Mining
212115	Underground Coal Mining
212210	Iron Ore Mining
212220	Gold Ore and Silver Ore Mining
212230	Copper, Nickel, Lead, and Zinc Mining
212290	Other Metal Ore Mining
212311	Dimension Stone Mining and Quarrying
212312	Crushed and Broken Limestone Mining and Quarrying
212313	Crushed and Broken Granite Mining and Quarrying
212319	Other Crushed and Broken Stone Mining and Quarrying
212321	Construction Sand and Gravel Mining
212322	Industrial Sand Mining
212323	Kaolin, Clay, and Ceramic and Refractory Minerals Mining
212390	Other Nonmetallic Mineral Mining and Quarrying
213111	Drilling Oil and Gas Wells
213112	Support Activities for Oil and Gas Operations
213113	Support Activities for Coal Mining
213114	Support Activities for Metal Mining
213115	Support Activities for Nonmetallic Minerals (except Fuels) Mining
327120	Clay Building Material and Refractories Manufacturing
327310	Cement Manufacturing
327320	Ready-Mix Concrete Manufacturing
327331	Concrete Block and Brick Manufacturing

Continued.

Table A1. Working landscape sector and subsector NAICS codes, continued

NAICS	Industry
Mining, continued	
327390	Other Concrete Product Manufacturing
327410	Lime Manufacturing
327991	Cut Stone and Stone Product Manufacturing
327992	Ground or Treated Mineral and Earth Manufacturing
331410	Nonferrous Metal (except Aluminum) Smelting and Refining
333131	Mining Machinery and Equipment Manufacturing
333132	Oil and Gas Field Machinery and Equipment Manufacturing
423320	Brick, Stone, and Related Construction Material Merchant Wholesalers
423520	Coal and Other Mineral and Ore Merchant Wholesalers
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing
541360	Geophysical Surveying and Mapping Services
Outdoor Recreation	
114210	Hunting and Trapping
441222	Boat Dealers
487110	Scenic and Sightseeing Transportation, Land
487210	Scenic and Sightseeing Transportation, Water
487990	Scenic and Sightseeing Transportation, Other
532284	Recreational Goods Rental
712130	Zoos and Botanical Gardens
712190	Nature Parks and Other Similar Institutions
713920	Skiing Facilities
713930	Marinas
713990	All Other Amusement and Recreation Industries
721211	RV (Recreational Vehicle) Parks and Campgrounds
721214	Recreational and Vacation Camps (except Campgrounds)
Renewable Energy	
221111	Hydroelectric Power Generation
221114	Solar Electric Power Generation
221115	Wind Electric Power Generation
221116	Geothermal Electric Power Generation
221117	Biomass Electric Power Generation
221118	Other Electric Power Generation

Table A2. Changes in NAICS codes from 2017 to 2023

Working Lands Category	NAICS in 2019 report, 2017 classifications		NAICS in this report, 2023 classifications	
	NAICS	Title	NAICS	Title
Agricultural Distribution	445210	Meat Markets	445240	Meat Retailers
Agricultural Distribution	445299	All Other Specialty Food Stores	445298	All Other Specialty Food Stores
Agricultural Distribution	445310	Beer, Wine, and Liquor Stores	445320	Beer, Wine, and Liquor Stores
Agricultural Distribution	446191	Food (Health) Supplement Stores	456191	Food (Health) Supplement Retailers
Agricultural Distribution	453110	Florists	459310	Florists
Agricultural Processing	316998	All Other Leather Good and Allied Product Manufacturing	316990	Other Leather and Allied Product Manufacturing
Agricultural Support	444220	Nursery, Garden Center, and Farm Supply Stores	444240	Nursery, Garden Center, and Farm Supply Retailers
Forestry	321213	Engineered Wood Member (except Truss) Manufacturing	321215	Engineered Wood Member Manufacturing
Forestry	321214	Truss Manufacturing	321215	Engineered Wood Member Manufacturing
Forestry	322121	Paper (except Newsprint) Mills	322120	Paper Mills
Forestry	322122	Newsprint Mills	322120	Paper Mills
Mining	212111	Bituminous Coal and Lignite Surface Mining	212114	Surface Coal Mining
Mining	212112	Bituminous Coal Underground Mining	212115	Underground Coal Mining
Mining	212113	Anthracite Mining		Can be underground of surface mining (no direct replacement)
Mining	212221	Gold Ore Mining	212220	Gold Ore and Silver Ore Mining
Mining	212222	Silver Ore Mining	212220	Gold Ore and Silver Ore Mining
Mining	212291	Uranium-Radium-Vanadium Ore Mining	212290	Other Metal Ore Mining
Mining	212299	All Other Metal Ore Mining	212290	Other Metal Ore Mining
Mining	212324	Kaolin and Ball Clay Mining	212323	Kaolin, Clay, and Ceramic and Refractory Minerals Mining
Mining	212325	Clay and Ceramic and Refractory Minerals Mining	212323	Kaolin, Clay, and Ceramic and Refractory Minerals Mining
Mining	212391	Potash, Soda, and Borate Mineral Mining	212390	Other Nonmetallic Mineral Mining and Quarrying
Mining	212392	Phosphate Rock Mining	212390	Other Nonmetallic Mineral Mining and Quarrying
Mining	212393	Other Chemical and Fertilizer Mineral Mining	212390	Other Nonmetallic Mineral Mining and Quarrying
Mining	212399	All Other Nonmetallic Mineral Mining	212390	Other Nonmetallic Mineral Mining and Quarrying

Appendix B

California Jobs First grouped the state's counties into 13 economic regions based on their shared economic ties and local connections. Our analysis highlights similarities and differences across these regions.

B1 lists each of the California counties associated with each of these economic regions.

B1 List. Counties by California Jobs First Region

Bay Area

- Alameda County
- Contra Costa County
- Marin County
- Napa County
- San Francisco County
- San Mateo County
- Santa Clara County
- Solano County
- Sonoma County

Central Coast

- Santa Cruz County
- San Benito County
- Monterey County
- San Luis Obispo County
- Santa Barbara County
- Ventura County

Los Angeles County

- Los Angeles County

Northern San Joaquin

- Merced County
- Stanislaus County
- San Joaquin County

North State

- Butte County
- Glenn County
- Lassen County
- Glenn County
- Plumas County
- Shasta County
- Sierra County
- Siskiyou County
- Tehama County
- Trinity County

Central San Joaquin

- Fresno County
- Kings County
- Madera County
- Tulare County
- Central San Joaquin
- Fresno County
- Kings County
- Madera County
- Tulare County

Sierra

- Amador County
- Calaveras County
- Tuolumne County
- Mariposa County
- Alpine County
- Inyo County
- Mono County

Inland SoCal

- San Bernardino County
- Riverside County

Kern County

- Kern County

Orange County

- Orange County

Redwood

- Del Norte County
- Humboldt County
- Lake County
- Mendocino County

Capital

- Colusa County
- El Dorado County
- Nevada County
- Placer County
- Sacramento County
- Placer County
- Yolo County
- Yuba County

Southern Border

- San Diego County
- Imperial County

California Jobs First Regions

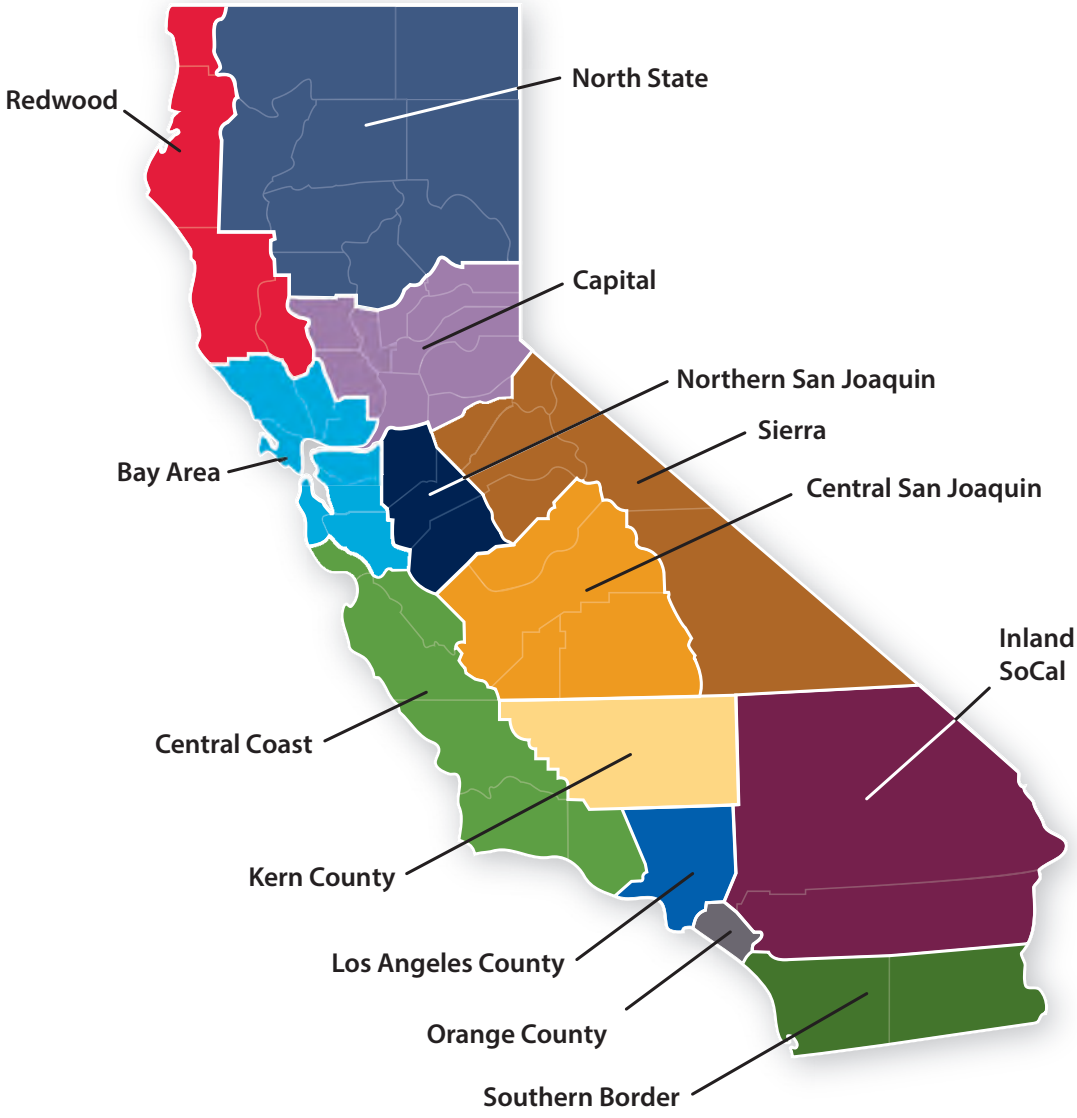


Table B2 displays the totals for the nine working landscapes segments in 13 California jobs first regions. Los Angeles County leads in jobs (227,712), sales ($69.3 billion), and number of businesses (15,075). The Bay Area tops the sales category ($18.1 billion). Regional totals are similar to the totals reported in the introductory sections to the report; differences are owed to Lightcast tabulations for counties, the basis for the regional definitions.

Table B2. Working landscapes totals by California jobs first region

Region	Jobs	Sales	Earnings	Businesses
Bay Area	214,742	$67,719,446,163	$18,080,280,307	12,625
Capital	89,380	$24,692,181,491	$6,194,237,102	4,920
Central Coast	206,590	$44,144,455,653	$12,876,350,392	6,689
Central San Joaquin	172,385	$42,514,690,636	$10,315,655,653	5,643
Inland SoCal	110,977	$32,485,659,470	$7,954,940,963	5,300
Kern County	86,351	$22,277,590,639	$5,497,309,370	1,920
Los Angeles County	227,712	$69,336,871,079	$17,664,092,403	15,075
North State	38,130	$11,008,532,297	$2,489,841,848	2,057
Northern San Joaquin	110,654	$37,921,340,753	$8,056,363,231	4,454
Orange County	74,636	$20,423,375,325	$5,559,685,626	4,996
Redwood	18,210	$3,822,000,662	$962,226,900	1,281
Sierra	10,160	$2,008,333,523	$461,331,217	571
Southern Border	101,138	$25,372,274,191	$6,903,205,164	6,026
Regional Totals	**1,461,064**	**$403,726,751,882**	**$103,015,520,176**	**71,557**

Table B3 displays the percentage that working landscapes segments comprise in each region. Working landscapes jobs make up the largest share of total jobs in Kern County (18.7%). Working landscapes also makes up a large share of jobs in the Central San Joaquin (18.1%) and Northern San Joaquin (14.2%). These regions' working landscapes also have large shares of regional sales, earnings, and businesses.

Table B3. Working landscapes percent of total by California jobs first region

Region	Jobs	Sales	Earnings	Businesses
Bay Area	3.9%	3.0%	2.3%	3.7%
Capital	5.3%	4.6%	4.6%	4.4%
Central Coast	14.3%	13.5%	12.5%	7.7%
Central San Joaquin	18.1%	20.8%	17.1%	8.3%
Inland SoCal	4.6%	6.9%	5.1%	3.4%
Kern County	18.7%	18.4%	17.7%	7.2%
Los Angeles County	3.3%	4.1%	3.1%	2.7%
North State	11.9%	16.7%	13.0%	8.1%
Northern San Joaquin	14.2%	23.5%	15.5%	9.4%
Orange County	3.1%	3.6%	2.8%	3.4%
Redwood	10.9%	12.5%	10.2%	8.2%
Sierra	9.6%	8.7%	8.0%	8.1%
Southern Border	4.3%	3.8%	3.5%	4.3%
WL % of Regional Total	**5.7%**	**5.7%**	**4.5%**	**4.1%**

Table B4. Working landscapes totals by county for Bay Area region

County	Jobs	Sales	Earnings	Businesses
Alameda County	44,503	$14,963,800,960	$3,848,199,176	2,443
Contra Costa County	20,019	$5,577,676,734	$1,481,770,362	1,210
Marin County	7,087	$1,821,931,563	$526,450,169	553
Napa County	25,532	$9,788,383,825	$2,310,173,864	1,114
San Francisco County	21,388	$8,190,140,800	$2,582,332,350	1,662
San Mateo County	16,933	$4,398,762,850	$1,385,633,775	1,130
Santa Clara County	33,517	$8,133,959,529	$2,592,325,757	2,038
Solano County	11,966	$4,136,503,487	$842,230,676	546
Sonoma County	33,796	$10,708,286,415	$2,511,164,180	1,930
Bay Area Totals	**214,742**	**$67,719,446,163**	**$18,080,280,307**	**12,625**

Table B5. Working landscapes totals by county for Capital region

County	Jobs	Sales	Earnings	Businesses
Colusa County	4,842	$1,921,009,046	$367,097,595	332
El Dorado County	6,391	$1,355,125,889	$344,287,323	428
Nevada County	4,227	$603,221,395	$189,851,014	297
Placer County	14,260	$3,219,084,575	$927,156,248	631
Sacramento County	32,696	$9,715,416,958	$2,421,769,504	1,778
Sutter County	8,180	$1,988,793,335	$524,991,385	599
Yolo County	15,453	$5,236,556,198	$1,256,932,442	674
Yuba County	3,330	$652,974,095	$162,151,591	183
Capital Totals	**89,380**	**$24,692,181,491**	**$6,194,237,102**	**4,920**

Table B6. Working landscapes totals by county for Central Coast region

County	Jobs	Sales	Earnings	Businesses
Monterey County	72,586	$12,747,433,595	$4,621,992,089	1,283
San Benito County	5,317	$1,352,167,253	$328,184,155	195
San Luis Obispo County	19,177	$4,183,799,498	$1,157,866,644	1,081
Santa Barbara County	45,715	$9,215,458,852	$2,666,550,721	1,490
Santa Cruz County	15,964	$3,746,505,595	$970,617,498	776
Ventura County	47,831	$12,899,090,861	$3,131,139,284	1,865
Central Coast Totals	**206,590**	**$44,144,455,653**	**$12,876,350,392**	**6,689**

Table B7. Working landscapes totals by county for central San Joaquin region

County	Jobs	Sales	Earnings	Businesses
Fresno County	83,047	$19,065,290,083	$5,016,151,006	2,691
Kings County	14,594	$5,724,422,313	$979,381,669	480
Madera County	17,956	$3,360,487,122	$1,008,130,760	648
Tulare County	56,788	$14,364,491,119	$3,311,992,219	1,825
Central SJ Totals	**172,385**	**$42,514,690,636**	**$10,315,655,653**	**5,643**

Table B8. Working landscapes totals by county for Inland SoCal region

County	Jobs	Sales	Earnings	Businesses
Riverside County	56,453	$14,904,435,864	$3,930,959,461	2,782
San Bernardino County	54,524	$17,581,223,605	$4,023,981,502	2,518
Inland SoCal Totals	**110,977**	**$32,485,659,470**	**$7,954,940,963**	**5,300**

Table B9. Working Landscapes Totals by County for County Regions (Kern, Los Angeles, and Orange)

County	Jobs	Sales	Earnings	Businesses
Kern County	86,351	$22,277,590,639	$5,497,309,370	1,920
Los Angeles County	227,712	$69,336,871,079	$17,664,092,403	15,075
Orange County	74,636	$20,423,375,325	$5,559,685,626	4,996
Totals	**388,698**	**$112,037,837,043**	**$28,721,087,399**	**21,991**

Table B10. Working landscapes totals by county for Northern San Joaquin region

County	Jobs	Sales	Earnings	Businesses
Merced County	27,008	$8,575,038,269	$1,759,674,235	1,002
San Joaquin County	42,180	$12,830,459,022	$3,055,410,883	1,864
Stanislaus County	41,466	$16,515,843,462	$3,241,278,113	1,588
Northern SJ Totals	**110,654**	**$37,921,340,753**	**$8,056,363,231**	**4,454**

Table B11. Working landscapes totals by county for North State region

County	Jobs	Sales	Earnings	Businesses
Butte County	10,698	$3,786,701,008	$797,660,772	647
Glenn County	4,645	$1,234,560,822	$297,619,624	316
Lassen County	1,380	$283,883,751	$73,033,261	73
Modoc County	1,140	$189,568,202	$49,373,766	69
Plumas County	1,504	$552,520,415	$96,901,111	76
Shasta County	7,669	$2,534,043,292	$556,743,005	348
Sierra County	326	$24,095,582	$5,613,856	15
Siskiyou County	3,660	$863,347,044	$209,359,297	228
Tehama County	6,112	$1,345,714,118	$363,011,190	232
Trinity County	996	$194,098,063	$40,525,965	54
North State Totals	**38,130**	**$11,008,532,297**	**$2,489,841,848**	**2,057**

Table B12. Working Landscapes totals by county for Redwood region

County	Jobs	Sales	Earnings	Businesses
Del Norte County	1,382	$225,539,853	$54,800,766	96
Humboldt County	6,963	$1,756,307,398	$403,410,382	562
Lake County	2,758	$356,816,983	$119,235,030	150
Mendocino County	7,108	$1,483,336,428	$384,780,721	474
Redwood Totals	**18,210**	**$3,822,000,662**	**$962,226,900**	**1,281**

Table B13. Working landscapes totals by county for Sierra region

County	Jobs	Sales	Earnings	Businesses
Alpine County	611	$49,634,454	$18,055,838	11
Amador County	2,227	$564,853,299	$122,964,967	133
Calaveras County	1,990	$229,933,988	$75,374,409	123
Inyo County	1,209	$380,216,168	$68,847,416	76
Mariposa County	820	$114,191,118	$24,796,140	42
Mono County	764	$141,458,949	$26,471,438	64
Tuolumne County	2,538	$528,045,547	$124,821,010	124
Sierra Totals	**10,160**	**$2,008,333,523**	**$461,331,217**	**571**

Table B14. Working landscapes totals by county for Southern Border region

County	Jobs	Sales	Earnings	Businesses
Imperial County	14,793	$3,719,752,772	$976,159,188	500
San Diego County	86,345	$21,652,521,419	$5,927,045,977	5,526
Southern Border Totals	**101,138**	**$25,372,274,191**	**$6,903,205,164**	**6,026**

Appendix C

This study uses four primary metrics to gauge the contribution of industry segments to the regional economies and the state's overall economy. The specific variables used in this report (as defined in Lightcast.io) are:

Earnings (Also referred to as Total Earnings or GRP Earnings). These are the sum of "Wages and Salaries" and "Supplements," defined as:

- Wages and salaries are equivalent to QCEW reported earnings. The BLS defines wages and salaries as including "bonuses, stock options, severance pay, and the cash value of meals and lodging, tips and other gratuities. In some states, wages also include employer contributions to certain deferred compensation plans, such as 401(k) plans. Covered employers' contributions to old-age, survivors, and disability insurance; health insurance; unemployment insurance; workers' compensation; and private pension and welfare funds are not reported as wages. Employee contributions for the same purposes, however, as well as money withheld for income taxes, union dues, and so forth, are reported, even though they are deducted from the worker's gross pay."
- Supplements come from the Bureau of Economic Analysis's (BEA) State and Local Personal Income datasets. According to the BEA, supplements consists of "employer contributions for employee pension and insurance funds and employer contributions for government social insurance."
  - Contributions for employee pension and insurance funds include employer contributions to private pensions, publicly administered government employee retirement plans, private group health and life insurance plans, etc.
  - Contributions for government social insurance include "employer contributions for government social insurance as well as payments by employees, the self-employed, and other individuals who participate in government social insurance programs."

Employment (Also referred to as Jobs). These are estimates of average annual employment, constructed by Lightcast based on data from the QCEW and the BEA. Lightcast combines job estimates from these sources to account for jobs omitted from the QCEW and to rectify differences in estimates for covered employees over time. For this report, we include the sum of jobs across all worker types, consisting of QCEW Employees, Non-QCEW Employees, Self-Employed, and Extended Proprietors. These types are defined as follows:

- QCEW Employees: The Bureau of Labor Statistics' QCEW dataset is the best source for job counts data in the United States. This quarterly near-census of workers is a byproduct of unemployment insurance reporting, which businesses are required to file monthly. QCEW covers 95% of the positions held by employees in the United States. (Note that agriculture is one of the industries with uncovered positions, so it is important in this analysis to include the other worker types).
- Non-QCEW Employees: The remaining 5% of employment not covered by QCEW occurs marginally in specific industries and is accounted for in other government datasets. Lightcast collects employment data for these industries and puts it in the Non-QCEW Employees Class of Worker. In other words, these jobs are held by employees of businesses, but for various reasons they are not covered by unemployment insurance and therefore are not counted in QCEW.
- Self-Employed: This Class of Worker includes job counts for work we typically think of as constituting self-employment. The data comes from the Census' American Community Survey and counts respondents who list self-employment as their primary source of income.
- Extended Proprietors: This Class of Worker contains miscellaneous job counts recorded by the BEA that exceed counts reported in American Community Survey data. Many of these jobs are incidental self-employment that does not constitute a primary source of income (e.g. selling handmade goods on Etsy). It is important to note that, although the goal of this Class of Worker is to account for miscellaneous income from labor, it inherently contains miscellaneous income from capital as well (since the BEA looks at profits rather than earnings).

Sales (Also referred to as Total Sales or Sales Income). These are estimates of an industry's total annual sales (gross receipts), both to other industries and to consumers as well. Sales is representative of all four worker classes. For the Retail (44), Wholesale (42), and Transportation (48) sectors, sales are only inclusive of the respective margin. Sales estimates are constructed by Lightcast using their proprietary modeling and incorporating data from the BEA.

Businesses (Also referred to as Payrolled Business Locations or Establishments). This is a single physical location of some type of economic activity (a business), used for reporting purposes in government data sources. Note that a single company may have multiple business establishments. Business counts in Lightcast come from the QCEW.

Appendix D: 2024 pie chart sales statistics

Exhibit 1. Total California 2024 sales for all 20 industry sectors

Industry sectors	Total 2024 sales
Accommodation and Food Services	3.2%
Administrative and Support and Waste Management and Remediation Services	2.8%
Arts, Entertainment, and Recreation	1.3%
Construction	4.0%
Educational Services	0.9%
Finance and Insurance	6.2%
Government	22.3%
Health Care and Social Assistance	6.1%
Information	9.7%
Management of Companies and Enterprises	1.4%
Manufacturing	9.5%
Other Services (except Public Administration)	1.8%
Professional, Scientific, and Technical Services	7.7%
Real Estate and Rental and Leasing	5.0%
Retail Trade	4.5%
Transportation and Warehousing	3.1%
Utilities	0.8%
Wholesale Trade	3.7%
Working Landscapes	**5.7%**

California working landscape 2024 sales by industry sectors

Industry sectors	Total 2024 sales
Agriculture	$311B
Mining	$41B
Forestry	$27B
Renewable energy	$13B
Outdoor recreation	$9B
Fishing	$2B
Total annual sales	**$404B**

Exhibit 14. Agricultural production sales by state, 2024

Agricultural Production	
State	**Final % (Sales)**
California	12.29
Texas	8.15
Iowa	5.39
Illinois	3.73
Minnesota	3.68
Washington	3.40
Wisconsin	3.14
Ohio	3.11
Indiana	3.00
Florida	2.98
Missouri	2.96
Nebraska	2.94
New York	2.79
Pennsylvania	2.50
Michigan	2.29
Georgia	2.18
Oregon	2.13

Agricultural Production	
State	**Final % (Sales)**
Oklahoma	2.08
Arkansas	2.06
South Dakota	2.05
Kentucky	2.04
North Carolina	2.04
Kansas	1.91
Idaho	1.86
Tennessee	1.82
Colorado	1.63
Alabama	1.58
North Dakota	1.47
Virginia	1.31
Mississippi	1.21
Arizona	1.16
New Mexico	0.92
Montana	0.91
Louisiana	0.82

Agricultural Production	
State	**Final % (Sales)**
Massachusetts	0.79
Utah	0.74
South Carolina	0.71
Maryland	0.62
New Jersey	0.58
West Virginia	0.45
Wyoming	0.42
Maine	0.40
Connecticut	0.38
Hawaii	0.34
Vermont	0.33
Nevada	0.31
Delaware	0.16
New Hampshire	0.13
Alaska	0.06
Rhode Island	0.06
District of Columbia	0.00

Exhibit 18. Agricultural support sales by state, 2024

Agricultural Support	
State	Final % (Sales)
California	14.94
Texas	8.25
Iowa	5.60
Illinois	5.11
Florida	4.99
New York	3.23
North Carolina	3.08
Pennsylvania	2.77
Georgia	2.68
Ohio	2.62
Louisiana	2.29
Washington	2.28
Missouri	2.25
Virginia	2.24
Massachusetts	2.15
Wisconsin	2.12
Colorado	2.05

Agricultural Support	
State	Final % (Sales)
Nebraska	2.03
Kansas	1.86
Indiana	1.86
Minnesota	1.74
New Jersey	1.72
Oregon	1.60
Michigan	1.60
Maryland	1.56
Tennessee	1.51
Arizona	1.43
Alabama	1.13
Idaho	1.11
Oklahoma	1.08
Kentucky	1.03
North Dakota	1.00
District of Columbia	0.95
South Carolina	0.93

Agricultural Support	
State	Final % (Sales)
Arkansas	0.89
Mississippi	0.86
Connecticut	0.71
South Dakota	0.64
Utah	0.60
New Mexico	0.45
Nevada	0.40
Wyoming	0.37
Montana	0.35
West Virginia	0.32
New Hampshire	0.31
Delaware	0.29
Maine	0.28
Vermont	0.20
Hawaii	0.20
Alaska	0.18
Rhode Island	0.16

Exhibit 22. Agricultural processing sales share by state, 2024

Agricultural Processing	
States	Final % (Sales)
California	11.15
Texas	6.01
Illinois	5.63
Wisconsin	5.24
Iowa	4.25
Georgia	4.24
Ohio	4.22
Pennsylvania	4.12
New York	3.46
Minnesota	3.15
Missouri	2.92
North Carolina	2.73
Nebraska	2.67
Indiana	2.66
Tennessee	2.62
Michigan	2.49
Kentucky	2.30

Agricultural Processing	
States	Final % (Sales)
Kansas	2.20
Florida	2.14
New Jersey	1.98
Arkansas	1.96
Washington	1.94
Colorado	1.79
Virginia	1.73
Oregon	1.35
Alabama	1.29
Massachusetts	1.29
Utah	1.20
Idaho	1.18
Arizona	1.04
Oklahoma	1.03
Maryland	1.01
South Carolina	0.89
South Dakota	0.80

Agricultural Processing	
States	Final % (Sales)
Louisiana	0.75
Delaware	0.73
Mississippi	0.71
Connecticut	0.50
Nevada	0.36
New Mexico	0.36
North Dakota	0.36
Vermont	0.31
Maine	0.30
Hawaii	0.21
New Hampshire	0.19
Rhode Island	0.17
Montana	0.15
West Virginia	0.13
Wyoming	0.06
Alaska	0.04
District of Columbia	0.02

Exhibit 26. Agricultural distribution sales by state, 2024

Agricultural distribution	
States	**Final % (Sales)**
California	13.04
Texas	8.71
Florida	7.39
New York	6.92
Illinois	5.51
New Jersey	4.07
Ohio	3.05
Georgia	2.92
Pennsylvania	2.62
Michigan	2.43
North Carolina	2.38
Washington	2.32
Minnesota	2.26
Massachusetts	2.15
Tennessee	2.06
Colorado	1.98
Iowa	1.92

Agricultural distribution	
States	**Final % (Sales)**
Wisconsin	1.87
Missouri	1.80
Arizona	1.74
Indiana	1.73
Maryland	1.56
Virginia	1.49
Oregon	1.32
Connecticut	1.20
Nebraska	1.18
Alabama	1.08
Arkansas	1.06
Louisiana	1.06
South Carolina	1.05
Kansas	1.04
Kentucky	1.00
Utah	0.89
Oklahoma	0.77

Agricultural distribution	
States	**Final % (Sales)**
Nevada	0.71
Mississippi	0.69
Idaho	0.68
North Dakota	0.65
South Dakota	0.58
Hawaii	0.42
New Mexico	0.37
New Hampshire	0.34
Delaware	0.34
Maine	0.30
Montana	0.30
Rhode Island	0.23
Vermont	0.19
West Virginia	0.18
Alaska	0.15
District of Columbia	0.14
Wyoming	0.13

Exhibit 30. Fishing sales by state, 2024

Fishing	
State	**Final % Sales**
Alaska	15.84
Washington	14.88
Massachusetts	10.32
California	8.19
Florida	6.57
Maine	5.28
Texas	4.52
Louisiana	3.33
New York	2.80
Oregon	2.67
New Jersey	2.44
Virginia	2.32
Mississippi	2.10
Maryland	1.92
Georgia	1.90
North Carolina	1.83
Illinois	1.65

Fishing	
State	**Final % Sales**
Alabama	1.25
Minnesota	1.17
Michigan	0.94
Rhode Island	0.87
Pennsylvania	0.79
Hawaii	0.74
New Hampshire	0.54
Colorado	0.48
Connecticut	0.40
Tennessee	0.39
South Carolina	0.36
Arizona	0.35
Nevada	0.32
Ohio	0.32
Utah	0.31
Wisconsin	0.30
Idaho	0.29

Fishing	
State	**Final % Sales**
Indiana	0.25
Missouri	0.23
Montana	0.17
Delaware	0.15
Kentucky	0.12
District of Columbia	0.12
Arkansas	0.09
Oklahoma	0.07
North Dakota	0.06
West Virginia	0.06
Wyoming	0.06
Nebraska	0.05
New Mexico	0.05
Kansas	0.04
Iowa	0.04
Vermont	0.04
South Dakota	0.02

Exhibit 34. Forestry sales by state, 2024

Forestry	
State	**Final % (Sales)**
Georgia	6.69
California	6.19
Texas	5.90
Wisconsin	4.90
Pennsylvania	4.69
North Carolina	4.20
Ohio	4.06
Alabama	4.01
Oregon	3.82
Tennessee	3.55
Washington	3.51
Florida	3.47
Michigan	3.08
New York	3.08
Illinois	2.93
Indiana	2.92
South Carolina	2.87

Forestry	
State	**Final % (Sales)**
Minnesota	2.82
Virginia	2.66
Arkansas	2.28
Louisiana	2.10
Kentucky	1.90
Mississippi	1.62
Iowa	1.57
Missouri	1.49
Massachusetts	1.41
New Jersey	1.39
Idaho	1.29
Maine	1.17
Arizona	0.85
Colorado	0.83
Utah	0.82
Maryland	0.74
Oklahoma	0.68

Forestry	
State	**Final % (Sales)**
Connecticut	0.60
West Virginia	0.45
Kansas	0.45
Nebraska	0.39
South Dakota	0.38
New Hampshire	0.38
Montana	0.38
Nevada	0.37
Vermont	0.27
North Dakota	0.24
Delaware	0.16
Rhode Island	0.15
New Mexico	0.14
Hawaii	0.07
Wyoming	0.06
Alaska	0.04
District of Columbia	0.02

Exhibit 38. Mining sales by state, 2024

Mining	
State	**Final % (Sales)**
Texas	40.34
Oklahoma	5.79
Colorado	4.46
California	4.29
Louisiana	3.22
Pennsylvania	3.18
Arizona	2.48
Florida	1.99
New Mexico	1.97
West Virginia	1.97
Kansas	1.85
Ohio	1.72
North Dakota	1.68
Alaska	1.57
Nevada	1.43
Wyoming	1.42
Utah	1.40

Mining	
State	**Final % (Sales)**
New York	1.39
Illinois	1.38
Georgia	1.08
Michigan	1.05
Tennessee	0.98
Virginia	0.92
Alabama	0.92
Kentucky	0.87
Indiana	0.84
Minnesota	0.78
North Carolina	0.77
Missouri	0.75
Washington	0.74
New Jersey	0.66
Mississippi	0.63
Arkansas	0.62
South Carolina	0.58

Mining	
State	**Final % (Sales)**
Montana	0.53
Wisconsin	0.50
Massachusetts	0.47
Oregon	0.45
Iowa	0.37
Maryland	0.35
Idaho	0.34
Nebraska	0.29
Connecticut	0.25
South Dakota	0.20
New Hampshire	0.12
Delaware	0.11
Hawaii	0.09
Maine	0.08
Vermont	0.08
Rhode Island	0.06
District of Columbia	0.02

Exhibit 42. Outdoor recreation sales by state, 2024

Outdoor Recreation	
State	**Final % (Sales)**
California	11.07
Florida	10.61
Texas	7.20
New York	6.82
Colorado	4.36
Pennsylvania	3.04
Washington	2.78
Massachusetts	2.59
Georgia	2.59
New Jersey	2.53
Illinois	2.52
Michigan	2.48
Ohio	2.38
North Carolina	2.38
Tennessee	2.15
Arizona	2.02
Wisconsin	1.99

Outdoor Recreation	
State	**Final % (Sales)**
Maryland	1.96
Utah	1.82
Virginia	1.69
South Carolina	1.65
Minnesota	1.58
Missouri	1.57
Maine	1.45
Connecticut	1.42
Oregon	1.41
Hawaii	1.32
Alaska	1.15
Nevada	1.11
New Hampshire	1.05
Alabama	0.99
Indiana	0.93
Louisiana	0.88
Montana	0.80

Outdoor Recreation	
State	**Final % (Sales)**
Kentucky	0.72
Idaho	0.72
Oklahoma	0.66
South Dakota	0.58
Rhode Island	0.57
New Mexico	0.56
Nebraska	0.50
Arkansas	0.46
Iowa	0.44
Wyoming	0.43
Kansas	0.40
Mississippi	0.36
Vermont	0.35
Delaware	0.32
West Virginia	0.25
District of Columbia	0.23
North Dakota	0.19

Exhibit 46. Renewable energy sales by state, 2024

Renewable Energy	
State	**Final % (Sales)**
California	22.77
Texas	19.16
Florida	6.60
New York	6.54
Illinois	4.21
Colorado	2.93
Minnesota	2.61
Massachusetts	2.26
North Carolina	1.88
New Jersey	1.87
Michigan	1.79
Oregon	1.72
Virginia	1.64
Utah	1.46
Arizona	1.43
Nevada	1.14
South Carolina	1.10

Renewable Energy	
State	**Final % (Sales)**
Iowa	1.06
Tennessee	1.04
Missouri	1.04
Ohio	0.99
Pennsylvania	0.94
Maryland	0.93
Oklahoma	0.92
New Hampshire	0.86
Washington	0.84
Connecticut	0.84
Idaho	0.81
Georgia	0.74
Maine	0.70
Kansas	0.68
Alabama	0.67
Alaska	0.53
Indiana	0.52

Renewable Energy	
State	**Final % (Sales)**
Wisconsin	0.45
Hawaii	0.45
Vermont	0.43
Montana	0.43
West Virginia	0.41
New Mexico	0.37
Rhode Island	0.37
Kentucky	0.35
District of Columbia	0.29
South Dakota	0.28
North Dakota	0.26
Nebraska	0.20
Delaware	0.16
Wyoming	0.15
Louisiana	0.09
Arkansas	0.06
Mississippi	0.02

Endnotes

1. "California is now the 4th largest economy in the world." (2025) Governor Gavin Newsom News, April 23, 2025. https://www.gov.ca.gov/2025/04/23/california-is-now-the-4th-largest-economy-in-the-world/

2. Centers of Excellence & University of California Agriculture and Natural Resources. "California's Working Landscape," November 2019. https://ucop.edu/innovation-transfer-operations/_files/Econ%20Impact%20Rpts/anr-ca-working-landscape-2019.pdf

3. "California's 13 Jobs First Regions." https://jobsfirst.ca.gov/regions/

4. Huntsinger, L., & Sayre, N. F. (2007). Introduction: The working landscapes special issue. Rangelands, 29(3), 3-4. http://hdl.handle.net/10150/639721

5. Executive Order N-82-20. https://www.gov.ca.gov/wp-content/uploads/2020/10/10.07.2020-EO-N-82-20-.pdf

6. California's Natural and Working Lands Climate Smart Strategy, April 2022. https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Expanding-Nature-Based-Solutions/CNRA-Report-2022---Final_Accessible.pdf

7. Pathways to 30x30: California Annual Progress Report. Administration of Governor Gavin Newsom, July 2025. https://resources.ca.gov/-/media/CNRA-Website/Files/2025-30x30-Pathways-Progress-Report.pdf

8. Kunming-Montreal Global Biodiversity Framework. UN Environment Programme, December 2022. https://www.unep.org/resources/kunming-montreal-global-biodiversity-framework

9. O'Shea, H., Smith, Z., & Poole, K. (2021). Biden Administration Lays Out 30x30 Vision to Conserve Nature. NRDC Expert Blog, May 2021. https://www.nrdc.org/bio/helen-oshea/biden-administration-lays-out-30x30-vision-conserve-nature

10. Conserving and Restoring America the Beautiful Report, 2021. https://www.doi.gov/sites/doi.gov/files/report-conserving-and-restoring-america-the-beautiful-2021.pdf

11. Natural and Working Lands, U.S. Climate Alliance. https://usclimatealliance.org/policy-priorities/natural-working-lands/

12. Natural and Working Lands Action Plan: Building North Carolina's Green Infrastructure, NC Department of Environmental Quality. https://www.deq.nc.gov/energy-climate/climate-change/adaptation-and-resiliency/natural-working-lands

13. North Carolina Natural and Working Lands Action Plan, June 2020. https://files.nc.gov/ncdeq/climate-change/natural-working-lands/NWL-Action-Plan-FINAL---Copy.pdf

14. Foundational Elements to Advance the Oregon Global Warming Commission's Natural and Working Lands Proposal, September 2023. https://inr.oregonstate.edu/sites/inr.oregonstate.edu/files/2024-07/INR%20NWL%20Report%20FINAL_26Sept2023.pdf

15. California Department of Food and Agriculture. (2024). 2022-2023 California Agricultural Statistics Review https://www.cdfa.ca.gov/Statistics/PDFs/2022-2023_california_agricultural_statistics_review.pdf

16. https://www.cdfa.ca.gov/Statistics/PDFs/2023-2024_california_agricultural_exports.pdf

17. Searls, K. (2011) Pilot Study: Estimating Rural and Urban Minnesota's Dependence. Minnesota Rural Partners, Inc. https://mnruralpartners.wordpress.com/wp-content/uploads/2011/02/rurb-02_11-final.pdf

18. Lone, T., Konduru, S., and Berends, P. (2019). Food & Beverage Manufacturing in Central California. Central California Business Review, February 2019. https://craig.fresnostate.edu/documents/ubc-documents/cencal/2019/CCBR_FoodBevManu_Web.pdf

19. Outdoor Industry Association. (2017). California. https://outdoorindustry.org/wp-content/uploads/2017/07/OIA_RecEcoState_CA.pdf

20. U.S. Energy Information Administration. California State Profile and Energy Estimates. https://www.eia.gov/state/?sid=CA#tabs-3

21. IREC USA. (2024). 14th Annual National Solar Jobs Census 2023. https://irecusa.org/census-solar-jobs-by-state/

22. NASA Earth Observatory (2022). Mountain Pass Rare Earth Mine. https://earthobservatory.nasa.gov/images/151085/mountain-pass-rare-earth-mine

23. California Department of Conservation. California Mineral Production Reports and Data. https://www.conservation.ca.gov/cgs/minerals/mineral-production

24. "California's 13 Jobs First Regions." https://jobsfirst.ca.gov/regions/

25. U.S. Bureau of Economic Analysis (BEA). Gross Domestic Product by State. Interactive Data Application, Table 505: "Gross domestic product (GDP) by state (Millions of current dollars), California, All industry total, 2024." https://www.bea.gov/news/2025/gross-domestic-product-state-and-personal-income-state-4th-quarter-2024-and-preliminary.

26. Costanza, R., d'Arge, R., de Groot, R. S., Farber, S., Grasso, M., Hannon, B., … van den Belt, M. (1997). *The Value of the World's Ecosystem Services and Natural Capital.* Nature 387: 253-260. https://www.nature.com/articles/387253a0

27. Lenhardt, J. & Egoh, B. N. (2023). *Opportunities and gaps in conservation incentive programs on California agricultural land.* Frontiers in Sustainable Food Systems. https://www.frontiersin.org/journals/sustainable-food-systems/articles/10.3389/fsufs.2023.1239015/full

28. Coleman, A. F. & Machado, M. R. (2022). *Ecosystem Services in Working Lands Practice and Policy in the U.S. Northeast: Successes, Challenges, and Opportunities for Producers and Extension*. Extension Foundation. https://online.flippingbook.com/view/749315583/; Livingston, A. & O'Connell, D. (2017). *Ecosystem Services and California's Working Landscapes: Market Mechanisms to Revitalize Rural Economies.* California Forward (CA-Fwd). https://centralvalleypartnership.org/wp-content/uploads/2020/06/Ecosystem-Services-and-Californias-Working-Landscapes.pdf ; CRAE Working Group. (2012). *Guidelines for Creating Effective Ecosystem Services Incentive Programs and Policy.* CRAE/AgInnovations. https://aginnovations.org/wp-content/uploads/2019/07/CRAE_Ecosystem_Services_Guidelines.pdf

29. Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being: Synthesis.* Washington, DC: Island Press / World Resources Institute. https://www.millenniumassessment.org/documents/document.356.aspx.pdf

30. Op. Cit. Coleman, A. F. & Machado, M. R.; Livingston, A. & O'Connell, D.; CRAE

31. California Air Resources Board (CARB) and Industrial Economics, Inc. (2023). *CCI Ecosystem Services Benefits of Projects Funded by California Climate Investments (CCI) Final Report (June 2023).* https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/ccidoc/IEc%20Final%20Report_CCI%20ES%20Benefits_2023Sept27.pdf ; Op Cit. Costanza et. al.

32. Op. Cit. Coleman, A. F. & Machado, M. R.; Livingston, A. & O'Connell, D.; CRAE

33. Op. Cit. Livingston, A. & O'Connell, D.

34. Op. Cit. CRAE

35. California Department of Food and Agriculture, Office of Agricultural Resilience and Sustainability. *Definitions: Ecosystem Services.* https://www.cdfa.ca.gov/oefi/ecosystemservices/

36. Op. Cit. CARB and Industrial Economics, Inc.

37. Santa Clara Valley Open Space Authority; Resource Conservation District of Santa Cruz County; Sonoma County Ag + Open Space (2018). *Healthy Lands & Healthy Economies: Natural Capital in Santa Clara, Santa Cruz, and Sonoma Counties.* https://www.rcdsantacruz.org/images/brochures/pdf/HLHE_-_Regional_Report.pdf

38. Santa Clara Valley Open Space Authority & County of Santa Clara. *Santa Clara Valley Agricultural Plan – Valley Agricultural Plan and Related Appendix.* 2018. Adopted January 9, 2018. https://stgenpln.blob.core.windows.net/document/SCV_ActionPlan.pdf ; Santa Clara Valley Open Space Authority. *Regional Conservation Investment Strategy (RCIS) – Santa Clara County.* Approved 2019. https://www.openspaceauthority.org/projects-programs/land-stewardship/regional-conservation-investment-strategy

39. Bay Conservation and Development Commission (BCDC). *Adapting to Rising Tides Bay Area* (2020). https://www.adaptingtorisingtides.org/wp-content/uploads/2020/03/ART-BayArea_Main_Report_Final_March2020_ADA.pdf

40. USGS. (2017). Top 5 Mineral-Producing States. https://www.usgs.gov/news/science-snippet/top-5-mineral-producing-states

41. Wine Business Analytics. U.S. Wineries by State. https://winebusinessanalytics.com/statistics/winery/

42. Humboldt County Department of Agriculture (2023). 2022 Crop Report. https://humboldtgov.org/DocumentCenter/View/121407/2022-Humboldt-County-Crop-Report-PDF?bidId=

43. The California Woody Biomass Utilization Group maintains an interactive map of California forest products and biomass power plants. https://ucanr.edu/site/woody-biomass-utilization/california-forest-products-and-biomass-power-plant-map