



# Labor Market Assessment

## Land Stewardship and Sustainability Occupations

June 2026

### Key Findings

In California, employment in Land Stewardship and Sustainability occupations (Conservation Scientists and Foresters) is projected to generate an average of 351 annual job openings from 2024 to 2034. Within the Bay Region, there are approximately 93 such openings annually, representing a moderate share of statewide demand. In the Bay Region, postsecondary institutions confer approximately 105 associate and bachelor's degree awards annually, resulting in a slight oversupply of approximately 12 workers relative to job openings. While overall supply slightly exceeds demand, bachelor's degree attainment remains concentrated at a single institution, indicating limited access to this program within the region. Therefore, West Valley College's proposed Land Stewardship and Sustainability program can help expand access to baccalaureate education and strengthen the regional workforce pipeline.

In California, entry-level Land Stewardship and Sustainability occupations typically earn approximately \$31 per hour, which exceeds the living wage for a single adult (\$17), and exceeds the living wage for adults with one school-age child (\$31) or one teenager (\$25). Median wages reach approximately \$40 per hour, reflecting strong earning potential in the occupation. Wages also increase with higher levels of education. For these occupations, entry-level wages increase from approximately \$25 per hour for associate degree holders to \$36 per hour for those with a bachelor's degree, with additional gains for advanced degrees. This wage progression highlights the importance of bachelor's level education in helping workers achieve strong and sustainable earnings over time.

### Introduction

This report profiles Land Stewardship and Sustainability occupations in California and the 12-County Bay Region for a proposed bachelor's degree program.

This report provides student outcomes data on employment and earnings for Natural Resources Program (TOP 0115.00) in the Bay Region. It is recommended that this data be reviewed to better understand how outcomes for students taking courses within these program areas compare to similar programs at colleges in the region.

This report evaluates labor market needs and workforce alignment for the proposed bachelor's degree program called "Land Stewardship and Sustainability." Using state and regional data, it presents insights into educational and occupational requirements, employment trends, wage levels, and degree alignment for Conservation Scientists and Foresters, two occupations directly aligned with this field.

The analysis shows that Conservation Scientists account for the majority of employment and growth, while Foresters represent a smaller but specialized segment of the workforce. The findings indicate competitive wages and a measurable labor market gap, supporting the creation of a bachelor's degree program to better align educational pathways with workforce needs in the Bay Region.

### Occupation under Review

- **Conservation Scientists (19-1031):** Manage, improve, and protect natural resources to maximize their use without damaging the environment. May conduct soil surveys and develop plans to eliminate soil erosion or to protect rangelands. May instruct farmers, agricultural production managers, or ranchers in best ways to use crop rotation, contour plowing, or terracing to conserve soil and water; in the number and kind of livestock and

forage plants best suited to particular ranges; and in range and farm improvements, such as fencing and reservoirs for stock watering.

### Occupational Characteristics

Typical Entry Level Education	Bachelor's degree
Work Experience Required	None
Typical On-The-Job Training	None
Existing Workforce(% of individuals age 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment)	0%

- Foresters (19-1032):** Manage public and private forested lands for economic, recreational, and conservation purposes. May inventory the type, amount, and location of standing timber, appraise the timber's worth, negotiate the purchase, and draw up contracts for procurement. May determine how to conserve wildlife habitats, creek beds, water quality, and soil stability, and how best to comply with environmental regulations. May devise plans for planting and growing new trees, monitor trees for healthy growth, and determine optimal harvesting schedules.

### Occupational Characteristics

Typical Entry Level Education	Bachelor's degree
Work Experience Required	None
Typical On-The-Job Training	None
Existing Workforce(% of individuals age 25+ with an associate degree, certificate, or some postsecondary coursework as their highest level of education attainment)	0%

## State Level Analysis

Table 1 shows the number of job postings that list licenses and certifications which Conservation Scientists and Foresters may choose to earn, although they are not required. The most frequently requested certifications include CPR (14%), First Aid (13%), and Certified Arborist (7%), reflecting the field's emphasis on safety, environmental management, and field-based work.

While a wide range of certifications appear in job postings, most are listed in a small percentage of postings, indicating that certifications are generally not required for entry into the field, but may enhance employability for specific roles or work environments.

**Table 1. Educational Licenses or Certifications for Land Stewardship and Sustainability Occupations in California**

Licenses or Certifications	# of Job Postings	% of Total
Pesticide Applicator License	8	1%
Lifeguard Certification	6	<1%
Peace Officer Certification	4	<1%
Peace Officer Standards And Training (POST) Certificate	4	<1%
Drone Pilot Certificate	4	<1%

Licenses or Certifications	# of Job Postings	% of Total
Open Water Diver Certification	2	<1%
Commercial Pilot License	2	<1%
AAUS Scientific Diver Certification	1	<1%

"Job Posting Analytics." Mar. 2025 - Feb. 2026, Source: Lightcast 2026.1

Note: This table combines Conservation Scientists and Foresters.

Tables 2a and 2b show the educational levels listed on job postings for each occupation. For Conservation Scientists, 32% of job postings list a bachelor's degree, while a larger share (50%) list a high school diploma, reflecting a broader range of entry pathways. For Foresters, 65% of job postings list a bachelor's degree as the preferred level of education, indicating stronger alignment with baccalaureate-level training. Over a twelve-month period, approximately 46% to 48% of employers included an educational requirement or preference in their job postings, while the remainder did not.

Of those postings that did contain educational requirement information, Tables 2a and 2b show that wage levels increase with more education. For Conservation Scientists, wages rise from approximately \$25 per hour for associate degree holders to \$30 per hour for master's degree holders, with higher wages for doctoral-level candidates. Similarly, for Foresters, bachelor's degree holders earn approximately \$36 per hour, compared to lower wages for associate-level positions. This relationship highlights the value of pursuing a bachelor's degree, particularly in fields where advanced education is preferred but not always required for entry. This correlation underscores the economic benefits to students for continuing their education and supports the case for expanding bachelor's degree programs in Land Stewardship and Sustainability.

**Table 2a. Educational Level and Entry Level Wages for Conservation Scientists in California**

Education Level	# of Job Postings	% of Total	25% Hourly Advertised Wage
High school or GED	288	50%	\$21
Associate's degree	52	9%	\$25
Bachelor's degree	186	32%	\$24
Master's degree	38	7%	\$30
Ph.D. or professional degree	9	2%	\$41

"Job Posting Analytics." Mar. 2025 - Feb. 2026, Source: Lightcast 2026.1

Note: 54% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

**Table 2b. Educational Level and Entry Level Wages for Foresters in California**

Education Level	# of Job Postings	% of Total	25% Hourly Advertised Wage
High school or GED	34	17%	\$38
Associate's degree	28	14%	\$23
Bachelor's degree	128	65%	\$36
Master's degree	7	4%	\$38
Ph.D. or professional degree	1	1%	\$38

"Job Posting Analytics." Mar. 2025 - Feb. 2026, Source: Lightcast 2026.1

Note: 52% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Tables 3a and 3b indicate that most job postings require limited work experience. For Conservation Scientists, approximately 87% of postings require 0 to 3 years of experience, while for Foresters, 58% of postings require 2 to 6 years of experience. This suggests that the field offers accessible entry points for early-career workers, while still valuing applied experience. It reinforces the role of bachelor’s degree programs in preparing students with practical skills that support workforce entry and career advancement.

**Table 3a. Work Experience Requirement for Conservation Scientists in California**

Working Experience Required	Job Postings	% of Total
0 - 1 Years	212	57%
2 - 3 Years	111	30%
4 - 6 Years	29	8%
7 - 9 Years	7	2%
10+ Years	11	3%

“Job Posting Analytics.” Mar. 2025 - Feb. 2026, Source: Lightcast 2026.1

Note: 64% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

**Table 3b. Work Experience Requirement for Foresters in California**

Working Experience Required	Job Postings	% of Total
0 - 1 Years	14	13%
2 - 3 Years	49	45%
4 - 6 Years	28	26%
7 - 9 Years	4	4%
10+ Years	13	12%

“Job Posting Analytics.” Mar. 2025 - Feb. 2026, Source: Lightcast 2026.1

Note: 68% of records have been excluded because they do not include a degree level. As a result, the chart above may not be representative of the full sample.

Table 4 shows that employment in Land Stewardship and Sustainability occupations in California totaled 3,587 jobs in 2024 and is projected to grow by 11% over the next decade, indicating strong demand relative to average occupational growth. Growth is driven primarily by Conservation Scientists (12%), while Foresters are projected to grow by 7%. The field is expected to generate approximately 351 annual job openings statewide, driven by both new job creation and replacement demand. Entry-level wages range from \$29 to \$37 per hour, with median wages reaching \$38 to \$46 per hour, demonstrating competitive earning potential across occupations.

**Table 4. Employment Outlook for Natural Resources Occupations in California**

Occupation	2024 Jobs	2034 Jobs	10-yr Change	10-yr % Change	Annual Openings	Annual Replacement Rate	25% Hourly Earning	50% Hourly Wage
Conservation Scientists	2,515	2,817	301	12%	250	8%	\$29	\$38
Foresters	1,072	1,151	78	7%	101	8%	\$37	\$46
<b>Total</b>	<b>3,587</b>	<b>3,968</b>	<b>381</b>	<b>11%</b>	<b>351</b>	<b>8%</b>	<b>\$31</b>	<b>\$40</b>

Source: Lightcast 2026.1

## Regional Level Analysis

### Employment Historical Trend for Land Stewardship and Sustainability

Table 5 shows the number of professionals employed in Conservation Scientists and Foresters over the past decade at both the state and regional levels. In California, employment for Conservation Scientists increased from 1,613 jobs in 2014 to 2,515 jobs in 2024, representing a 56% increase, while the Bay Region experienced even stronger growth of 64%, increasing from 484 to 796 jobs. In contrast, employment for Foresters showed more modest growth statewide, increasing by 7%, while the Bay Region experienced a 41% decline, decreasing from 369 to 216 jobs over the same period.

**Table 5. Historical 10-Year Employment Trend for Natural Resources in the Bay Region vs. California**

SOC	Area	2014 Jobs	2024 Jobs	10-yr Change	10-yr% Change
19-1031	CA	1,613	2,515	902	56
19-1031	Bay	484	796	312	64
19-1032	CA	1,006	1,072	66	7
19-1032	Bay	369	216	-153	-41

Source: Lightcast 2026.1

Figure 1 illustrates the historical employment trend for Conservation Scientists at both the state and regional levels. It shows that the Bay Region experienced a growth pattern similar to the state from 2014 to 2024, with the region demonstrating a slightly higher growth rate overall. This reflects strong and increasing demand for Conservation Scientists in the Bay Region relative to statewide trends.

**Figure 1. Historical 10 Year to Year Present Change in Employment for Conservation Scientists in the Bay Region vs. California**

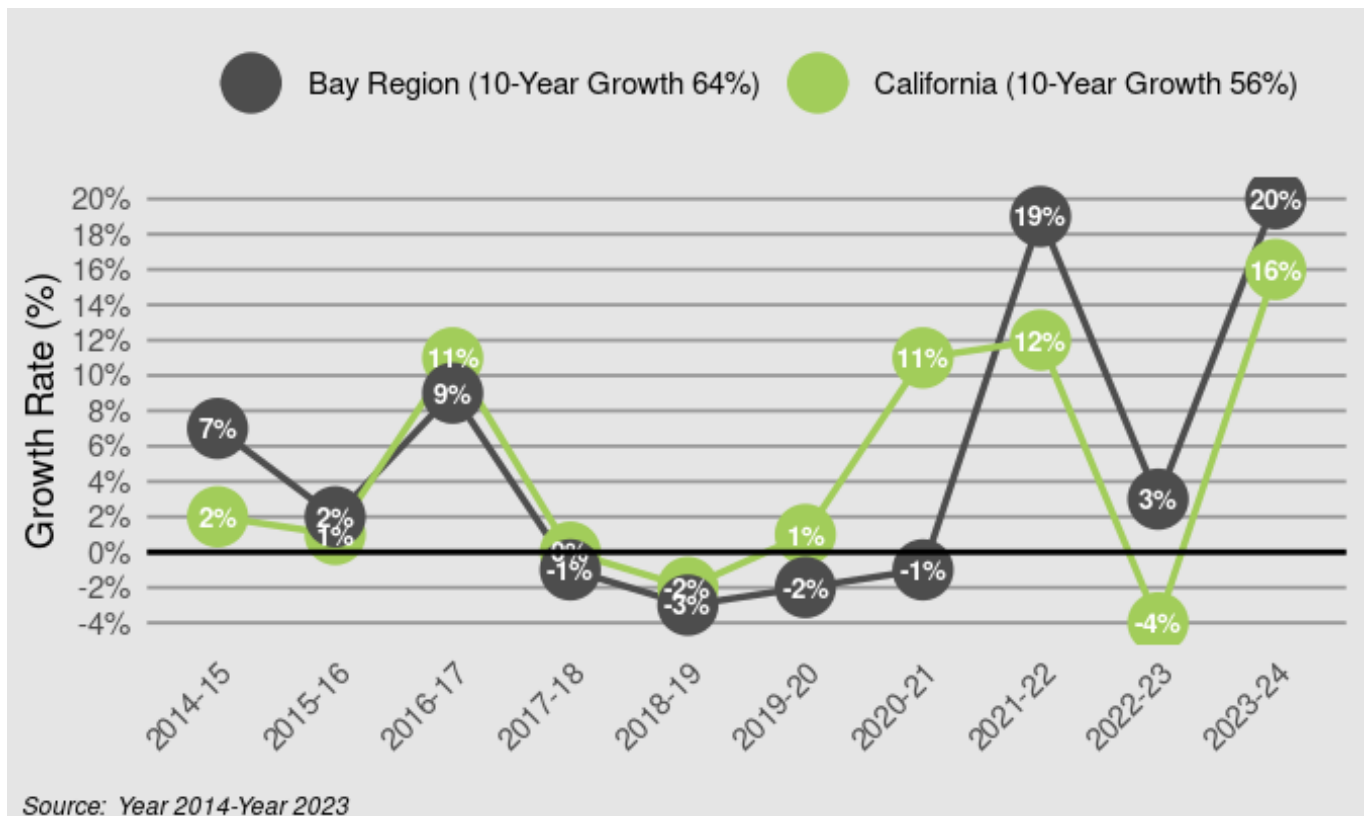
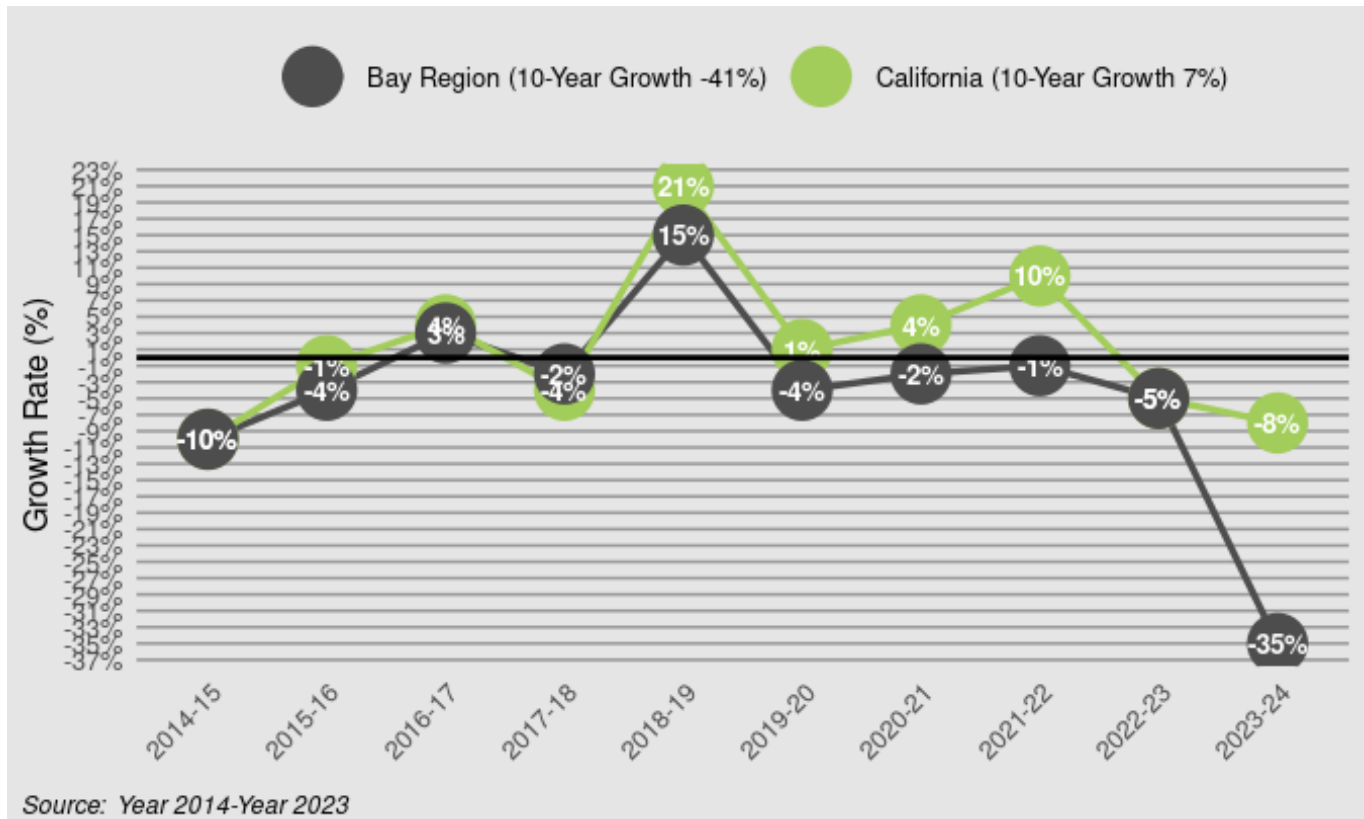


Figure 2 illustrates the historical employment trend for Foresters at both the state and regional levels. It shows that while statewide employment experienced modest growth over the past decade, the Bay Region followed a declining trend. This indicates that employment opportunities for Foresters are more limited and variable at the regional level compared to the state.

**Figure 2. Historical 10 Year to Year Present Change in Employment for Foresters in the Bay Region vs. California**



### Occupational Demand

Table 6 shows that the Bay Region employed 1,012 workers in 2024 across Land Stewardship and Sustainability occupations. Employment is projected to grow by 7% over the next decade, with approximately 93 annual job openings. Conservation Scientists account for the majority of employment, with 796 jobs and 74 annual openings, while Foresters account for 216 jobs and 19 annual openings. Entry-level wages average \$32 per hour, with median wages reaching \$42 per hour, indicating strong earning potential in the region.

**Table 6. Employment Outlook for Natural Resources Occupations in the Bay Region**

Occupation	2024 Jobs	2034 Jobs	10-yr Change	10-yr % Change	Annual Openings	Annual Replacement Rate	25% Hourly Earning	50% Hourly Wage
Conservation Scientists	796	856	60	7%	74	8%	\$32	\$42
Foresters	216	224	8	4%	19	8%	\$30	\$41
<b>Total</b>	<b>1,012</b>	<b>1,080</b>	<b>68</b>	<b>7%</b>	<b>93</b>	<b>8%</b>	<b>\$32</b>	<b>\$42</b>

Source: Lightcast 2026.1

The Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

## Educational Supply

There are two community colleges in the Bay Region which issue 7 associate awards on average annually (last 3 years ending 2021-23) on TOP 0115.00 - Natural Resources.

There is one four-year institution in the Bay Region issuing 98 bachelor's degrees on average annually (last 3 years ending 2020-22) on CIP 03.0101- Natural Resources/Conservation.

**Table 7a. Community College Awards on TOP 0115.00 - Natural Resources in the Bay Region**

College	Subregion	Associate Degree	Total
Santa Rosa	North Bay	1	1
West Valley	Silicon Valley	6	6
<b>Total</b>	<b>-</b>	<b>7</b>	<b>7</b>

Source: Data Mart

Note: The annual average for awards is 2021-22 to 2023-24.

**Table 7b. Bachelor's Degree Awards on CIP 03.0101- Natural Resources/Conservation, General in the Bay Region**

College	Subregion	Bachelor's degree	Total
University of California-Berkeley	East Bay	98	98
<b>Total</b>	<b>-</b>	<b>98</b>	<b>98</b>

Source: Data Mart

Note: The annual average for awards is 2020-21 to 2022-23.

## Gap Analysis

Based on the data included in this report, there is not a labor market shortage in the Bay Region, with approximately 93 annual openings for Land Stewardship and Sustainability occupations and 105 associate and bachelor annual (3-year average) awards. This results in an annual oversupply of approximately 12 students.

While overall supply slightly exceeds demand, the bachelor's degrees are concentrated at a single four-year institution, indicating limited access to this program within the region. Expanding access to a community college-based bachelor's degree program would help diversify educational pathways and better align training opportunities with workforce needs.

## Living Wage

The Self-Sufficiency Standard Calculator estimates the income needed to meet basic living costs in the Bay Region. Table 8 shows that entry-level wages for Land Stewardship and Sustainability occupations average \$32 per hour, while median wages reach \$42 per hour.

These wages exceed the regional living wage of \$27 per hour for a single adult, indicating that entry-level earnings are sufficient to meet basic living needs independently. Median wages also exceed the living wage for a single adult and approach the threshold needed to support individuals with teenagers, although they may not fully meet the living wage requirements for households with multiple dependents. However, wages increase with experience and higher levels of education, providing a pathway for workers to achieve greater financial stability over time. This reinforces the importance of bachelor's-level education in helping graduates access higher-paying roles and improve long-term earning potential.

**Table 8. Hourly Living Wage compared to Entry- and Mid-Level Wages for Land Stewardship and Sustainability in the Bay Region**

Earning Wage		Hourly Living Wage				
25% Hourly Wage	50% Hourly Wage	Adult Only	Adult + Infant	Adult + Preschool	Adult + School-age	Adult + teenage
\$32	\$42	\$27	\$56	\$53	\$45	\$36

Source: Lightcast 2026.1

Note. The Self-Sufficiency (SS) Standard for California (2024) Center for Women's Welfare, University of Washington. The data combines Conservation Scientists and Foresters.

## Methodology

The occupation for this report was identified by West Valley College. Labor demand data is sourced from Lightcast occupation and job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CCCCCO Data Mart.

## Sources

Data and information referenced in this report were compiled from the following public and proprietary sources:

- [Lightcast](#).
- California Community Colleges Chancellor's Office (CCCCO) [DataMart](#).
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System [([IPEDS](#))].
- U.S. Department of Labor, Employment and Training Administration, Occupational Information Network ([O\\*NET](#))
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington. [2024 California Dataset](#).

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