










Natural Resources and Conservation Occupations

Labor Market Analysis: San Diego County

June 2026

Summary

NEW PROGRAM RECOMMENDATION?	EVIDENCE OF A SUPPLY GAP?	AT OR ABOVE THE LIVING WAGE?	EXPECTED LEVEL(S) OF EDUCATION
 Proceed with Caution	 	 	<input type="checkbox"/> Doctorate Degree <input type="checkbox"/> Master's Degree <input checked="" type="checkbox"/> Bachelor's Degree <input checked="" type="checkbox"/> Associate Degree <input checked="" type="checkbox"/> Some College or Certificate <input checked="" type="checkbox"/> HS Diploma or Equivalent <input type="checkbox"/> Less Than a HS Diploma <input type="checkbox"/> Apprenticeship
SUPPORT FOR PROGRAM MODIFICATION?	NUMBER OF INSTITUTIONS THAT PROVIDE TRAINING	NUMBER OF ANNUAL JOB OPENINGS	
 	<p>HIGH</p> 	<p>LOW</p> 	

The San Diego & Imperial Center of Excellence (COE) developed this brief to assist the region’s community colleges with strategic planning and program development. *Natural Resources and Conservation Occupations* include “Conservation Scientists,” “Fire Inspectors and Investigators,” “Forest and Conservation Technicians,” “Forest and Conservation Workers,” and “Forest Fire Inspectors and Prevention Specialists.” According to available data, *Natural Resources and Conservation Occupations* in San Diego County have a labor market demand of 119 annual job openings (while average demand for a single occupation in San Diego County is 289 annual job openings), and 10 institutions supply 268 awards for these occupations suggesting that there is an oversupply in the labor market. On average, entry-level wages are above the living wage. This brief recommends proceeding with caution when developing a new program and supports a program modification because on average these occupations’ entry-level wages are above the living wage. However, there is a potential oversupply.

Introduction

This report provides labor market information in San Diego County for the following occupational codes in the Standard Occupational Classification (SOC)¹ system:

- **Conservation Scientists** (SOC 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.
- **Fire Inspectors and Investigators** (SOC 33-2021): Inspect buildings to detect fire hazards and enforce local ordinances and state laws, or investigate and gather facts to determine cause of fires and explosions.
- **Forest and Conservation Technicians** (SOC 19-4071): Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts under the direction of foresters, or train and lead forest workers in forest propagation and fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.
- **Forest and Conservation Workers** (SOC 45-4011): Under supervision, perform manual labor necessary to develop, maintain, or protect areas such as forests, forested areas, woodlands, wetlands, and rangelands through such activities as raising and transporting seedlings; combating insects, pests, and diseases harmful to plant life; and building structures to control water, erosion, and leaching of soil. Includes forester aides, seedling pullers, tree planters, and gatherers of nontimber forestry products such as pine straw.
- **Forest Fire Inspectors and Prevention Specialists** (SOC 33-2022): Enforce fire regulations, inspect forest for fire hazards, and recommend forest fire prevention or control measures. May report forest fires and weather conditions.

For the purpose of this report, these occupations are referred to as *Natural Resources and Conservation Occupations*.

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. <https://www.bls.gov/soc/>.

Projected Occupational Demand

Between 2024 and 2029, businesses in San Diego County will need to hire 119 employees annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example (Exhibit 1).

Most of this labor market demand comes from Forest and Conservation Technicians, which is projected to have the most annual job openings with 53 openings each year between 2024 and 2029.

Exhibit 1: Number of Jobs for Natural Resources and Conservation Occupations (2024-2029)²

Occupational Title	2024 Jobs	2029 Jobs	2024 - 2029 Net Jobs Change	2024 - 2029 % Net Jobs Change	Annual Job Openings (Demand)
Forest and Conservation Technicians	427	431	4	1%	53
Forest and Conservation Workers	122	115	-7	-6%	24
Conservation Scientists	173	181	8	5%	16
Forest Fire Inspectors and Prevention Specialists	141	150	9	6%	15
Fire Inspectors and Investigators	87	95	8	9%	10
Total	950	972	22	2%	119

Earnings

According to traditional³ labor market information (LMI), entry-level hourly earnings for *Natural Resources and Conservation Occupations* range from \$16.71 to \$40.11 (Exhibit 2).

Exhibit 2: Hourly Earnings for Natural Resources and Conservation Occupations in San Diego County⁴

Occupational Title	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Forest Fire Inspectors and Prevention Specialists	\$40.11	\$42.17	\$43.98
Fire Inspectors and Investigators	\$37.18	\$42.21	\$46.49
Conservation Scientists	\$31.32	\$38.27	\$48.17
Forest and Conservation Technicians	\$26.67	\$31.26	\$39.49
Forest and Conservation Workers	\$16.71	\$16.78	\$17.47

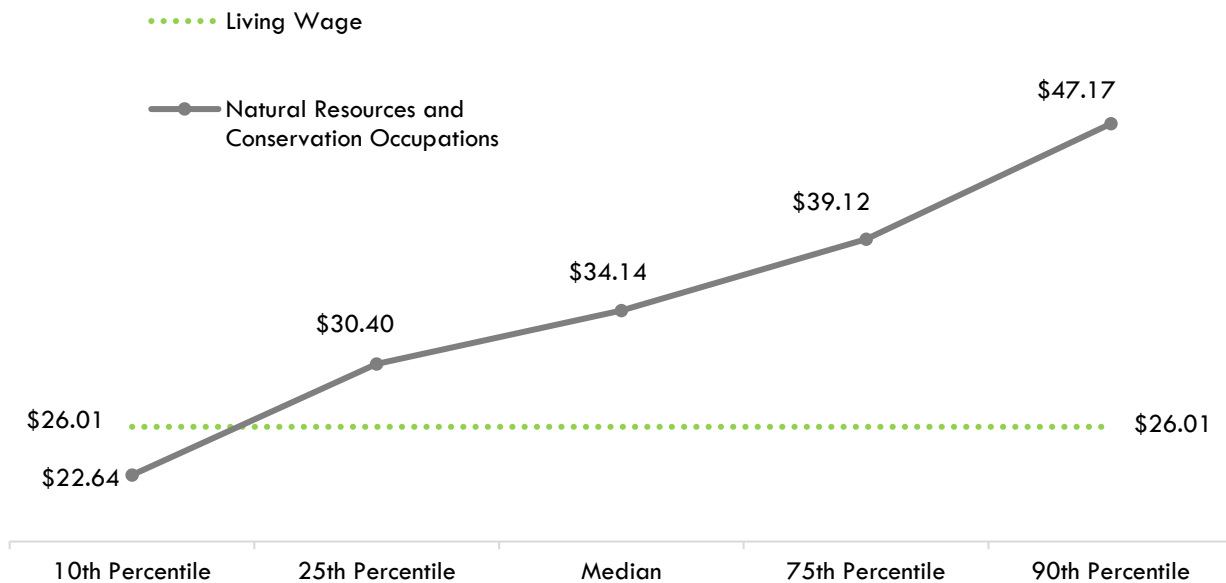
² Lightcast 2026.02; QCEW, Non-QCEW, Self-Employed.

³ Traditional LMI is generally historical data captured by the U.S. Bureau of Labor Statistics (BLS) or the California Employment Development Department (EDD). It does not account for recent technological, economic, or legislative changes that may affect labor market demand and wages.

⁴ Lightcast 2026.02; QCEW, Non-QCEW, Self-Employed.

On average, the entry-level hourly earnings for employed *Natural Resources and Conservation Occupations* are \$30.40—or \$63,232 annual salary⁵; this is more than the living wage for a single adult in San Diego County, which is \$26.01 per hour (Exhibit 3).⁶

Exhibit 3: Hourly Earnings⁷ for *Natural Resources and Conservation Occupations* in San Diego County⁸



⁵ Annualized salaries assume a full-time position with 2,080 hours. Multiplying the hourly wage with 2,080 yields the annual salary.

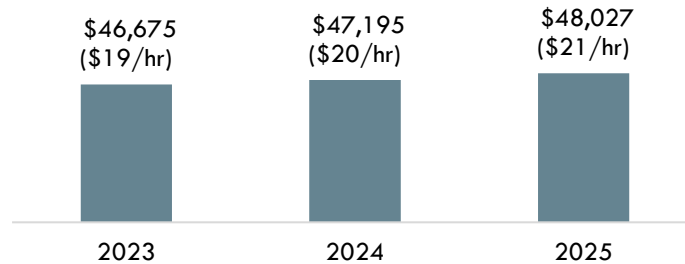
⁶ Center for Women's Welfare, University of Washington. (2024). The self-sufficiency standard for California 2024. selfsufficiencystandard.org/California.

⁷ 10th and 25th percentiles could be considered entry-level wages, and 75th and 90th percentiles could be considered experienced wages for individuals who may have been in the occupation longer, received more training than others, etc.

⁸ Lightcast 2026.02; QCEW, Non-QCEW, Self-Employed.

In online job postings, employers also advertised between \$19 to \$21 per hour between January 1, 2023 and December 31, 2025 for *Natural Resources and Conservation Occupations* in San Diego County (Exhibit 4).⁹ This suggests that employer-advertised wages in online job postings were below the entry-level wages reported in traditional labor market information and increased slightly over the period analyzed.

Exhibit 4: Entry-Level Advertised Salaries in Online Job Postings for *Natural Resources and Conservation Occupations* in San Diego County (2023-2025)



Expected Level of Education

According to traditional LMI (data reported to EDD and BLS), *Natural Resources and Conservation Occupations* have a national educational attainment ranging from a [high school diploma or equivalent](#) to a [bachelor's degree](#) (Exhibit 5).¹⁰

Exhibit 5: National Educational Attainment for *Natural Resources and Conservation Occupations*¹¹

Occupational Title	Typical Entry-Level Education
Conservation Scientists	Bachelor's degree
Forest and Conservation Technicians	Associate degree
Fire Inspectors and Investigators	Postsecondary non-degree award
Forest and Conservation Workers	High school diploma or equivalent
Forest Fire Inspectors and Prevention Specialists	High school diploma or equivalent

⁹ Lightcast 2026.02; "Job Posting Analytics." 2023-2025.

¹⁰ Lightcast 2026.02; QCEW, Non-QCEW, Self-Employed.

¹¹ Lightcast 2026.02; QCEW, Non-QCEW, Self-Employed.

Similarly, online job postings between January 1, 2023 and December 31, 2025 in San Diego County had a high school or GED as the most requested educational requirement for *Natural Resources and Conservation Occupations*; however, employers also expected the following certifications (Exhibit 6).¹²

Exhibit 6: Top Certifications for *Natural Resources and Conservation Occupations* in San Diego County in Online Job Postings (2023-2025)¹³

- | | |
|---|---|
| 1. CDL Class C License | 6. Firefighter I Certification |
| 2. Cardiopulmonary Resuscitation (CPR) Certification | 7. Emergency Medical Technician - Basic (EMT-B) |
| 3. First Aid Certification | 8. Emergency Medical Services (EMS) Certification |
| 4. Automated External Defibrillator (AED) Certification | 9. Certified Fire Inspector I |
| 5. Firefighter II Certification | 10. Certified Fire Inspector II |

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. There are eight TOP codes and 10 CIP codes related to *Natural Resources and Conservation Occupations* (Exhibit 7).

Exhibit 7: Related TOP and CIP Codes for *Natural Resources and Conservation Occupations*¹⁴

TOP or CIP Code	TOP or CIP Program Title
TOP 0114.00	Forestry
TOP 0115.00	Natural Resources
TOP 0115.20	Wildlife and Fisheries
TOP 0301.00	Environmental Science
TOP 0302.00	Environmental Studies
TOP 2133.00	Fire Technology
TOP 2133.10	Wildland Fire Technology
TOP 2206.00	Geography
CIP 03.0501	Forestry, General
CIP 03.0511	Forest Technology/Technician
CIP 03.0599	Forestry, Other

¹² Lightcast 2026.02; "Job Posting Analytics." 2023-2025.

¹³ Lightcast 2026.02; "Job Posting Analytics." 2023-2025.

¹⁴ This brief uses a conservative estimate of program supply and only calculates awards from the TOP code listed in Exhibit 7.

TOP or CIP Code	TOP or CIP Program Title
CIP 03.0101	Natural Resources/Conservation, General
CIP 03.0601	Wildlife, Fish and Wildlands Science and Management
CIP 03.0104	Environmental Science
CIP 30.4401	Geography and Environmental Studies
CIP 43.0201	Fire Prevention and Safety Technology/Technician
CIP 43.0205	Fire/Arson Investigation and Prevention
CIP 43.0206	Wildland/Forest Firefighting and Investigation

According to TOP data, seven community colleges supply the region with awards for these occupations: Grossmont College, MiraCosta College, Palomar College, San Diego City College, San Diego Mesa College, San Diego Miramar College, and Southwestern College. According to CIP data, three non-community-college institutions supply the region with awards: Point Loma Nazarene University, San Diego State University, and University of San Diego (Exhibit 8).

**Exhibit 8: Number of Awards (Certificates and Degrees) Conferred by Postsecondary Institutions
(Program Year 2021-22 Through Program Year 2024-25 Average)**

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY22-23 to PY24-25)	Other Educational Institutions 3-Yr Annual Average Awards (PY21-22 to PY23-24)	Total Average Supply (PY21-22 to PY24-25)
0302.00	Environmental Studies	18	0	18
	MiraCosta	3	0	
	• Certificate 30 < 60 units	3	0	
	Palomar	6	0	
	• Certificate 16 < 30 units	6	0	
	San Diego City	3	0	
	• Associate degree	3	0	
	San Diego Mesa	6	0	
	• Associate degree	6	0	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY22-23 to PY24-25)	Other Educational Institutions 3-Yr Annual Average Awards (PY21-22 to PY23-24)	Total Average Supply (PY21-22 to PY24-25)
2133.00	Fire Technology	153	0	153
	Palomar	107	0	
	• Associate degree	49	0	
	• Certificate 30 < 60 units	58	0	
	San Diego Miramar	39	0	
	• Associate degree	30	0	
	• Certificate 30 < 60 units	8	0	
	• Certificate 16 < 30 units	1	0	
	Southwestern	7	0	
	• Associate degree	6	0	
	• Certificate 30 < 60 units	1	0	
2206.00	Geography	17	0	17
	Grossmont	4	0	
	• Associate degree	4	0	
	Palomar	3	0	
	• Associate degree	3	0	
	San Diego City	2	0	
	• Associate degree	2	0	
	San Diego Mesa	5	0	
	• Associate degree	5	0	
	Southwestern	3	0	
	• Associate degree	3	0	
03.0104	Environmental Science	0	80	80
	Point Loma Nazarene University	0	4	
	• Bachelor's degree	0	4	
	San Diego State University	0	36	

TOP6 or CIP Code	TOP6 or CIP Program Title	3-Yr Annual Average CC Awards (PY22-23 to PY24-25)	Other Educational Institutions 3-Yr Annual Average Awards (PY21-22 to PY23-24)	Total Average Supply (PY21-22 to PY24-25)
	• Bachelor's degree	0	36	
	University of San Diego	0	40	
	• Bachelor's degree	0	40	
			Total	268

Demand vs. Supply

Comparing labor demand with labor supply¹⁵ suggests that there is an **oversupply** for these occupations in San Diego County, with **119** annual openings and **268** awards. Comparatively, there are **1,992** annual openings in California and **4,813** awards, suggesting that there is an **oversupply** across the state (Exhibit 9).¹⁶

Exhibit 9: Labor Demand (Annual Openings) Compared with Labor Supply (Average Annual Awards)

	Demand (Annual Openings)	Supply (Annual Awards)	Supply Gap or Oversupply
San Diego	119	268	-149
California	1,992	4,813	-2,821

Please note: This is a basic analysis of supply and demand of labor. The data does not include workers currently in the labor force who could fill these positions or workers who are not captured by publicly available data. This data should be used to discuss the potential gaps or oversupply of workers; however, it should not be the only basis for determining whether or not a program should be developed.

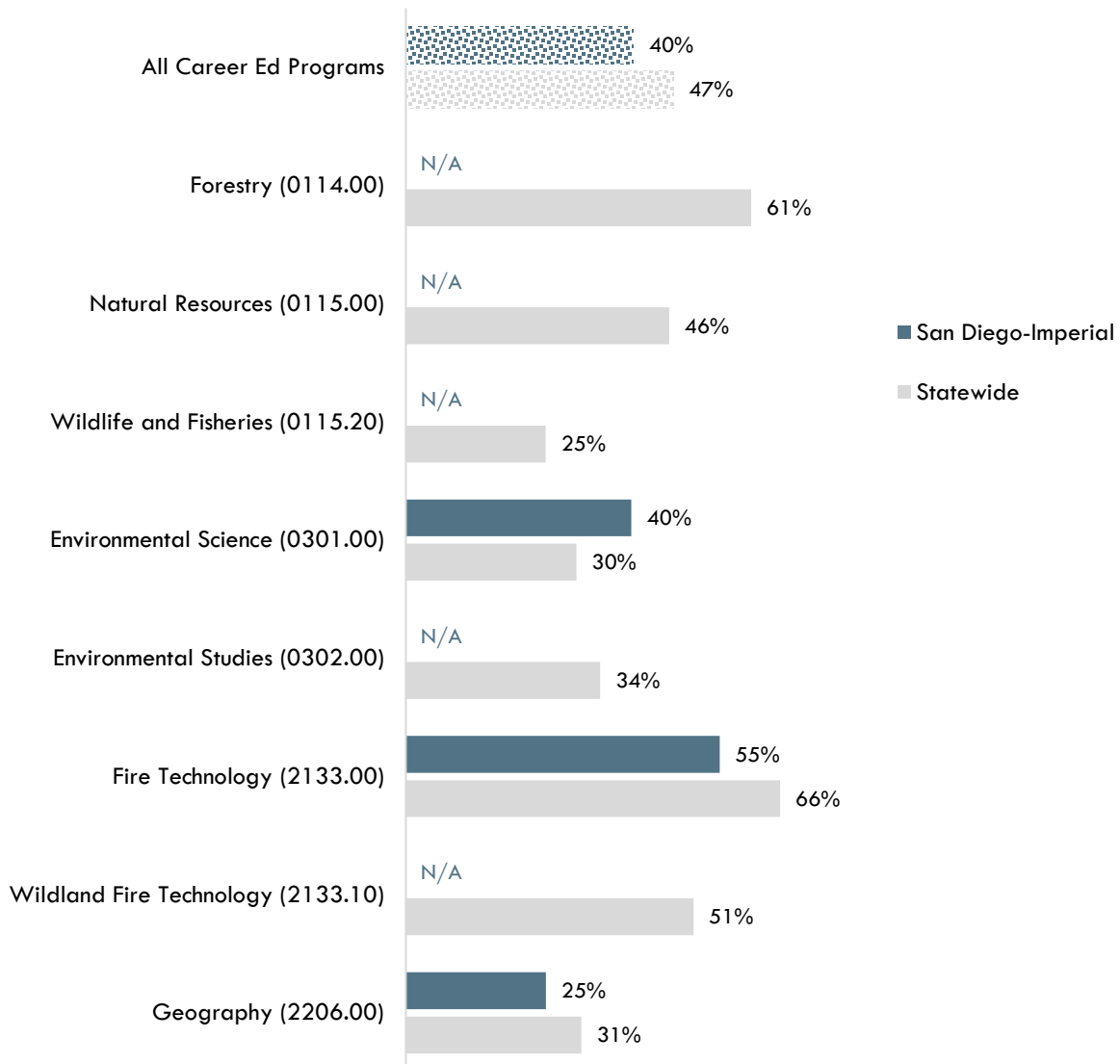
¹⁵ Labor supply can be found from two different sources: Lightcast or the California Community Colleges Chancellor's Office MIS Data Mart. Lightcast uses CIP codes while MIS uses TOP codes. Different coding systems result in differences in the supply numbers.

¹⁶ "Supply and Demand," Centers of Excellence Student Outcomes, coecc.net/our-resources.

Student Outcomes and Regional Comparisons

According to the California Community Colleges DataVista, 25 to 55% of students in the San Diego-Imperial region earned a living wage after completing a program related to *Natural Resources and Conservation Occupations*, compared to 25 to 66% statewide and 47% of students in Career Education programs in general across the state (Exhibit 10).¹⁷

Exhibit 10: Percentage of Students Who Earned a Living Wage by Program, PY2023-24¹⁸



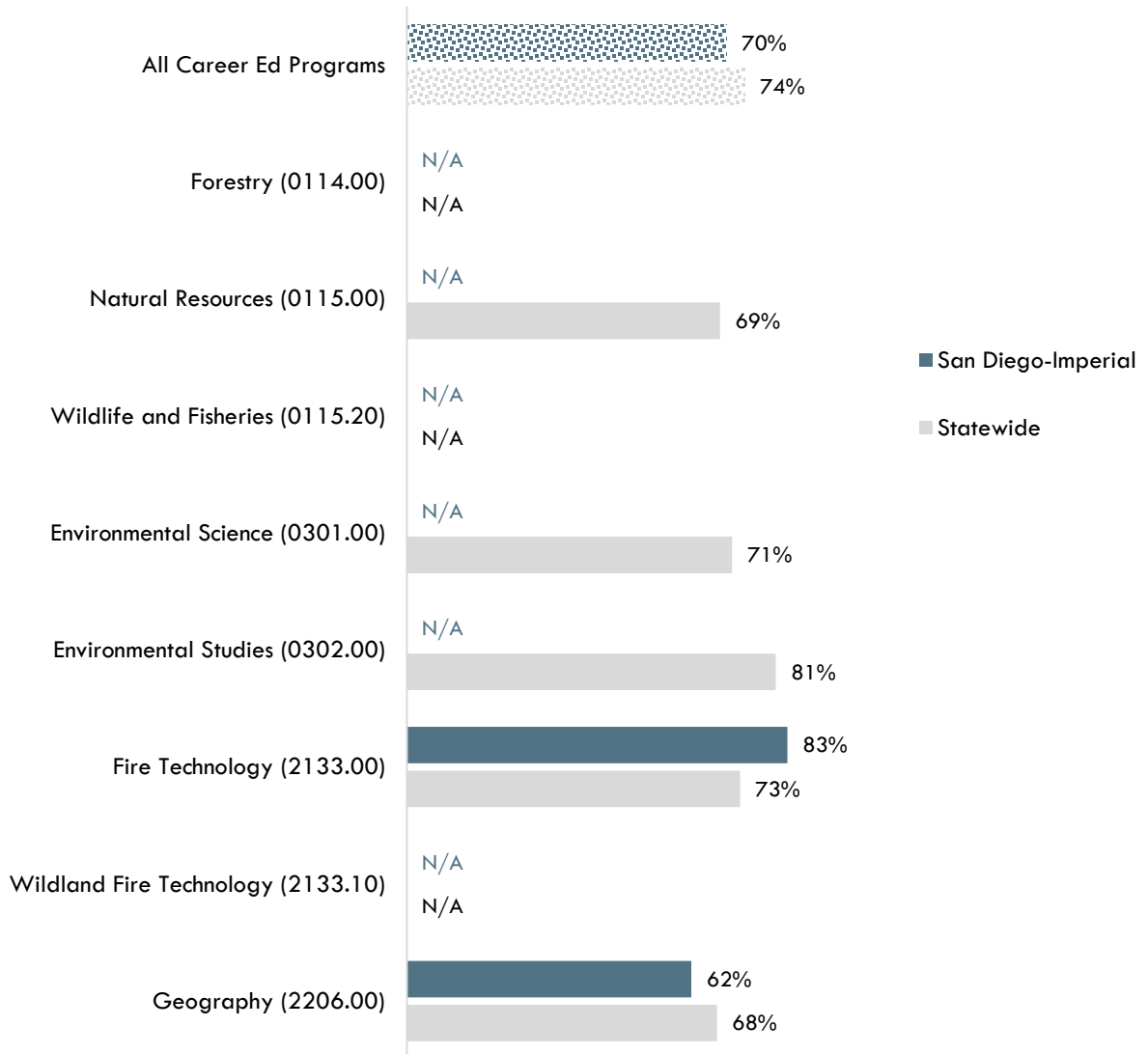
“N/A” indicates insufficient data

¹⁷ DataVista, California Community Colleges, datavista.cccco.edu/.

¹⁸ Most recent year with available data is Program Year 2023-24. Among completers and skills builders who exited, the percentage of students who attained a living wage.

According to the California Community Colleges DataVista, 62 to 83% of students in the San Diego-Imperial region obtained a job closely related to their field of study after completing a program related to *Natural Resources and Conservation Occupations*, compared to 68 to 81% statewide and 74% of students in Career Education programs in general across the state (Exhibit 11).¹⁹

Exhibit 11: Percentage of Students in a Job Closely Related to Field of Study by Program, PY2022-23²⁰



"N/A" indicates insufficient data

¹⁹ DataVista, California Community Colleges, datavista.cccco.edu/.

²⁰ Most recent year with available data is Program Year 2022-23. Percentage of Students in a Job Closely Related to Field of Study: Among students who responded to the CTEOS, the percentage reporting employment in the same or similar field as their program of study.

Employers

Between January 1, 2023 and December 31, 2025, the top employers in San Diego County for *Natural Resources and Conservation Occupations* included State of California, Department of Parks And Recreation, City of Escondido, County of San Diego, and Cosco Fire Protection based on online job postings (Exhibit 12).

Exhibit 12: Top Employers for *Natural Resources and Conservation Occupations* in San Diego County²¹

Top Employers	
<ul style="list-style-type: none"> State of California Department of Parks And Recreation City of Escondido County of San Diego Cosco Fire Protection 	<ul style="list-style-type: none"> Global Medical Response Johnson Controls City of Chula Vista City of San Marcos City of San Diego

Skills

Exhibit 13 lists the top specialized, soft, and software skills that appeared in online job postings between January 1, 2023 and December 31, 2025.

Exhibit 13: Top Skills for *Natural Resources and Conservation Occupations* in San Diego County²²

Specialized Skills	Soft Skills	Software Skills
<ul style="list-style-type: none"> Good Driving Record Fire Prevention Hand Tools Fire Alarm Systems Fire Suppression Systems Lifting Ability First Aid Forestry NFPA Construction Public Relations Biology Environmental Science Wildfire Suppression Firefighting 	<ul style="list-style-type: none"> Communication Customer Service Management Operations Writing English Language Leadership Planning Report Writing Presentations Positivity Research Troubleshooting Verbal Communication Skills Self-Starter 	<ul style="list-style-type: none"> N/A

²¹ Lightcast 2026.02; "Job Posting Analytics." 2023-2025.

²² Lightcast 2026.02; "Job Posting Analytics." 2023-2025.

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