** Law Enforcement Ranger**

**Related Occupations**

**Labor Market Information Report**

**Santa Rosa Junior College**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

February 2019

# Recommendation

Based on available data, there appears to be an undersupply of Law Enforcement Ranger related workers compared to the demand for this cluster of occupations in the Bay region and in the North Bay sub-region (Marin, Napa, Solano and Sonoma Counties). The annual gap is about 126 students annually in the Bay region and about 21 students annually in the North Bay Sub-Region. However, since Santa Rosa Junior College has the only Ranger Academy in the state, it seems reasonable to use the demand for the entire state for the cluster of occupations selected. The annual state-wide demand for these occupations is 673, which makes the estimate of undersupply even larger.

Santa Rosa Junior College (SRJC) is authorized by the U.S. Department of the Interior/National Park Service to issue this certificate. Individuals who complete the program and receive the certificate may obtain a commission authorizing employment as a Seasonal Law Enforcement Ranger for the U.S. Department of the Interior/National Park Service.

This report also provides student outcomes data on employment and earnings for programs on TOP 0115.10 - Parks and Outdoor Recreation in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Santa Rosa Junior College and in the region.

# Introduction

This report profiles Law Enforcement Ranger related occupations in the 12 county Bay region and in the North Bay sub-region for the review of an existing program at Santa Rosa Junior College. It should be noted that the Conservation Scientist and Forester occupations typically require a Bachelors degree for employment. Since students completing the Ranger Academy program will not have attained a Bachelors degree, they may not be qualified for these two occupations, although they will be qualified for the Seasonal Law Enforcement Ranger position for the U.S. Department of the Interior/National Park Service.

|  |
| --- |
| * **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. Excludes “Zoologists and Wildlife Biologists" (19-1023) and "Foresters" (19-1032). |
| *Entry-Level Educational Requirement: Bachelor's degree* |
| *Training Requirement: None* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 0%* |
|  |
| * **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, and tree planters. |
| *Entry-Level Educational Requirement: High school diploma or equivalent* |
| *Training Requirement: Moderate-term on-the-job training* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 35%* |
|  |
| * **Foresters (SOC 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. |
| *Entry-Level Educational Requirement: Bachelor's degree* |
| *Training Requirement: None* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 0%* |
|  |
| * **Fish and Game Wardens (SOC 33-3031):** Patrol assigned area to prevent fish and game law violations. Investigate reports of damage to crops or property by wildlife. Compile biological data. |
| *Entry-Level Educational Requirement: Bachelor's degree* |
| *Training Requirement: Moderate-term on-the-job training* |
| *Percentage of Community College Award Holders or Some Postsecondary Coursework: 41%* |

# Occupational Demand

**Table 1. Employment Outlook for Law Enforcement Ranger Related** **Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Conservation Scientists | 521 | 558 | 38 | 7% | 260 | 52 | $23.00 | $40.10 |
| Forest and Conservation Workers | 365 | 375 | 10 | 3% | 297 | 59 | $10.80 | $12.40 |
| Foresters | 96 | 101 | 5 | 5% | 47 | 9 | $25.50 | $38.90 |
| Fish and Game Wardens | 85 | 95 | 10 | 11% | 50 | 10 | $29.60 | $45.00 |
| **Total** | **1,067** | **1,130** | **63** | **6%** | **654** | **130** | **$22.22** | **$34.10** |

*Source: EMSI 2018.4*

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

**Table 2. Employment Outlook for Law Enforcement Ranger Related** **Occupations in North Bay Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2017 Jobs | 2022 Jobs | 5-Yr Change | 5-Yr % Change | 5-Yr Open-ings | Annual Open-ings | 10% Hourly Wage | Median Hourly Wage |
| Conservation Scientists | 91 | 98 | 7 | 7% | 46 | 9 | $20.20 | $33.40 |
| Forest and Conservation Workers | 56 | 58 | 2 | 4% | 47 | 9 | $10.70 | $13.40 |
| Foresters | 12 | 14 | 2 | 14% | 8 | 2 | $24.30 | $34.80 |
| Fish and Game Wardens | 23 | 27 | 4 | 17% | 15 | 3 | $26.30 | $49.40 |
| **TOTAL** | **182** | **197** | **15** | **8%** | **116** | **23** | **$20.38** | **$32.75** |

*Source: EMSI 2018.4*

**North Bay Sub-Region** includes Marin, Napa, Solano and Sonoma Counties

### Job Postings in Bay Region and North Bay Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Feb 2018 - Jan 2018)**

| Occupation | Bay Region | North Bay |
| --- | --- | --- |
| Foresters (19-1032.00) | 208 | 58 |
| Forest and Conservation Workers (45-4011.00) | 27 | 8 |
| Range Managers (19-1031.02) | 13 | 6 |
| Fish and Game Wardens (33-3031.00) | 4 | 1 |
| **Total** | **252** | **73** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Law Enforcement Ranger Related** **Occupations for latest 12 months (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Common Title | Bay | North Bay | Common Title | Bay | North Bay |
| Consulting Utility Forester | 116 | 25 | Consulting Utility Forester, Natural Resource Management | 3 |  |
| Forester | 21 | 15 | Energy Conservation Specialist | 3 | 1 |
| Growth | 9 |  | Forestry Outreach Specialist, Service | 3 |  |
| Consulting Utility Forester, Information And Technology Industry | 8 | 3 | Management Forester | 3 | 3 |
| Electric Project Forester | 7 |  | Seasonal Tree Lot | 3 |  |
| Resource Specialist | 7 | 1 | Transmission Forester | 3 |  |
| Deputy Regional Forester | 6 | 6 | 12 Noon At Proposed Wildlife Reserve | 2 |  |
| Consulting Forester | 5 | 25 | Conservation Corps - Americorps Member | 2 |  |
| Forest Ave | 4 |  | Forester III | 2 | 2 |
| Forester, Information And Technology Industry | 4 | 1 | Growth - Startup | 2 |  |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Law Enforcement Ranger Related** **Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2017) | Jobs in Industry (2022) | % Change (2017-22) | % in Industry (2017) |
| Local Government, Excluding Education and Hospitals (903999) | 312 | 314 | 5% | 23.9% |
| State Government, Excluding Education and Hospitals (902999) | 224 | 227 | 7% | 17.3% |
| Federal Government, Civilian, Excluding Postal Service (901199) | 194 | 191 | (2%) | 14.5% |
| Environment, Conservation and Wildlife Organizations (813312) | 72 | 74 | 22% | 5.6% |
| Colleges, Universities, and Professional Schools (State Government) (902612) | 55 | 56 | 2% | 4.2% |
| Support Activities for Forestry (115310) | 50 | 54 | 24% | 4.1% |
| Other Social Advocacy Organizations (813319) | 50 | 51 | 6% | 3.9% |
| Crop Production (111000) | 49 | 49 | (4%) | 3.7% |
| Human Rights Organizations (813311) | 33 | 37 | 24% | 2.8% |
| Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology) (541715) | 32 | 33 | (9%) | 2.5% |
| Administrative Management and General Management Consulting Services (541611) | 16 | 16 | 13% | 1.2% |
| Colleges, Universities, and Professional Schools (611310) | 15 | 15 | 0% | 1.1% |
| Other Scientific and Technical Consulting Services (541690) | 15 | 14 | (13%) | 1.1% |
| Temporary Help Services (561320) | 14 | 13 | 0% | 1.0% |
| Research and Development in Biotechnology (except Nanobiotechnology) (541714) | 12 | 13 | 33% | 1.0% |

*Source: EMSI 2019.1*

**Table 6. Top Employers Posting Law Enforcement Ranger Related** **Occupations in Bay Region and North Bay Sub-Region (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Employer | Bay | Employer | Bay | Employer | North Bay |
| Western Environmental Consultants, Llc 551 | 38 | Department Interior | 2 | State of California | 9 |
| Davey Resource Group | 25 | Golden Gate Audubon Society | 2 | Western Environmental Consultants, Llc 551 | 8 |
| Acrt Incorporated | 22 | Sfmta | 2 | Davey Resource Group | 5 |
| Davey Tree Expert Company | 21 | Upstart Network, Inc | 2 | Davey Tree Expert Company | 5 |
| Western Environmental Consultants, Llc | 12 | Acrt Pacific Llc | 1 | US Department of Agriculture | 5 |
| Utilities Service | 9 | Adventures In Writing Camp | 1 | Forest Service | 3 |
| state of california | 9 | Americorps | 1 | Utilities Service | 3 |
| Acrt Pacific | 6 | Bridgesmn | 1 | Western Environmental Consultants, Llc | 3 |
| Plaid | 5 | Brown Forman | 1 | Cn Utility Consulting | 2 |
| US Department of Agriculture | 5 | Ca Technology | 1 | Acrt Incorporated | 1 |
| American Conservation Experience Epic & Corps | 4 | Carbon 12 Labs, Inc | 1 | Acrt Pacific | 1 |
| Philz Coffee | 4 | Caulbridge School | 1 | Caulbridge School | 1 |
| Abc Tree Farms | 3 | City Berkeley | 1 | Department Army | 1 |
| Forest Service | 3 | City Fremont | 1 | Department Interior | 1 |
| Our City Forest | 3 | City Santa Clara | 1 | Instacart | 1 |
| Cn Utility Consulting | 2 | City and County of San Francisco | 1 | Mobilizegreen | 1 |

*Source: Burning Glass*

# Educational Supply

There are three colleges in the Bay Region issuing 4 awards on average annually on TOP 0115.10 - Parks and Outdoor Recreation. SRJC is the only college in the North Bay Sub-Region issuing awards on this TOP code, issuing 2 awards on average annually.

**Table 7. Awards on TOP 0115.10 - Parks and Outdoor Recreation in the Bay Region**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| College | Sub-Region |  | Headcount | Associates | Certificates | Total |
| **Monterey** | Santa Cruz - Monterey | 0115.10 | 67 |  |  |  |
| **Santa Rosa** | North Bay | 0115.10 | 46 | 2 |  | 2 |
| **West Valley** | Silicon Valley | 0115.10 | 167 | 1 | 1 | 2 |
| **Total Bay Region** | |  | **280** | **3** | **1** | **4** |
| **Total North Bay Sub-Region** | |  | **46** | **2** | **0** | **2** |

# *Source: IPEDS, Data Mart and Launchboard*

NOTE: Headcount of students who took one or more courses is for 2016-17. The annual average for awards is 2014-17 unless there are only awards in 2016-17. The annual average for other postsecondary is for 2013-16.

# Gap Analysis

Based on the data included in this report, there is a labor market gap in the Bay region with 130 annual average openings for the Law Enforcement Ranger related occupational cluster and 4 annual awards for an annual undersupply of 126. In the North Bay Sub-Region, there is also a gap with 23 annual openings and 2 annual awards for an annual undersupply of 21. However, since Santa Rosa Junior College has the only Ranger Academy in the state, it seems reasonable to use the demand for the entire state for the cluster of occupations selected. The annual state-wide demand for these occupations is 673, which makes the estimate of undersupply even larger.

# Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0115.10 - Parks and Outdoor Recreation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 2015-16 | Bay  (All CTE Programs) | Santa Rosa Junior College (All CTE Programs) | State (TOP 0115.10) | Bay  (TOP 0115.10) | North Bay (TOP 0115.10) | Santa Rosa Junior College (TOP 0115.10) |
| % Employed Four Quarters After Exit | 74% | 76% | 54% | 64% | n/a | n/a |
| Median Quarterly Earnings Two Quarters After Exit | $10,550 | $20,775 | $41,028 | $37,257 | n/a | n/a |
| Median % Change in Earnings | 46% | 50% | 28% | 31% | n/a | n/a |
| % of Students Earning a Living Wage | 63% | 62% | 71% | 57% | n/a | n/a |

*Source: Launchboard Pipeline (version available on 2/6/19)*

# Skills, Certifications and Education

**Table 9. Top Skills for Law Enforcement Ranger Related** **Occupations in Bay Region (Feb 2018 - Jan 2018)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Skill | Postings | Skill | Postings | Skill | Postings |
| Environmental Science | 104 | Resource Management | 11 | Cardiopulmonary Resuscitation (CPR) | 6 |
| Data Entry | 41 | Telecommunications | 10 | Cooking | 6 |
| Environmental Consulting | 38 | Budgeting | 9 | Active Server Pages (ASP) | 5 |
| Biology | 32 | Performance Appraisals | 9 | Ecological Restoration | 5 |
| Environmental Studies | 31 | Personnel Management | 9 | Masonry | 5 |
| Natural Resource Management | 26 | Public Health and Safety | 9 | Performance Analysis | 5 |
| Fire Protection | 20 | Data Collection | 8 | Personal Protective Equipment (PPE) | 5 |
| Natural Resources | 17 | Facebook | 8 | Account Management | 4 |
| Land Management | 15 | Scheduling | 8 | Adobe Creative Suite | 4 |
| Occupational Health and Safety | 15 | ArcGIS | 7 | Adobe Indesign | 4 |
| Self-Contained Breathing Apparatus (SCBA) | 15 | Customer Contact | 7 | Adobe Photoshop | 4 |
| Project Management | 12 | Customer Service | 7 | Annuities | 4 |
| Adobe Acrobat | 11 | Quality Assurance and Control | 7 | Appointment Setting | 4 |

*Source: Burning Glass*

**Table 10. Certifications for Law Enforcement Ranger Related** **Occupations in the Bay Region (Feb 2018 - Jan 2018)**

Note: 60% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

|  |  |  |  |
| --- | --- | --- | --- |
| Certification | Postings | Certification | Postings |
| Driver's License | 142 | Phlebotomy Certification | 3 |
| Certified Arborist | 19 | First Aid Cpr Aed | 2 |
| Applicators License | 8 | Investment Advisor | 1 |
| Security Clearance | 5 |  |  |

*Source: Burning Glass*

**Table 11. Education Requirements for Law Enforcement Ranger Related** **Occupations in Bay Region**

Note: 41% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |
| --- | --- |
| Education (minimum advertised) | Latest 12 Mos. Postings |
| High school or vocational training | 20 (14%) |
| Associate Degree | 65 (44%) |
| Bachelor’s Degree or Higher | 63 (42%) |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

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