Strong Workforce Program

Agriculture & Natural Resources

Regional Advisory Meeting Proceedings

November 5, 2021

Virtual - Zoom

Introduction

The Los Rios Community College District, in partnership with Valley Vision, and in collaboration with Sierra College and Yuba Community College District, invests Strong Workforce funding to organize and convene Regional Advisories. The objectives of the Regional Advisories are to build strong relationships between employers, educators, and workforce that:

- Provide timely information on skills gaps and workforce needs, informing partners on major industry trend information;
- Improve the efficiency of the advisory process for educators and employers;
- Reflect a regional view of workforce needs and assets;
- Provide opportunities for more systemic, ongoing engagement that includes workforce partners in key industry sectors.

Regional Advisory meetings help inform decisions on needed investments and enhancements for Career Education (CE) programs to help fill the growing demand for middle-skill positions. This meeting proceedings report includes key findings, best practices, and minutes from the Fall 2021 Remote Work Regional Advisory meeting focused specifically on the effects of the nationwide shift to working from home on occupations across multiple sectors.

Valley Vision supports a robust talent pipeline through our multiple 21st Century Workforce initiatives. We prepare our regional workforce for the future by addressing skills gaps, advancing research, aligning efforts, and strengthening systems. Valley Vision's workforce efforts are supported by the Sacramento Employment and Training Agency (SETA), Golden Sierra Workforce Development Board (WDB), North Central Counties Consortium, Yolo WDB, City of Sacramento, local community college districts, and others.

The Strong Workforce Program provides Career Education opportunities to increase social mobility and fuel regional economies with skilled workers.

Key Findings

- Aquifer levels, on average, have been dropping approximately one foot every year. To address the loss of 20 feet of aquifer resources, horticulture and urban agriculture circles must integrate new and innovative ways to farm sustainably. Programs such as the CRC Horticulture Program aims to equip students with the field-specific skills they need to devise responsible and efficient uses of water. Furthermore, higher education programs akin to this can provide potential water management employees with industry-valued certifications. Environmental technology should aim to not only conserve water, but also make the best use of the water one has access to.

- Careers in water management are diverse in experience and education requirements. Potential applicants for careers in water management have a variety of opportunities regardless of education and/or experience level. Occupations such as hydraulic technicians, environmental science technicians, and environmental engineering technologists only require an Associate's degree for eligibility. Meanwhile, hydrologists, environmental scientists/specialists, and conservation scientists require a Bachelor's degree. Additionally, there is potential for upwards mobility if an applicant has prior work experience—natural science managers, on average, require a Bachelor's degree and approximately five years of experience.

- Water management occupations are expected to grow 5% between 2019 and 2024. Research conducted by the Centers of Excellence shows that career opportunities in water management are estimated to increase by 455 openings by 2024. This indication of growth has the potential to be bigger than anticipated as the demand for water-conscious technology expands. Promoting training opportunities and creating more higher education programs can prepare the field's future workforce for success.

- Highly-specialized technical backgrounds are not necessary to succeed in the water management field. Employers are looking for candidates from all educational paths in order to increase the diversity of opinions and ideas offered. Unique skill sets are additive to the technical skills that are often associated with these careers. For example, geographic information system mapping (GIS) and remote sensing skills are more effective when paired with soft skills such as teamwork and problem-solving. Creativity is a must when devising new ways to conserve water, and the ability to communicate this information to a larger audience is invaluable in this ever-changing space.

Meeting Proceedings

Welcome & Overview

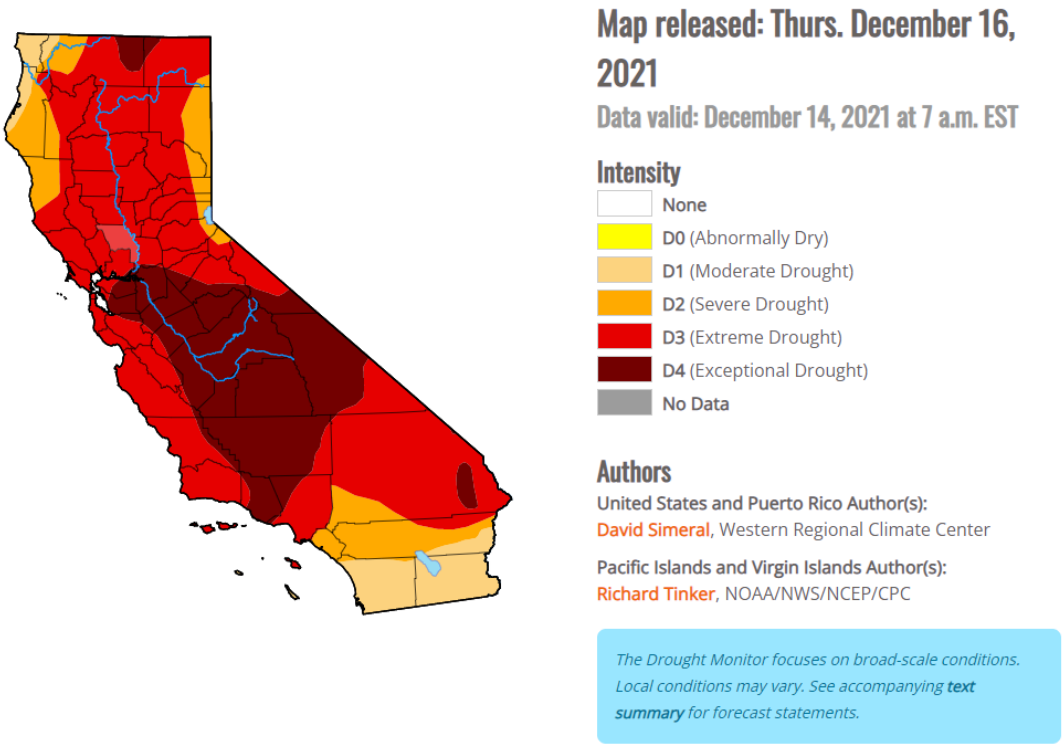
This regional advisory took place virtually with the intent of bringing industry partners together to discuss water conservation and its effects on local agriculture. Renee John, Project Leader over 21st Century Workforce at Valley Vision, began the meeting and introduced co-host Carrie Peterson, the Regional Director of Agriculture, Water, and Environmental Technology, who helped to plan this advisory. Peterson explained how ongoing droughts in California have severely impacted the agriculture space, and conveyed that this advisory may help address issues that have withstood the test of time in regards to water usage and innovative conservation techniques.

California Water History, Drought, and Student Certifications

Jim Rumsey, Adjunct Agriculture Professor with Woodland Community College and Dave Andrews, Professor of Horticulture with Cosumnes River College, presented information on the drought in California, the state's history with water, and related student certifications.

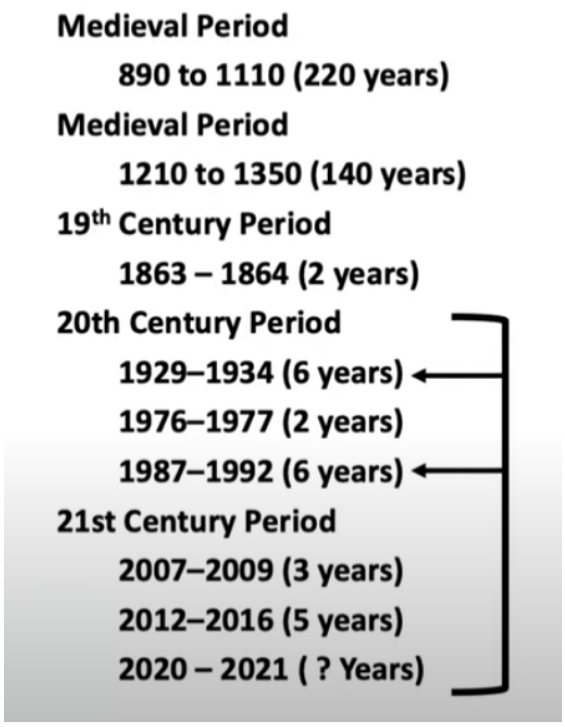
Rumsey began this segment by providing a brief explanation of the history of water and droughts in California. According to Rumsey, the "Era of Conflict", first appearing around 1970, marked the emergence of many important questions that are still prevalent today. Issues such as water reliability, water quality, and environmental restoration/protection were bolstered to the forefront of legislation and further improvements to water conservation technology.

Figure 1. United States Drought Monitor Map



Rumsey referenced Figure 1 (above) while defining a drought as a “shortage of water for a particular purpose at a specific location over a period of time”. In California, agriculture is often the main “purpose” for this severe lack of water resources. Another important trend he highlighted was the increase in frequency and length of California drought periods, as shown in Figure 2 below.

Figure 2. Notable Drought Periods in California



Rumsey observed that western water systems, constructed using the six-year drought design assumption, are not equipped to handle long periods of drought as seen during the medieval period.

Andrews continued this segment by stressing the importance of proper preparation through education. He introduced the Cosumnes River College Horticulture Program, which was designed to give aspiring agriculture students the background and skill set necessary to implement methods that promote water sustainability and efficiency. To address the historical statewide aquifer level drops, Andrews explained that all sixteen of the CRC’s Horticulture Program have integrated lessons that develop their students’ understanding of water conservation. The other goal of this program is to encourage individuals to pursue industry-approved certifications that prove their competence in water conservation, especially in an age where water usage goes hand in hand with urban horticulture. Some examples of these integrations include the Model Water Efficient Landscape Ordinance (MWELO), the CalGreen Building Code, DWR Outdoor Water Use Standards, and Urban Retail Water Agency Objectives.

Labor Market Overview

This section was led by Aaron Wilcher, Research Director at the North Far North Centers of Excellence. The Centers of Excellence is a project of the California Community Colleges' Economic and Workforce Development Division, providing research and technical assistance to the community colleges and other partners. The data presented in this segment was collected via a tool called Burning Glass, which utilizes algorithms to identify keywords in job postings across several online job boards.

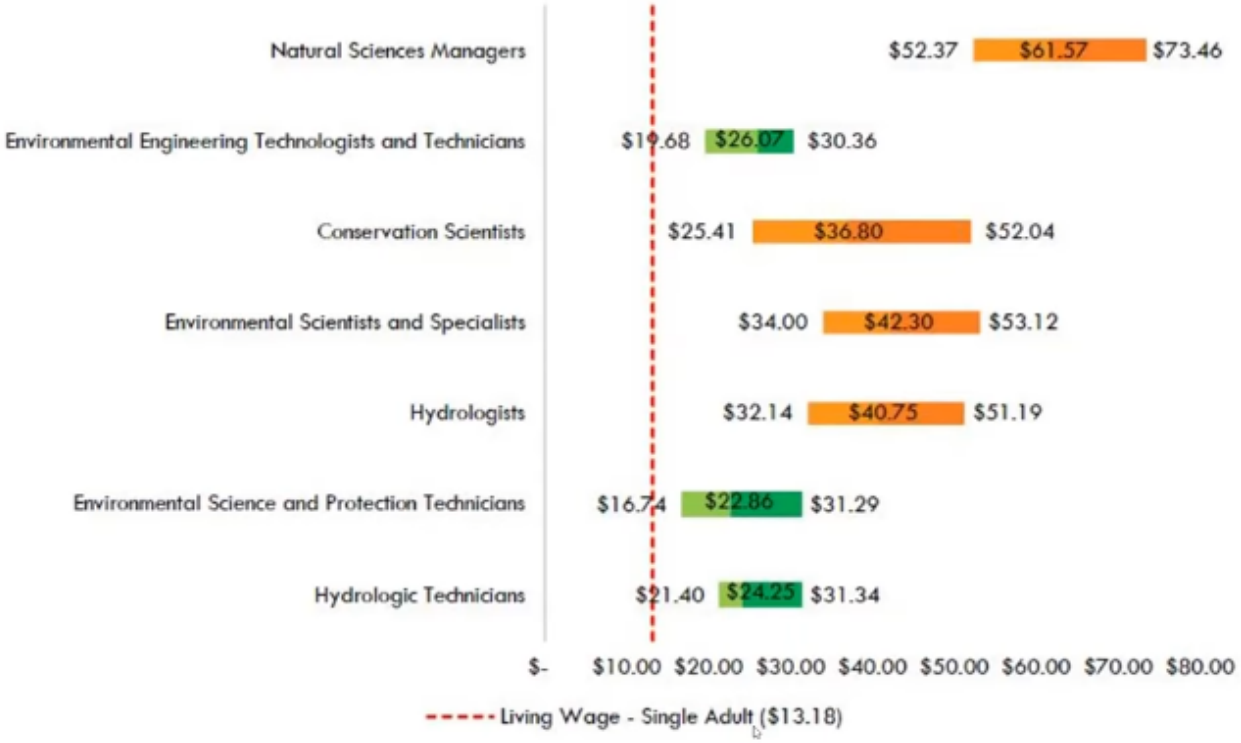
Figure 3 (below) shows the growth of water management occupations within the Greater Sacramento area between the time span of 2019-2024. Wilcher explained that although the numbers may seem a bit small at a first glance, the 5% indicated growth (455 additional openings) by 2024 shows the potential for a larger demand for water conservation jobs. This, coupled with the state's history of periodic droughts, all point towards upward mobility in this space.

Figure 3. Water Management Occupations, Greater Sacramento 2019-2024

Occupation	2019 Jobs	2024 Jobs	2019-2024 Projected Change	2019-2024 Projected % Change	2019-2024 Average Annual Job Openings
Natural Science Mangers*	537	558	21	4%	38
Environmental Engineering Technologists and Technicians	159	172	13	8%	16
Conservation Scientists	285	296	11	4%	27
Environmental Scientists and Specialists, Including Health**	2,957	3,036	79	3%	276
Hydrologists	179	182	3	2%	17
Environmental Science and Protection Technicians, Including Health	587	612	25	4%	71
Hydrologic Technicians	104	109	5	5%	10
North (Greater Sacramento)	**4,4808**	**4,965**	**157**	**3%**	**455**

Notes: * includes water resource specialists, ** includes environmental restoration planners

Figure 4. Water Management Wages, Greater Sacramento 2019



Wilcher then presented Figure 4, which represents the wage trends of water management occupations in 2019. The red dotted line represents a living wage in California for a single adult (approximately $13.18). The color blocks denote a difference between "entry-level" (lighter color) versus "experienced" (darker color) wages. This graph shows that water management occupations are more than viable in terms of income stability, and this statistic can be promoted further in order to motivate others to look into potential careers within the industry.

<u>Panel Discussion</u>

- **Tim Johnson -** *California Rice Commission, President & CEO*
- **Meghan Hertel -** *Audubon California, Director of Land and Water Conservation*
- **Todd Manley -** *Northern California Water Association, Director of Government Relations*



Importance of Water Conservation

The panelists agreed that water conservation is only becoming more and more important every year, and discussed how farmers who grow water-dependent crops like rice must implement water conservation techniques to accommodate the periodic droughts that occur statewide. There is no evidence that shows a decrease in the need for water management, thus this field only has the potential for growth from here. Panelists expressed hope for further collaboration between agriculture entities and pipeline programs as there hasn't been much dialogue in the past. Further, employers noted there are many growing opportunities in this field, but without collaboration between current programs and community colleges, these future jobs will not be filled.

Accessibility of Careers in Water

Water management careers are open to everyone, regardless of prior field experience or specific interest, according to the employer panel. Those who are interested in pursuing a career in agriculture and water management do not need to spend an astronomical amount of time and money on education. From highly technical to highly administrative, there are jobs within this space for everyone. Responsibilities can range from analyzing local policies and their impact on farmers to utilizing remote sensing to map out how much water an area can afford to use. Community colleges and employers in the AgWET field should partner to properly showcase the wide breadth of occupations that are available.

Changes within Jobs & Skill Sets

The employer panel discussed how current in-demand jobs are on a major pivot from past positions. There are some fields that do require highly-specialized education, i.e. agronomists for pest control and remote sensing capabilities. Further, employers are looking at individuals from a wide spectrum of degrees and backgrounds. Applicants do not need to come in with an established pillar of knowledge concerning agriculture and agronomics—often, less common degrees such as policy, biology, and communications can offer a new perspective to issues that have been prevalent in the water conservation space for years. Institutes of higher education and agriculture employers should consider widening their talent acquisition reach in order to attract people who can provide innovative solutions.

Conclusion

To close out the presentation, attendees were encouraged to reach out to their fellow attendants and Regional Directors for Employer Engagement in the North/Far North region for opportunities to connect in the future.

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