

NATURAL RESOURCES CAREERS IN HAWAI'I

DECEMBER 2023





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EXECUTIVE SUMMARY

Hawaii's Natural Resources (NR) workforce comprises jobs in diverse content areas, from oceans to forests, lab work to field work, research to management, and culture to community. This local workforce has grown substantially in recent years. In 2019, there were at least 4,697 Natural Resources Management jobs in Hawaii, a 33% increase from 2014.¹ With a recent increased focus on local resilience as highlighted by the COVID-19 pandemic and the growing impacts of climate change, Hawaii's natural resources workforce demand will likely continue to increase. This report seeks to inform future NR workforce development efforts by clarifying the current landscape of job opportunities and their key qualifications, as well as providing career insights from local NR professionals.

This report is based on the analysis of two data sources:

- i. A snapshot analysis of NR job postings in Hawaii
- ii. An industry survey of NR professionals in Hawaii

Kupu conducted an initial snapshot analysis of labor market data in the sector in 2021. SMS Research replicated this analysis in 2023 to collect the updated data presented in this report. Labor market data trends were fairly consistent between the 2021 and 2023 analyses. The 2023 snapshot analysis of labor market data showed that NR jobs were available throughout the state, with more than half of opportunities based on the island of O'ahu. The majority of postings were for full-time positions. Nearly half of job postings did not provide a salary range, which highlights a need for greater transparency around pay in the sector. More than half of jobs required a bachelor's degree, and many preferred candidates to have a master's degree. More than half of job postings also required candidates to have 1-3+ years of relevant experience. Job postings often required candidates to possess certain technical skillsets, including data collection and analysis, as well as professional skillsets like communication and teamwork. Additionally, candidates were commonly required to have background knowledge of NR-related topics, such as relevant government regulations and policies.

In addition to the analysis of NR job postings, the industry survey of local NR professionals administered by Kupu in 2022 allowed for a deeper understanding of career journeys in the sector, including what motivated respondents to pursue an NR career, what helped them get to where they are today, and barriers they faced along the way. Many respondents were highly motivated to pursue a career in NR by their Aloha 'Āina mindset, or a personal relationship with and responsibility to help Hawaii's environment, as well as various social connections and activities that gave them early exposure to the field. Most respondents said that their level of education was the most influential factor leading to success in securing a career in NR. Many reported facing financial barriers due to the high cost of living in Hawaii relative to their pay.

The industry survey results also highlighted opportunities to strengthen workforce development efforts in Hawaii's NR sector. Respondents' top recommendations for NR workforce development with local schools included integrating 'āina-based education into curriculum and providing meaningful work-based learning opportunities to students. As far as local candidates' strengths and areas for improvement, respondents perceived local candidates to be passionate and driven, skilled at fieldwork, and knowledgeable in Native Hawaiian culture, but lacking in

¹ UHERO Report. (2019). Characterizing Hawaii's Natural Resources Management Sector: Jobs, Education, Salaries, and Expenditures.



other areas such as development/fundraising, administrative, and policy/advocacy knowledge and skills.

Finally, when industry respondents were asked how often their organization receives applications from and hires local candidates, responses varied widely by organization type (post-secondary education, federal, state, or non-governmental). This may indicate that local candidates' awareness of and access to job opportunities is inconsistent across organization types in the sector.

The findings of this report will allow for a deeper understanding of Hawai'i's NR sector. The goal is that employers, educators, government officials, and community partners in the sector can utilize this report to guide their workforce development strategies and identify opportunities for collective action.

INTRODUCTION

This Natural Resources Careers in Hawai'i report is a summary of work conducted over the past two years to better understand natural resources career opportunities in Hawai'i and is part of a broader effort to support and develop Hawai'i's local natural resources workforce.

In 2021, Kupu conducted an initial snapshot analysis of natural resources jobs in Hawai'i and in early 2022 surveyed local NR professionals on their career experiences. Kupu and SMS Research analyzed this data to identify key challenges and sector needs, laying the foundation for what has become the Natural Resources Sector Partnership (NRSP), a collaborative effort between educators and industry to improve systems and better prepare and inspire Hawai'i's students to meet the current and future demands of natural resources professions in Hawai'i.

The NRSP launched in October of 2022 and established working groups focused on three priority needs in the sector: Career Awareness; Connecting Students to 'Āina and Community; and College and Career Preparation, Access, and Transitions. These workgroups, their goals, and their key initiatives were largely informed by the 2021 labor market and 2022 survey data, and were established to ensure alignment with workforce needs in the sector. The NRSP workgroups have already begun to collectively make progress addressing many of the workforce needs and challenges identified in this report. In turn, insights from the NRSP have also been key to contextualizing and interpreting the data in this report.

In July of 2023, SMS Research replicated Kupu's 2021 snapshot analysis of NR job postings to collect updated labor market data to produce this formal report. Ongoing data tracking is essential to keeping up with the sector's evolving demands and guiding the NRSP's work. The next iteration of this report is planned for 2025 and will include a comparison of three biennial snapshot analyses from 2021 to 2025.

Ultimately, this report aims to provide the foundational data required to support the sector in cultivating a homegrown natural resources workforce in Hawai'i, leveraging current labor market data and industry knowledge to inform effective workforce development strategies and initiatives that address the sector's unique needs.

LABOR MARKET DATA

This section of the report is derived from 2023 labor market data on NR job postings throughout the state. It aims to provide insight on the types of NR job opportunities available in Hawai'i, as well as common qualifications for these jobs.

METHODS

Between April 22 and May 5 of 2021, Kupu conducted an initial audit of NR job opportunities available throughout the state of Hawai'i, with any active job postings considered. This limited scope was due to the tendency for most job boards to maintain listings for no longer than a month from the original time of posting, with some only keeping postings for up to two weeks. Another caveat that was considered was if a posting had more than one vacancy listed for a position. If this was the case, the posting was considered as a single data point unless the vacancies could be differentiated by varying qualifications or responsibilities.

The data sources utilized to investigate the natural resources job market were the following: (i) HireNet Hawai'i, (ii) Government Jobs, (iii) Real Jobs Hawai'i, (iv) Indeed, (v) LinkedIn, (vi) USAJObs.gov, and (vii) Conservation Connections.

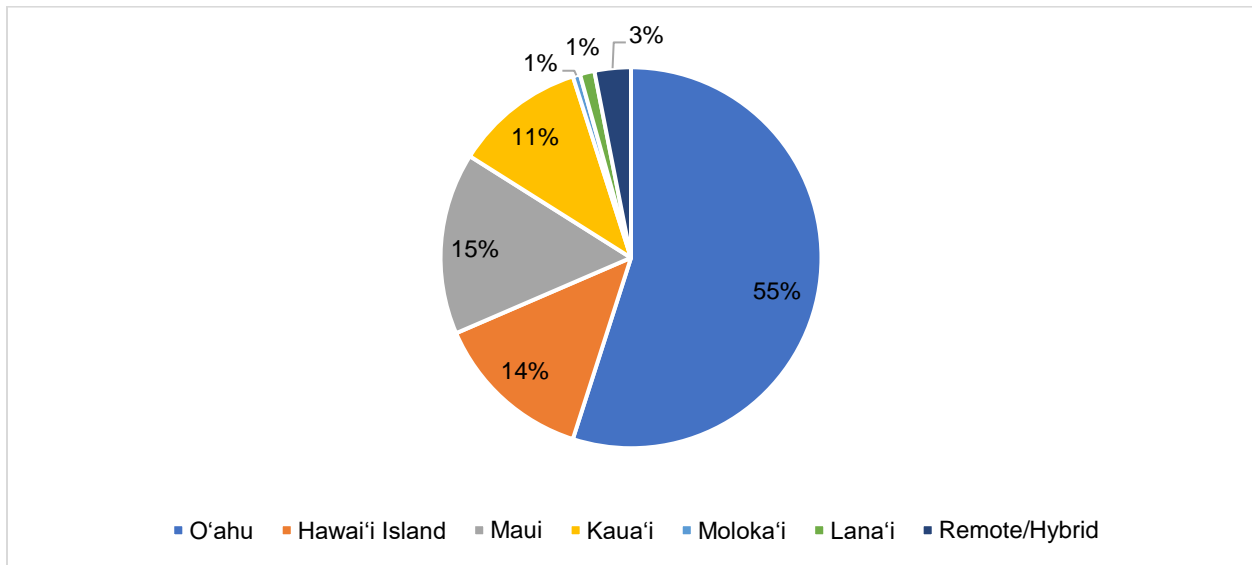
For each job posting, demographic information was catalogued including: the location of the opportunity, employment type (e.g., full-time, part-time, etc.), the associated pay of the opportunity, the content focus area of the opportunity, and the role the opportunity played within the posting organization. The specific qualifications that were catalogued for each job posting included education requirements, years of experience, skills, knowledge base, and abilities. Qualifications were further defined as either "required" or "desired" with "required" referring to minimum requirements for a position and "desired" referring to any qualifications listed as "preferred" or otherwise noted as an accepted substitution of a "required" qualification.

In 2023, SMS Research collected updated data on available NR job opportunities in the state, replicating the methodology used in Kupu's 2021 snapshot analysis. Job board evaluation took place between July 17 and July 28, 2023. A comparison of the 2021 and 2023 labor market data found that data trends were generally consistent. In the interest of utilizing the most current labor market data, the 2023 data is presented in this report.

JOB OPPORTUNITIES IN NATURAL RESOURCES

Data was collected on job opportunities in natural resources statewide. The island of O'ahu had the largest number of NR jobs, being host to more than half (55%) of current openings in the State. Forty-two (42%) of postings were for jobs on the neighbor islands of Hawai'i Island, Maui, Kaua'i, Moloka'i, and Lana'i. The remaining 3% were Remote/Hybrid positions.

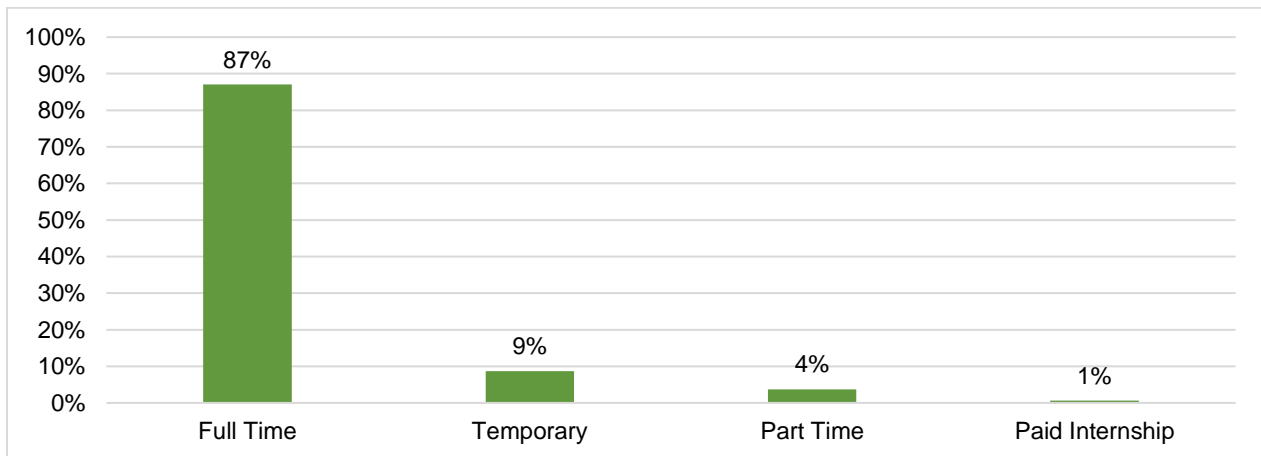
Figure 1. Location of NR Job Postings



Source: Snapshot Analysis, 2023

The majority of NR job postings throughout the state (87%) were full-time opportunities, 9% were temporary positions, and 4% were part-time positions. Very few (1%) were paid internships. In terms of pay, 42% of postings did not include an annual salary. This lack of pay data indicates a need for greater salary transparency among local employers in the NR sector.

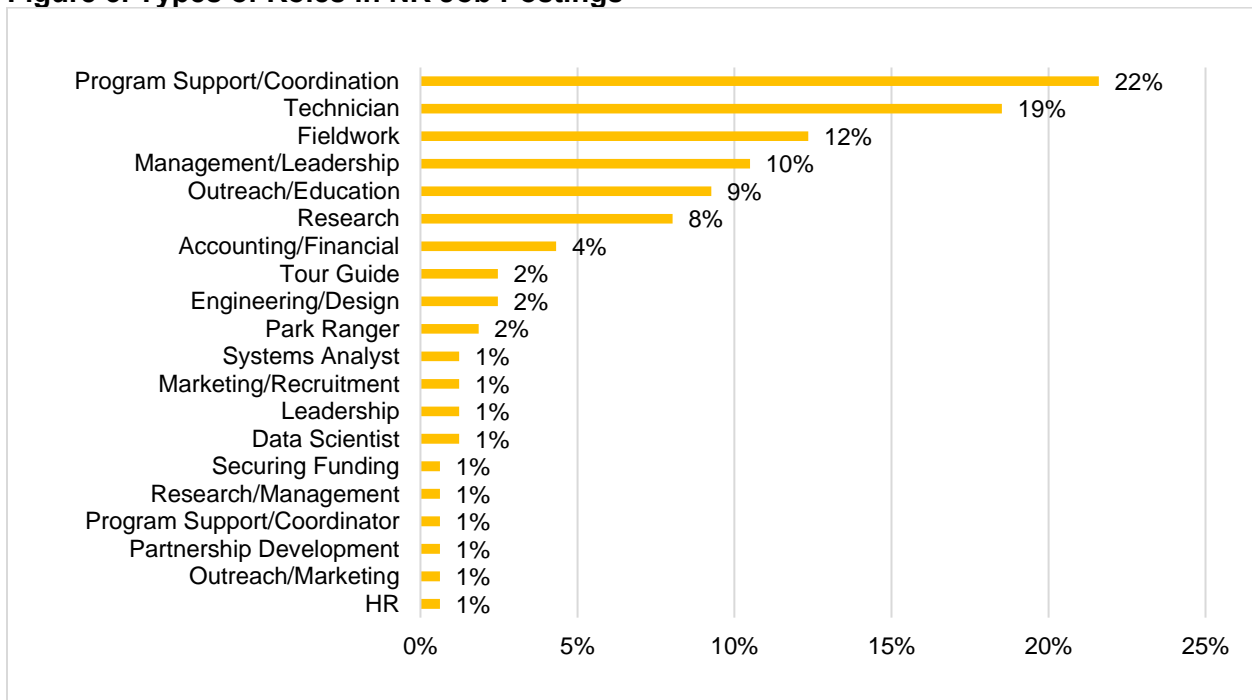
Figure 2. Types of NR Opportunities



Source: Snapshot Analysis, 2023

There are a wide variety of roles for those seeking to work in the NR sector in Hawai'i. Work can range from fieldwork to management to research. The top five roles indicated in job postings were Program Support/Coordination (22%), Technician (19%), Fieldwork (12%), Management/Leadership (10%), and Outreach/Education (9%).

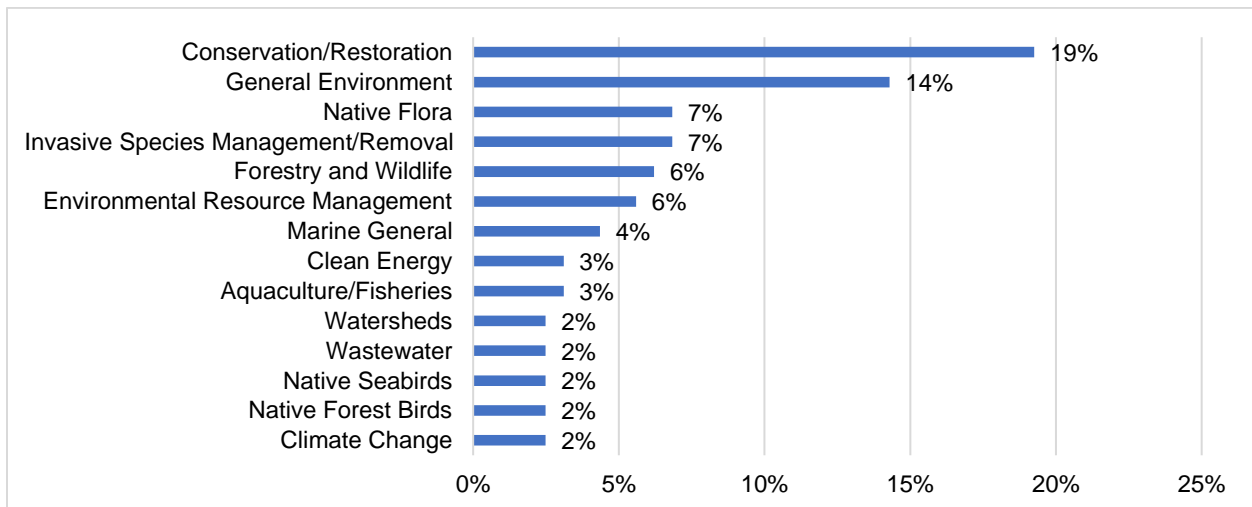
Figure 3. Types of Roles in NR Job Postings



Source: Snapshot Analysis, 2023

Additionally, the content areas indicated in the job postings show diverse opportunities available within the NR sector, including focus areas ranging from conservation to climate change. The top content areas identified included Conservation/Restoration (19%), General Environment (14%), Native Flora (7%), Invasive Species Management/Removal (7%) and Forestry and Wildlife (6%).

Figure 4. Content Focus Areas of NR Job Postings



Source: Snapshot Analysis, 2023

SUMMARY: JOB OPPORTUNITIES IN NATURAL RESOURCES

The labor market analysis of natural resources job postings showed a variety of opportunities throughout the state, with most jobs (55%) based on O'ahu. Most postings (87%) were for full-time positions. Nearly half of the postings (42%) had no data on salary or stated that annual income was "commensurate with experience."

Job postings were diverse in terms of roles and content focus areas. The job roles with the most postings were program support/coordination and technicians, and conservation/restoration was the most common content focus area.



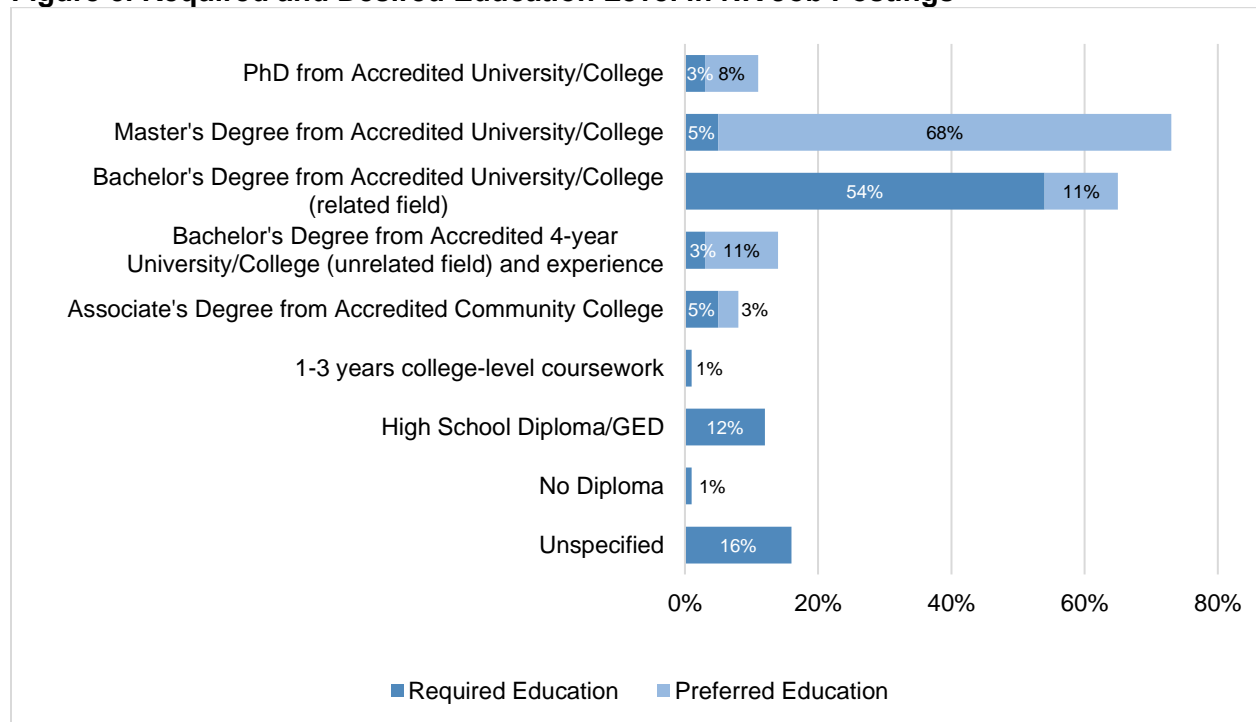
QUALIFICATIONS FOR CAREERS IN NATURAL RESOURCES

Employers evaluate candidates on various qualifications to determine how competitive they are for a position. NR job postings were analyzed to determine their required and desired education, relevant experience, technical and professional skills, and knowledge base.

EDUCATION

The candidate’s level of education was an important factor for organizations seeking a competitive candidate. More than half (54%) of postings required bachelor’s degree in a related field from an accredited college or university, and 11% preferred this level of education. Twelve percent (12%) of the job postings required a High School Diploma/GED. While only 5% of job postings required a master’s degree, 68% preferred this level of education.

Figure 5. Required and Desired Education Level in NR Job Postings

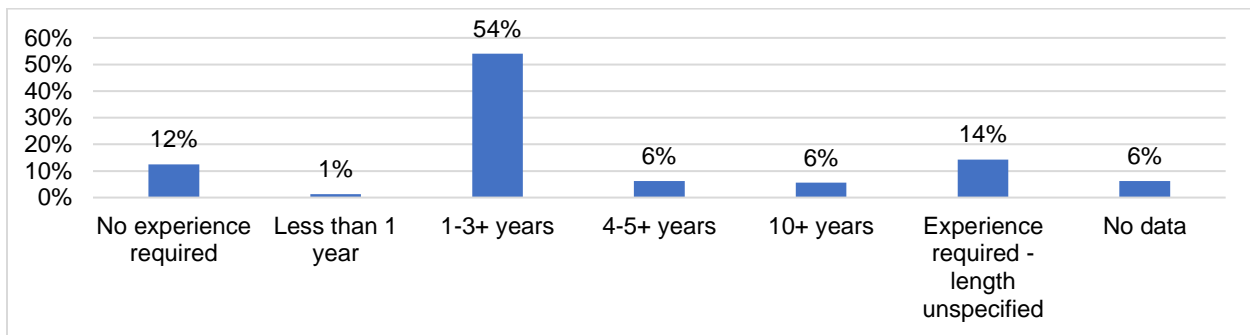


Source: Snapshot Analysis, 2023

RELEVANT EXPERIENCE

Most NR job postings (82%) required candidates to have a certain level of relevant experience. More than half of the job postings (54%) required 1-3+ years of experience, and 12% required 4-10+ years of experience. Another 14% required candidates to have some experience but did not specify how many months or years of experience. Very few (1%) of job postings required less than one year of relevant experience. Twelve percent (12%) stated that no experience was required for candidates, and 6% had no data on required experience.

Figure 6. Required Experience in NR Job Postings

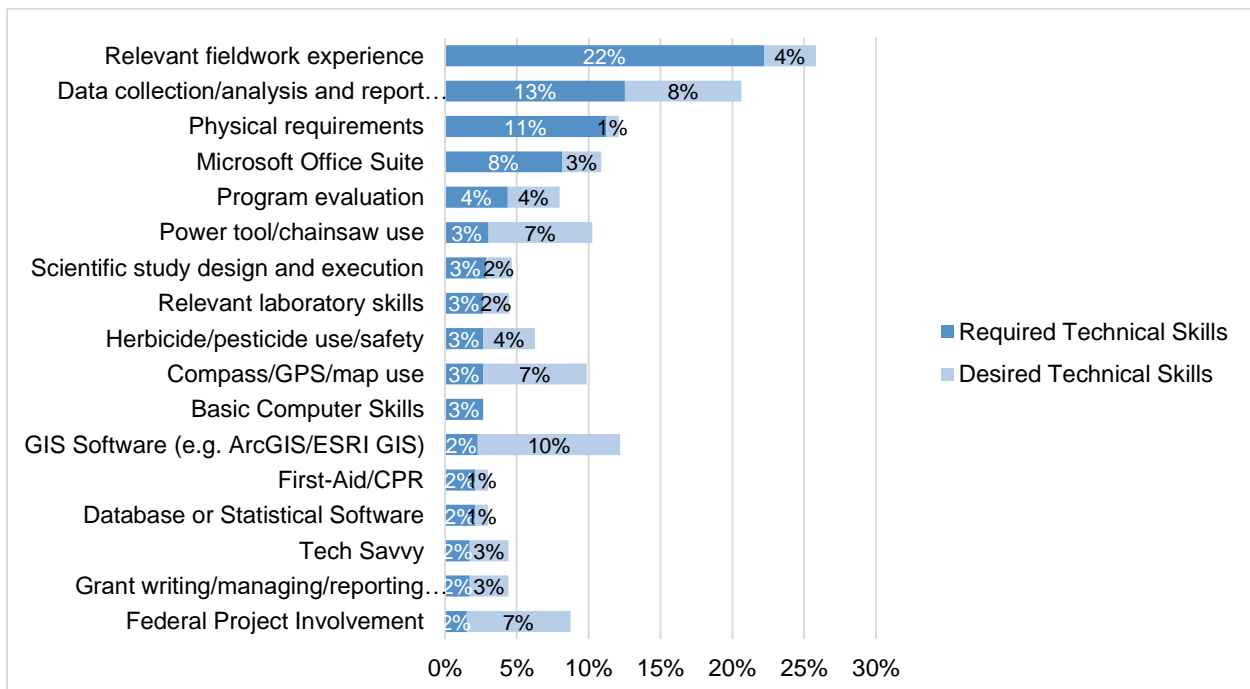


Source: Snapshot Analysis, 2023

TECHNICAL SKILLS

In addition to education level and years of relevant experience, job postings included required and desired skills and abilities.² Figure 7 shows the required and desired technical skills most frequently found in job postings for professional positions in the NR sector. The top technical skills required were Relevant fieldwork experience (22%), Data collection/analysis and report writing (13%), and Microsoft Office Suite (8%). GIS software was only required in 2% of job postings, but it was the top desired skill, seen in 10% of postings. Other commonly desired technical skills included Power tool/chainsaw use (7%), Compass/GPS/map use (7%), and Federal project involvement (7%).

Figure 7. Top Required and Desired Technical Skills in NR Job Postings



Source: Snapshot Analysis, 2023

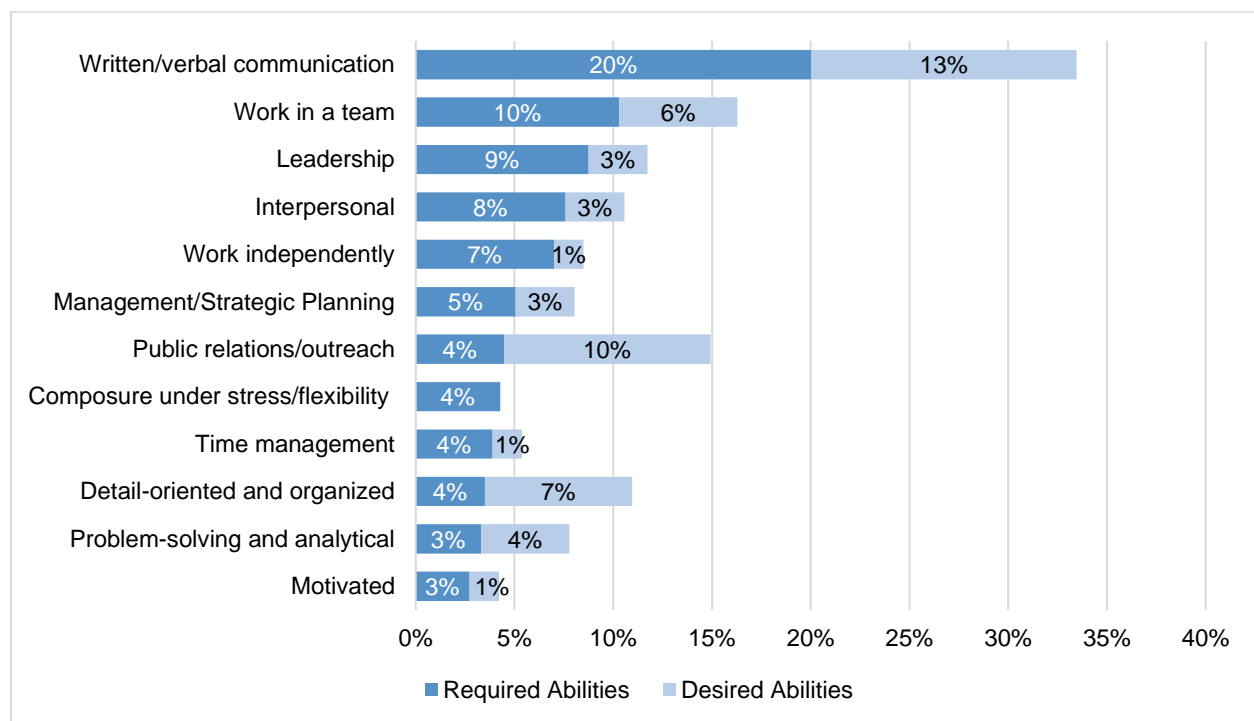
² Required were those that a job posting indicated as a “must have” for potential candidates, while desired were those that were not necessarily must haves but would potentially increase a candidate’s attractiveness to be considered/hired for a position.

PROFESSIONAL SKILLS

In addition to technical skills, many employers seek candidates with professional skills they believe will help them succeed in the workplace. Written/verbal communication was the most often required (20%) and desired (13%) professional skill seen in job postings. Other frequently required professional skills included working in a team (10%), leadership (9%), interpersonal skills (8%), and working independently (7%). Public relations/outreach was not as often a required skill (4%) but was the second most desired skill (10%). Similarly, detail-oriented and organized was a required skill in only 4% of postings but was desired in 7% of postings.



Figure 8. Top Required and Desired Professional Skills in NR Job Postings



Source: Snapshot Analysis, 2023

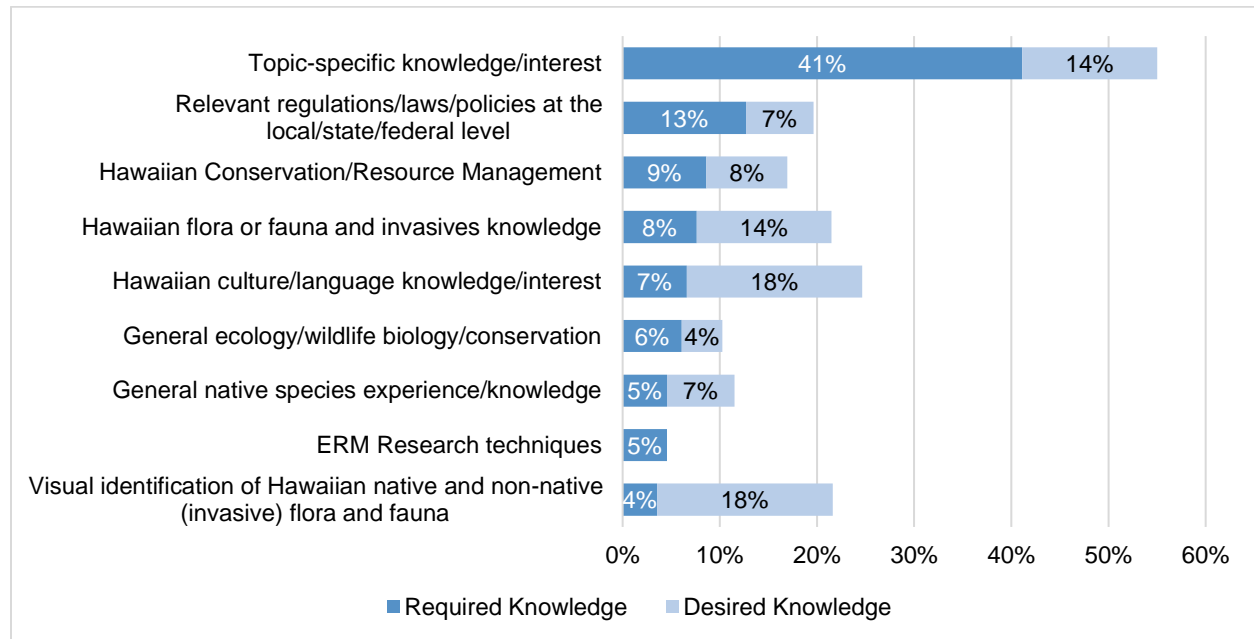
KNOWLEDGE BASE

Apart from relevant experience and required technical and professional skills, NR job postings also included required and desired knowledge. The top knowledge requirements were: Topic-specific³ knowledge/interest relative to the posting (41%); relevant regulations/laws/policies at the local/state/federal level (13%); Hawaiian flora, fauna, and invasive species (9%); and Hawaiian culture/language (7%). The most desired knowledge bases were: Hawaiian

³ Topic-specific refers to knowledge bases that were specific and distinct enough from each other that they could not be generalized into any of the other broader categories, such as rare plants or forest pathology.

culture/language knowledge/interest (18%) and visual identification of Hawaiian native and non-native flora and fauna (18%).

Figure 9. Top Required and Desired Knowledge in NR Job Postings



Source: Snapshot Analysis, 2023

SUMMARY: QUALIFICATIONS FOR CAREERS IN NATURAL RESOURCES

In terms of educational requirements, more than half of NR job postings (54%) required a bachelor’s degree in a related field, and 68% of postings preferred a candidate with a master’s degree. More than half (54%) of postings also required 1-3+ years of relevant experience.

Relevant fieldwork experience, data collection/analysis and report writing, and Microsoft Office Suite were the top technical skills required in job postings. GIS software skills were not often required but were highly desired in postings. Communication, teamwork, and leadership were the most common professional skill requirements. The top knowledge requirements were topic-specific relative to postings, knowledge of local/state/federal regulations, and Hawaiian conservation/resource management.



INDUSTRY INSIGHTS

Professionals in Hawai'i's NR sector hold a wealth of knowledge that can help to grow the state's current and future NR workforce. This section of the report analyzes data collected via an industry survey of NR professionals in Hawai'i in early 2022. Industry respondents were asked to share their motivations for pursuing a career in NR, factors that contributed to their career success, as well as barriers they faced along their career journey. They also provided recommendations for NR workforce development, evaluated local candidates' strengths and gaps, and shared how frequently their organization receives applications from and hires local candidates. These industry insights can inform local NR workforce development efforts.

METHODS

Kupu designed and administered an online survey for local NR professionals that included questions regarding respondents' personal career experiences in the NR sector, optimal workforce development strategies for cultivating Hawai'i's NR workforce, and characteristics of local candidates for NR jobs in Hawai'i. Respondents represented five islands throughout the state.

DESCRIPTION OF INDUSTRY RESPONDENTS

Industry survey respondents ($n = 77$) worked in a variety of agencies and organizations. Forty-three percent (43%) of respondents ($n = 33$) worked in a non-governmental organization, such as a non-profit. Forty-two percent (42%) of the respondents ($n = 32$) worked in the government, 26% with a state agency ($n = 20$) and 16% with a federal agency ($n = 12$). Sixteen percent (16%) worked in post-secondary education ($n = 12$). Most respondents (71%) had been working in the sector for more than 10 years.

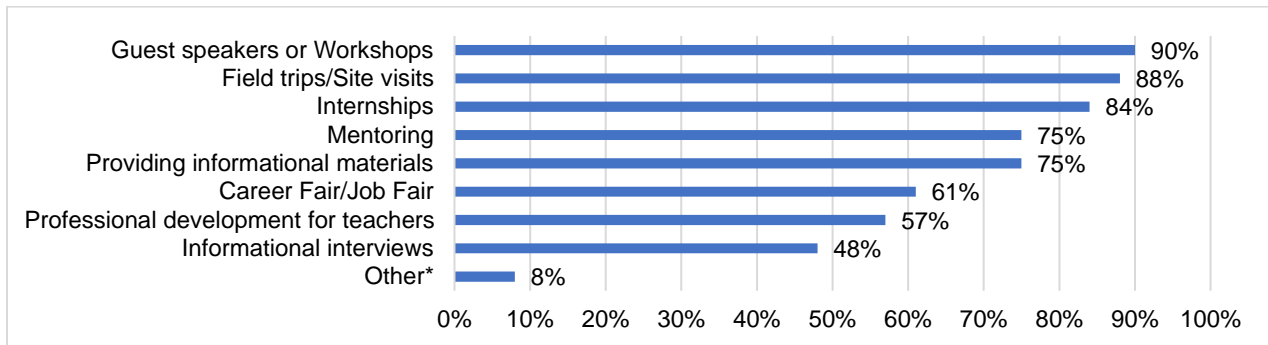
Of those that responded, 19% were coordinators, 13% were managers, 13% were specialists, and 12% were scientists/researchers. Other respondents included executive directors/CEOs (10%), directors (10%), educators (9%), field technicians (8%), and various other positions (5%).

Respondents were given the option to select multiples areas of focus. Many were involved in education/outreach (68%), program management/coordination (58%), community partnerships/engagement (58%), area management (56%), and field work (53%).

INDUSTRY RESPONDENTS' RELATIONSHIPS WITH SCHOOLS

Industry respondents were asked about the strategies used by their current organization/agency to work with and support local students and schools. Ninety percent (90%) indicated that they provide Guest Speakers or Workshops, 88% offer Field Trips/Site Visits, and 84% have internship opportunities for students interested in the NR Sector.

Figure 10. Organization’s Relationship with Schools



Source: Industry Survey, 2022

*Other includes: Other Educational Programs, Grants, Providing Curriculum, Other Working Groups

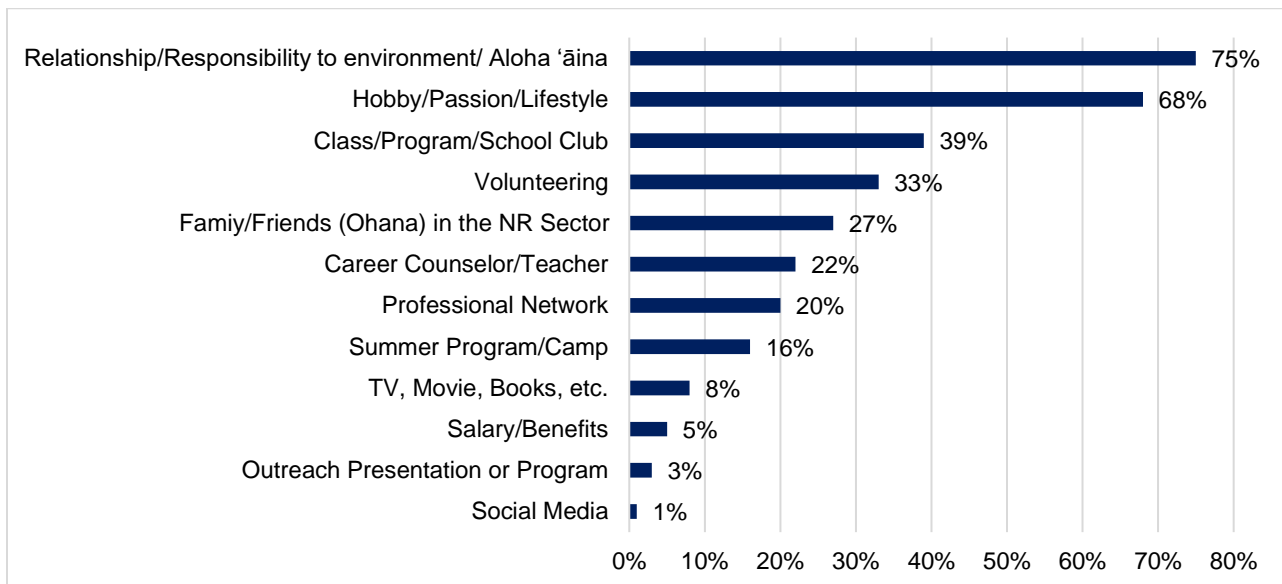
Source: Industry Survey

Question: In which ways has your organization/agency worked with or supported students and schools?"

NR CAREER MOTIVATORS, INFLUENCES, & BARRIERS

Respondents were asked about motivating factors that led them to seek a career in the NR Sector. This question allowed for multiple responses. The data revealed that a high percentage of industry respondents (75%) were motivated by Aloha ‘Āina, or their personal relationship with and responsibility to care for the environment. Over two-thirds of respondents (68%) were motivated by their own Hobby/Passion/Lifestyle. More than one-third of respondents (39%) were influenced by their participation in a school Class/Program/School Club. Just under a third of respondents (33%) were motivated by volunteer experiences in the NR Sector and just over a quarter (27%) of respondents were inspired by their family or friends (‘Ohana) in the NR Sector. Few respondents (5%) were motivated by the salary and benefits provided by careers in the NR Sector.

Figure 11. Career Motivation

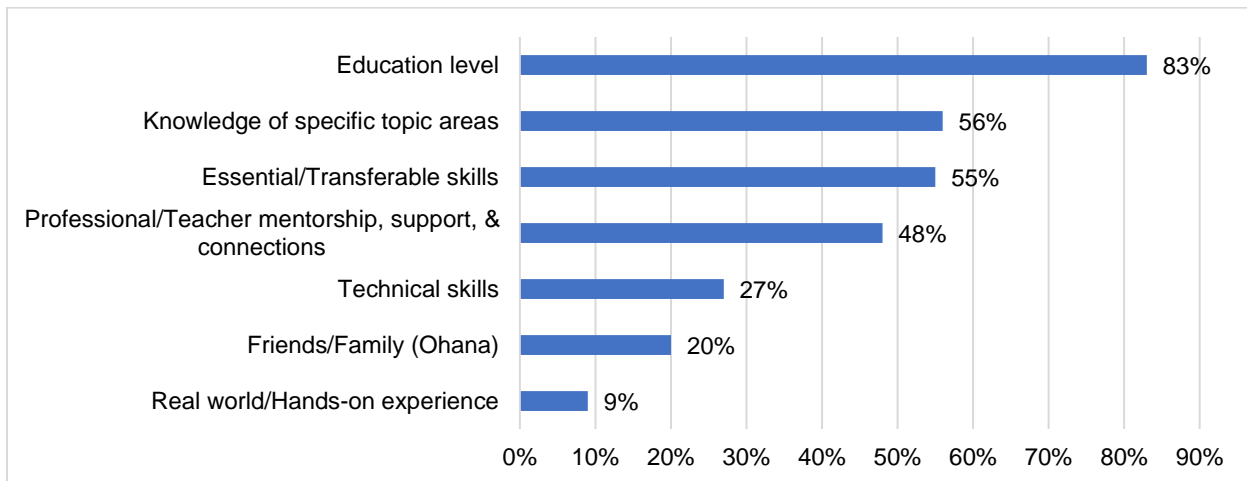


Source: Industry Survey, 2022

Question: Which of the following motivated you to seek a career in the NR sector?

Industry respondents were also asked to identify the top three factors which they believed helped them the most in obtaining a career in the NR Sector. Level of education (e.g., high school diploma, advanced degree, etc.) was by far the most commonly selected factor, with the majority of respondents (83%) indicating that it helped them to obtain a position. In addition, over half (56%) indicated that their knowledge of specific topic areas (e.g., law and policy, native flora and fauna, etc.) was one of the top three most helpful factors. Fifty-five percent (55%) indicated that possessing essential/transferable skills (e.g., interpersonal skills, communication, time management project management, etc.) was one of the three most beneficial factors, and nearly half (48%) selected mentorship as one of the top three factors that contributed to their career achievement.

Figure 12. Career Influence



Source: Industry Survey, 2022

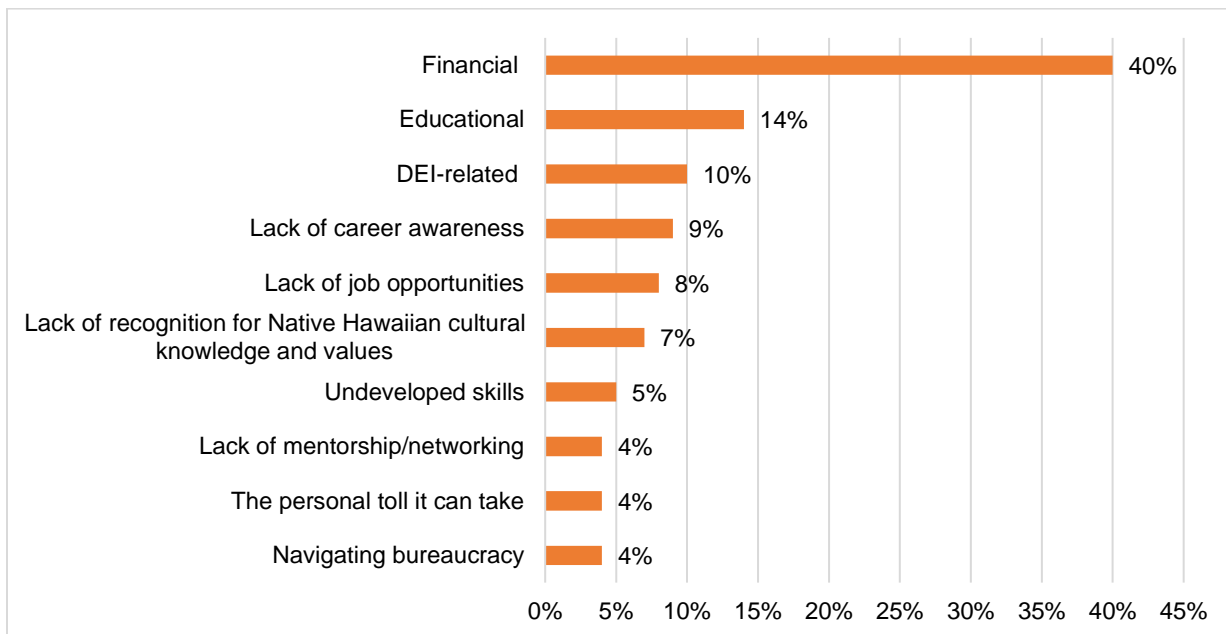
Question: Which 3 factors were MOST important in helping you obtain a career in the NR Sector?

To better understand some of the access and workforce development challenges in the NR Sector, industry respondents were asked to identify any barriers or challenges they have had to overcome or are still struggling with, in pursuit of a career in NR. The most significant barrier for respondents was financial. Forty percent (40%) stated that they struggle financially for various reasons, such as low pay relative to the high cost of living and/or because their work relies on granted funding. Several respondents (14%) also reported facing educational barriers related to meeting educational requirements for NR jobs and/or pursuing higher education.⁴ Ten percent (10%) of respondents faced diversity, equity, and inclusion-related barriers.⁵ Lack of career awareness was a barrier for 9% of respondents, and 8% reported that the lack of job opportunities was a significant barrier. Seven percent (7%) indicated that the lack of recognition for Native Hawaiian cultural knowledge and values in the NR sector was a barrier in their career journey. Undeveloped skills (5%), a lack of mentorship or networking (4%), the personal toll of pursuing an NR career (4%), and navigating bureaucracy while working in the sector (4%) were also identified as career barriers.

⁴ Educational barriers include challenges meeting educational requirements needed for employment or career advancement in the sector, as well as challenges in pursuing higher education, such as being a first-generation college student.

⁵ Diversity, equity and inclusion (DEI) barriers are related to discriminatory treatment in the workplace based on factors such as race, ethnicity and gender.

Figure 13. Career Barrier/Challenge



Source: Industry Survey, 2022

Question: What barriers or challenges have you had to overcome (or are still struggling with) in order to pursue a career in NR?

SUMMARY:
NR CAREER MOTIVATORS, INFLUENCES, & BARRIERS

Many industry survey respondents (75%) were motivated to pursue a career in NR by Aloha ‘Āina, or their personal relationship with and responsibility to care for the environment. Other common motivating factors were related to respondents’ personal interests and social networks, including their Hobby/Passion/Lifestyle (68%) and participation in a school Class/Program/Club (39%).



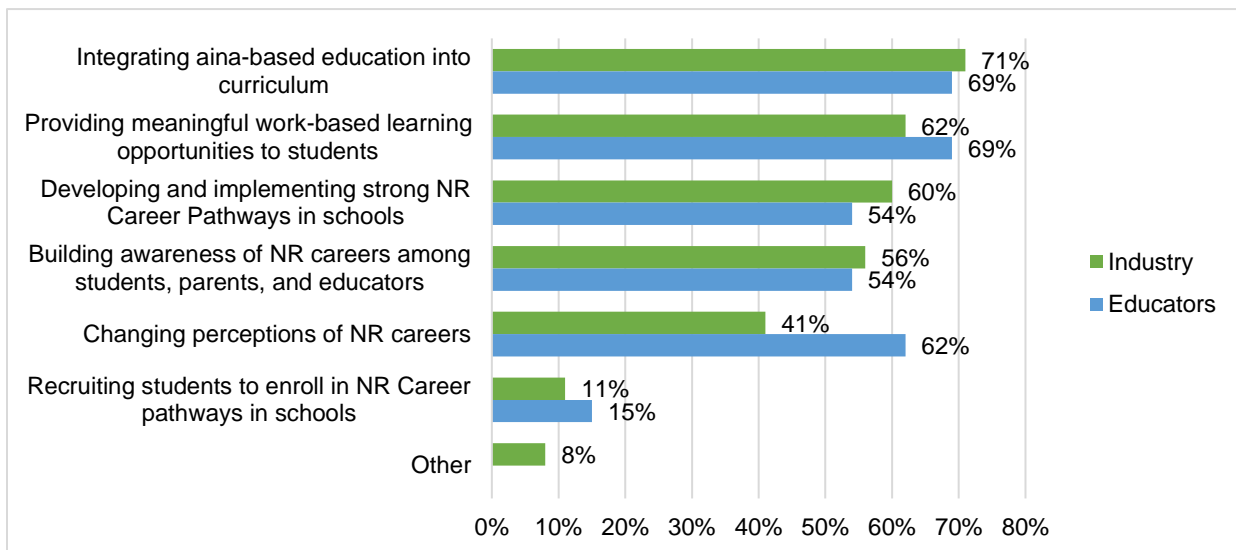
Respondents indicated that their level of education (83%), knowledge of specific NR topic areas (56%), and essential/transferrable skills (55%) were the most important factors to obtaining their career in NR. More than a third of respondents (40%) reported facing financial barriers while pursuing a career in NR.

WORKFORCE DEVELOPMENT STRATEGIES

Industry survey respondents were asked what they believe would be the most effective strategies to cultivate a homegrown NR workforce in Hawai'i when working with schools. In addition to the industry survey, a subset of educators who teach natural resources on O'ahu ($n = 13$) were polled with this question. For both industry and educators, the strategies with the highest percentage of responses were to integrate 'āina-based education into curriculum and to provide meaningful work-based learning opportunities to students.

Sixty-two percent (62%) of educators believed changing perceptions of NR careers would be an effective workforce development strategy compared with 41% of industry survey respondents. One educator explained: *"I think many (students, parents, educators) have outdated pictures of NR careers and a disconnection to people in those careers."*

Figure 14. Most Effective Workforce Development Strategies



Source: Industry Survey, 2022

Question: Which 3 strategies do you think would be MOST effective in cultivating a homegrown Natural Resource (NR) workforce for Hawai'i when working with schools?

SUMMARY: WORKFORCE DEVELOPMENT STRATEGIES

NR industry professionals and educators in Hawai'i agreed that integrating 'āina-based education into curriculum and providing meaningful work-based learning opportunities to students would be effective strategies to cultivate a homegrown NR workforce. Educators also said that changing perceptions of NR careers would be an effective strategy when working with students.

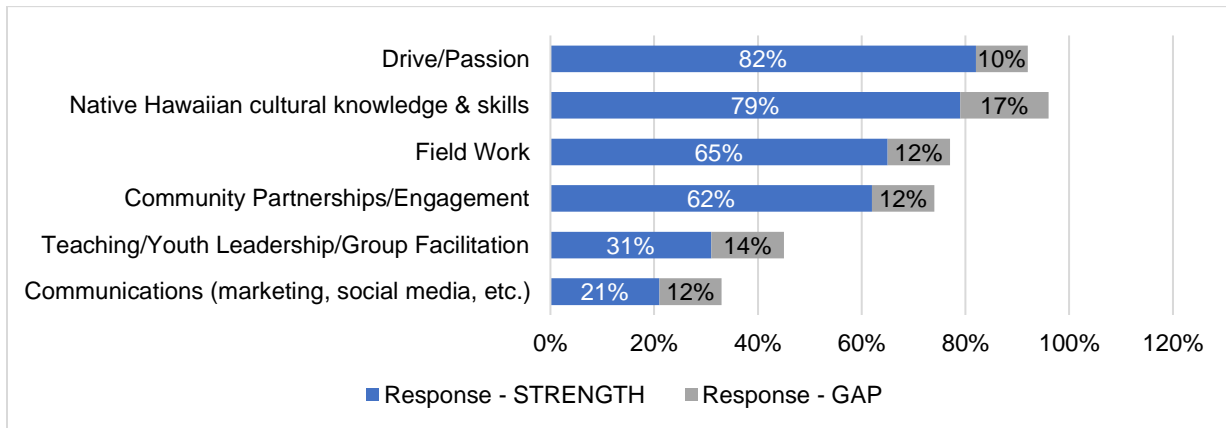


CHARACTERISTICS OF LOCAL CANDIDATES

In the industry survey, NR professionals were asked to identify local candidates’ strengths and gaps in relation to the experience, knowledge, and training often required for NR positions.

Industry respondents observed many strengths in local candidates for Hawai’i NR jobs, as shown in Figure 15. The greatest perceived strengths in local candidates were their Drive/Passion (82%), Native Hawaiian cultural knowledge & skills (79%), Field Work (65%), and Community Partnerships/Engagement (62%).

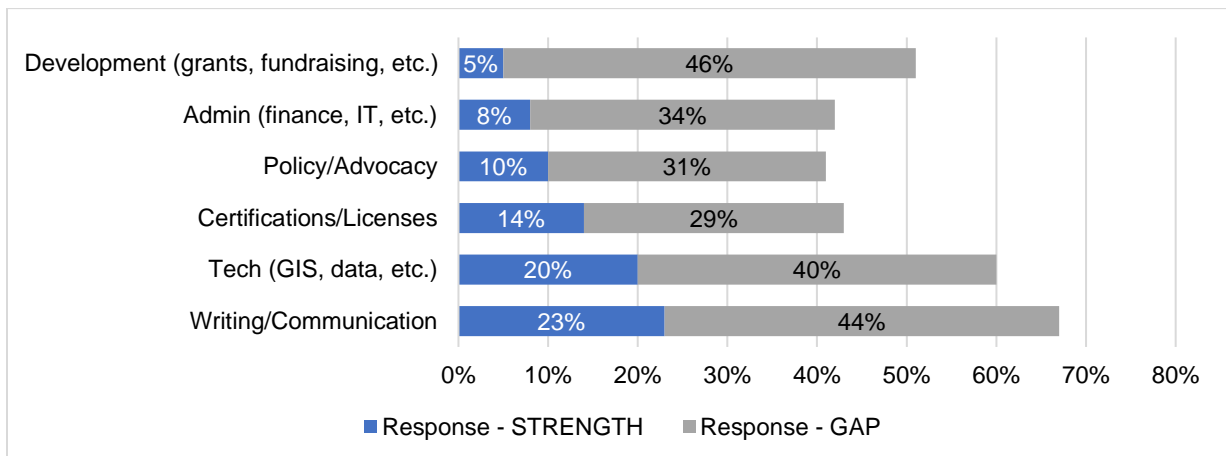
Figure 15. Knowledge or Skills Strengths of Local Candidates



Source: Industry Survey, 2022

Industry respondents also identified several gaps in knowledge and experience in local candidates for Hawai’i NR jobs. These gaps include Development (46% gap vs. 5% strength), Admin (34% gap vs. 8% strength), Policy/Advocacy (31% gap vs. 10% strength), and Certifications/Licenses (29% gap vs. 14% strength).

Figure 16: Knowledge or Skills Gaps of Local Candidates



Source: Industry Survey, 2022

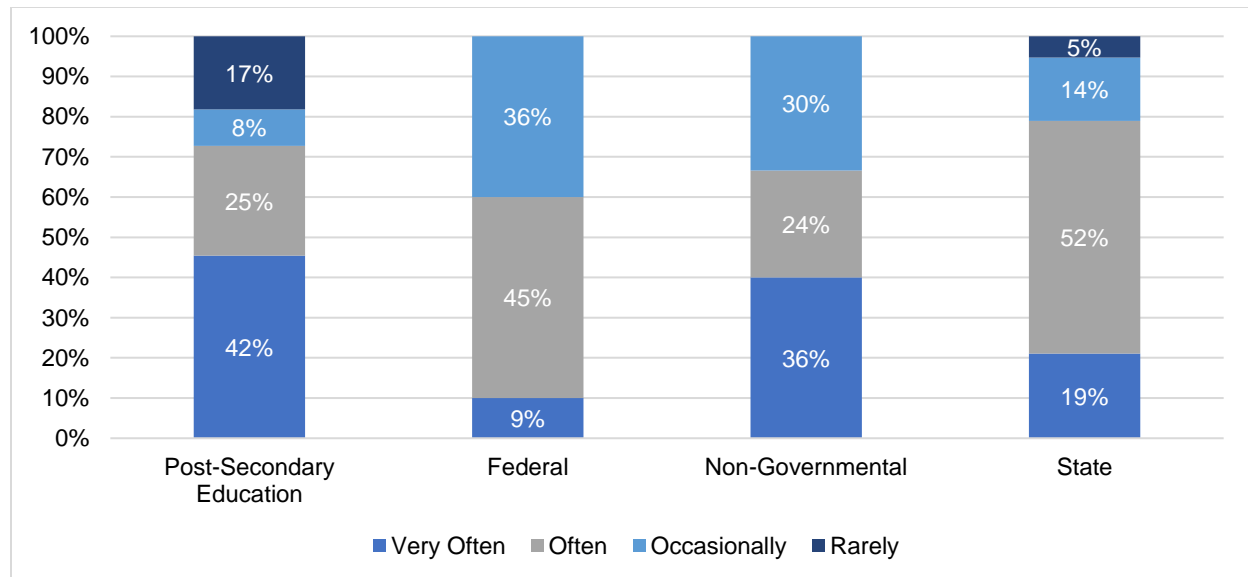
RECRUITING AND HIRING LOCAL CANDIDATES

To better understand the recruiting and hiring of local candidates in Hawai'i, industry respondents ($n = 77$) were asked about how often local candidates apply to their organization and how often local candidates are hired to their organization.

Forty-three percent (43%) of respondents ($n = 33$) worked in a non-governmental organization, such as a non-profit. Forty-two percent (42%) of the respondents ($n = 32$) worked in the government, 26% with a state agency ($n = 20$) and 16% with a federal agency ($n = 12$). Sixteen percent (16%) worked in post-secondary education ($n = 12$).

Overall, less than a third (29%) of respondents from NR organizations reported that local candidates apply "very often" to positions at their organization. However, certain types of organizations receive job applications from local candidates more frequently than others. Forty-two percent (42%) of respondents from the post-secondary education sector said local candidates apply "very often" to jobs at their organization, compared with 9% of respondents from federal agencies.

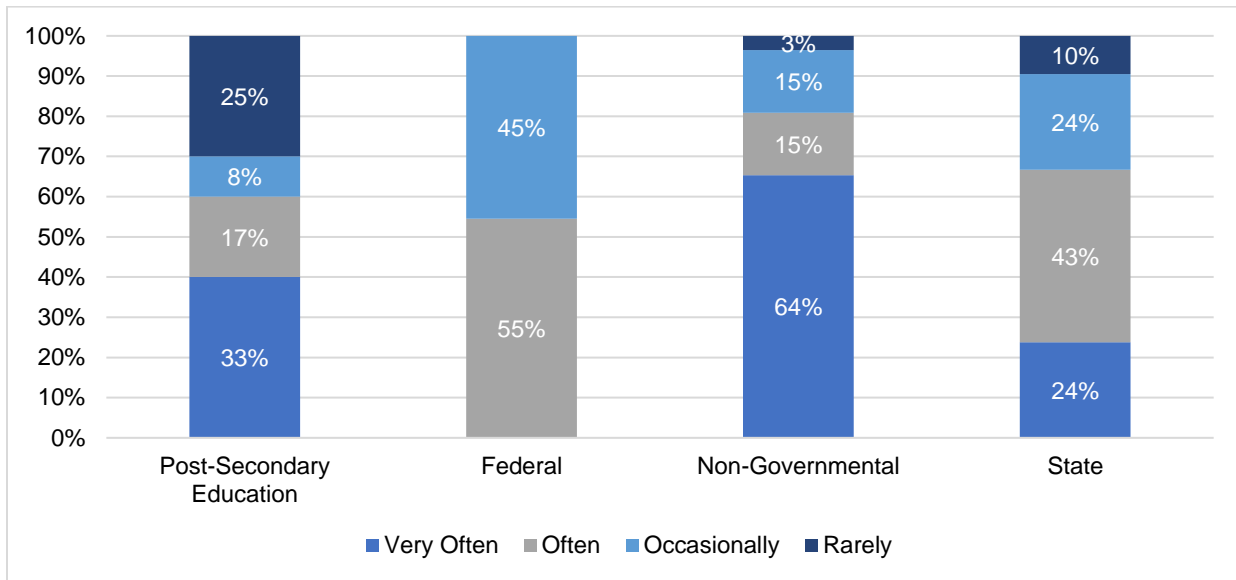
Figure 17: Frequency of Local Applicants by Organization Type



Source: Industry Survey, 2022
 Question: How often do local candidates APPLY to your organization in Hawai'i?

In terms of hiring, 39% of respondents from NR organizations in Hawai'i reported hiring local candidates "very often." More than half (64%) of respondents from non-governmental organizations said their organization hires local candidates "very often." No respondents from federal agencies reported hiring local candidates "very often," although more than half (55%) said local candidates are hired "often."

Figure 18: Frequency of Local Hires by Organization Type



Source: Industry Survey, 2022
 Question: How often does your organization HIRE local candidates in Hawai'i?

SUMMARY: CHARACTERISTICS OF LOCAL CANDIDATES

According to industry survey respondents, local candidates in NR are passionate and driven, and have strong knowledge of Native Hawaiian culture and field work skills. However, they may lack fund development, administrative, and policy/advocacy knowledge and skills.



RECRUITING AND HIRING LOCAL CANDIDATES

Industry survey data suggests that certain organization types are more likely to receive applications from and hire local candidates than others. Post-secondary education and non-governmental entities are most likely to receive applications from and hire local candidates “very often,” compared with state and federal agencies. Further inquiry is needed to better understand potential hiring discrepancies between organization types.

CONCLUSION

This report aims to guide future workforce development efforts in Hawai'i's NR sector by clarifying the current landscape of job opportunities, key skills and competencies for candidates, and prominent workforce gaps and challenges.

Labor market data showed that NR jobs are available throughout the state, with diverse roles and content focus areas. More than half (55%) of the job opportunities were located on the island of O'ahu, and the majority (87%) were for full-time positions. Nearly half of job postings either had no data on salary or stated that the annual income was "commensurate with experience." This lack of salary data may result in a lack of clarity for candidates regarding standard pay in the sector, especially for early career professionals.

More than half of jobs (54%) required candidates to have 1-3+ years of relevant experience. Additionally, 54% of jobs required a bachelor's degree, and a master's degree was preferred in 68% of postings. This suggests that candidates with a bachelor's or master's degree may qualify for more jobs in Hawai'i's NR sector than a candidate with lower educational attainment. There may be an opportunity for local employers to reexamine their educational requirements to ensure that a broader set of quality, local candidates are being considered for these jobs.

In addition to educational achievement and work experience, natural resources job postings frequently required candidates to have technical skills, such as data collection, analysis and report writing, as well as professional skills like communication and leadership. Knowledge of relevant government regulations and policies at the local, state, and federal levels was also a common knowledge requirement among NR job postings analyzed. Education and training opportunities in these transferrable knowledge and skill areas should be made more widely available and accessible to local candidates.

For many industry professionals surveyed, Aloha 'Āina was an important motivator for pursuing a career in NR in Hawai'i. Over three quarters (75%) of respondents indicated that they pursued a NR career because of their personal relationship with the environment and felt responsible for helping Hawai'i's environment and community. Social connections and activities that gave candidates exposure to the field were also key motivators. Over two thirds (68%) of industry survey respondents were motivated by their own Hobby/Passion/Lifestyle, 39% were influenced in their school by a Class/Program/School Club, and 27% were inspired by their family or friends ('Ohana) in the NR Sector. This suggests that students who develop these connections to 'āina and the NR field may be more likely to pursue NR careers. This was further affirmed by surveyed NR industry professionals and educators who believe that integrating 'āina-based education into curriculum and providing meaningful work-based learning opportunities to students would be the most effective strategies to cultivate a homegrown NR workforce for Hawai'i at the school-level.

Despite the growth and diverse opportunities in the sector, NR professionals in Hawai'i continue to face challenges and barriers within the sector. These include financial barriers due to the cost of living in Hawai'i relative to their pay (40%), educational barriers (14%), and barriers related to diversity, equity, and inclusion (10%). Supporting local students, job seekers, and emerging professionals in these areas is critical to growing Hawai'i's future NR workforce. In particular, to make this career viable for local candidates we need to reexamine the way we compensate NR professionals, particularly those newly entering the workforce.

Industry survey respondents perceive local candidates in the sector as having important strengths, including their passion and drive, knowledge of Native Hawaiian culture, and field work skills. NR educators and employers should capitalize on these strengths to advocate for local candidates' advancement in the sector. However, respondents identified development/fundraising, administrative, and policy or advocacy work as key skill gaps in local candidates. Addressing these gaps through education and training will better prepare local candidates to qualify and compete for NR jobs in Hawai'i.

Overall, the majority (62%) of industry respondents reported that their organization "very often" or "often" receives applications from local candidates. However, only 9% of industry respondents from federal agencies indicated that they "very often" receive applicants from local candidates. In terms of hiring, 68% of industry respondents said they hire local candidates "very often" or "often." However, no respondents from federal agencies reported hiring local candidates "very often." Further inquiry regarding discrepancies between hiring organizations is needed to ensure local candidates have adequate awareness of and access to NR careers across the sector, particularly those jobs that are more secure and well-paying.

Workforce demand in the NR sector is expected to continue to grow throughout the state. Continuing to engage students in the field and ensure job seekers have access to the necessary education and training opportunities will be essential to cultivating Hawai'i's future NR workforce. Employers may also benefit from reevaluating their job qualifications, particularly educational requirements, to broaden their local talent pool and ensure all quality candidates are being considered.

Enhanced collaboration between industry, educators, community organizations, and government will more effectively address shared barriers and challenges in the sector. The Natural Resources Sector Partnership (NRSP), a collaborative effort between educators and industry to improve systems and better prepare and inspire Hawai'i's students to meet the current and future demands of natural resources professions in Hawai'i, is working to address many of the barriers and challenges identified in this report through collective action.