



Workforce Needs & Challenges in the U.S. Forest and Wood Products Sector *and the Value of Diversity, Equity, and Inclusion*

Authors: Kathryn Fernholz, Eliza Meyer, Harry Groot, Sarah Harris, and Kedren Dillard of Dovetail Partners; and Delie Wilkens, Program Officer, of the U.S. Endowment for Forestry and Communities; and Bethaney Wilkinson, Inclusion Council Experience Lead

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Dovetail Partners

528 Hennepin Ave, Suite 303
Minneapolis, MN 55403
612-333-0430
info@dovetailinc.org



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Executive Summary

A thriving forest and wood products sector in the United States is dependent upon the availability of a wide array of talent in all workforce segments. Access, retention, and leadership development within a talented workforce is a growing concern in the US forest and wood products sector. Companies and organizations that employ successful Diversity, Equity, and Inclusion (DEI) strategies have the opportunity to benefit from untapped and underrepresented workforce talent - from the forest floor to the board room.

This paper provides an overview of the employment and economic impact of the US forest and wood products sector and the associated workforce needs and challenges. Information about the demographic diversity of the sector's workforce is provided along with a discussion of representation in proportion to the overall US population and workforce. Recent research evaluating strategies to address identified barriers to the sector's recruitment and retention of historically underrepresented groups is presented with a focus on strategies that can inform the DEI efforts in the sector. Specific examples of public agency and private company leadership on workforce challenges and DEI are provided.

This paper provides a sector-specific resource to support shared understanding of workforce challenges as well as increased awareness of research findings and benefits, tools and resources, case studies, best practices, and next steps that define the value of DEI in efforts for meeting these needs. Applying effective strategies for DEI in the forest and wood products sector helps support the success, relevance, and economy-wide benefits of the full range of forest products and services throughout America's rural, suburban, and urban communities.

Background

In the United States, the forest and wood products sector is a significant employer and contributor to the economy. A study of the 32 major forested states of the contiguous US¹ found that the timberland base, including both private and public ownerships, supports a workforce of nearly three million, a payroll of about \$128 billion, and provides over \$336 billion of additional value associated with manufactured goods (Table 1) (Engle, 2019). The economic impact of forestry-related businesses represents as much as 15-20% of manufacturing Gross Domestic Product (GDP) in some states. Across the entire study area, paper, wood, and furniture manufacturing industries were 5.7% of total manufacturing GDP (Engle, 2019).

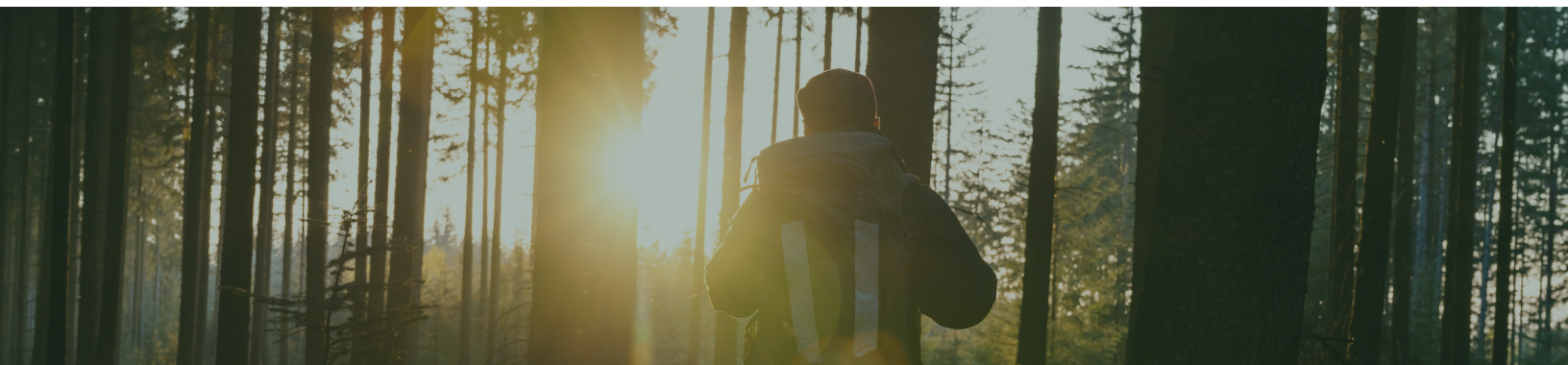
Table 1. Economic Impact of Forestry-Related Businesses in 32 major forested states of the Contiguous USA.

Economic Impact Indicator	All Timberland*	Private Timberland*	Public Timberland*
Total Timberland Acres	455,910,822	335,477,613	120,433,208
Percent of Total	100%	74%	26%
Total (DII)** Employment	2,908,517	2,496,697	411,820
Direct Employment	1,094,148	935,499	158,649
Total (DII)** Payroll	\$128,084,596,985	\$109,423,739,002	\$18,660,857,982
Direct Payroll	\$55,363,989,722	\$47,185,799,675	\$8,178,190,047
Value of Timber Sales & Manufacturing Shipments	\$336,494,263,723	\$288,117,707,397	\$48,376,556,326
Value of Timber Sales	\$10,150,314,723	\$8,798,314,564	\$1,352,000,159
Value of Paper, Wood & Furniture Mfg. Shipments	\$326,343,949,000	\$279,319,392,833	\$47,024,556,167
Paper, Wood & Furniture Mtg Contribution to GDP	\$107,484,000,000	\$92,024,636,435	\$15,459,363,565
Share of Manufacturing GDP	5.7%	5.2%	0.8%

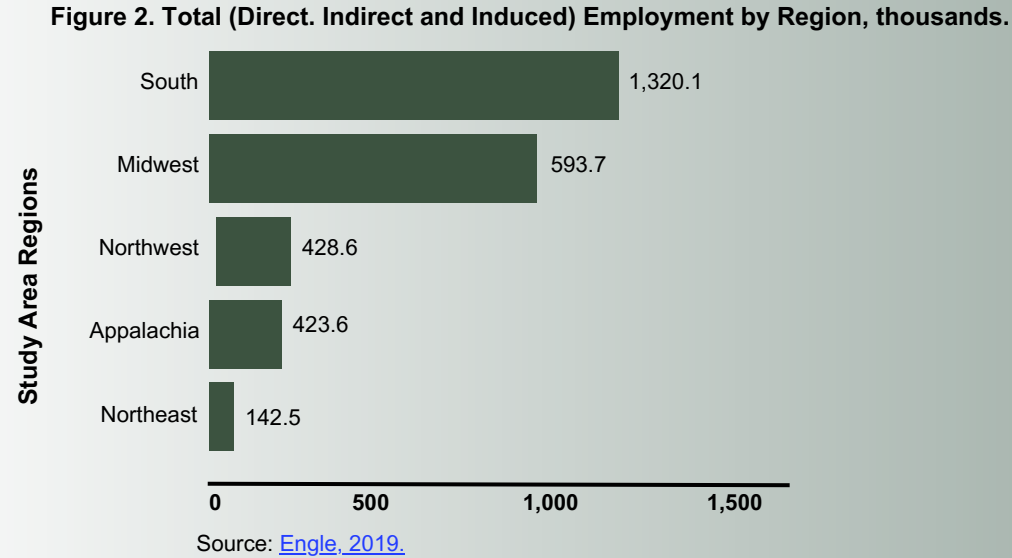
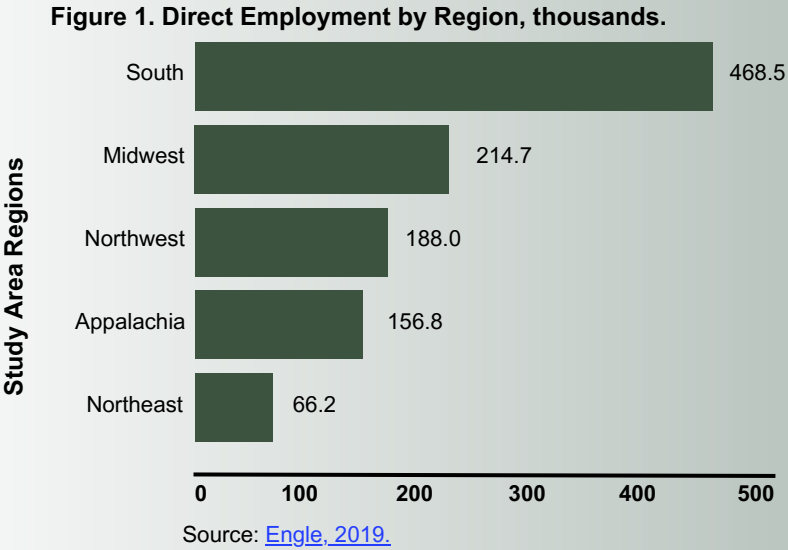
***US Forest Service Timberland Definition:** Forest land that is producing or capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. (Note: Areas qualifying as timberland are capable of producing 20 cubic feet per acre per year of industrial wood in natural stands. Currently inaccessible and inoperable areas are included.)

****DII:** Direct, Indirect, and Induced.

¹ Regions and associated states within the study area: South: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia. Appalachia: Kentucky, Maryland, Ohio, Pennsylvania and West Virginia. Northeast: Maine, New Hampshire, New York and Vermont. Northwest: California, Idaho, Montana, Oregon and Washington. Midwest: Illinois, Indiana, Michigan, Minnesota and Wisconsin.



The study also found that states within the South¹ support the most direct employment in forestry-related businesses with 468,500 jobs (Figure 1) (Engle, 2019). Furthermore, over 45% of the direct, indirect and induced jobs in the study area are attributable to the South (Figure 2) (Engle, 2019). California and Texas have the most total employment in forestry-related businesses with around 200,000 jobs in each state, due to their large overall populations and having more wholesaling industries (Engle, 2019).



Workforce Changes and Challenges

The forest and wood products sector includes a range of different occupations, with the type of work, salary, and outlook varying significantly across jobs. For example, the US Bureau of Labor Statistics provides the following information for a few types of work in the sector (Table 2).

Table 2. Examples of Forest and Wood Product Sector Career Information

	Forest and Conservation Workers	Woodworkers	Logging Workers	Natural Sciences Managers	Conservation Scientists and Foresters
2022 Median Pay	\$32,270/year \$15.51/hour	\$37,590/year \$18.07/hour	\$46,580/year \$22.40/hour	\$144,440/year \$69.44/hour	\$64,420/year \$30.97/hour
Typical Entry-Level Education	High School diploma or Equivalent	High School diploma or Equivalent	High School diploma or Equivalent	Bachelor's degree	Bachelor's degree
Work Experience in a Related Occupation	None	None	None	5 years or more	None
On-the-job Training	Moderate-term on-the job training	See How to Become One*	Moderate-term on-the job training	None	None
Number of Jobs, 2022	11,300	238,900	52,300	86,300	36,000
Job Outlook, 2022-32	-9% (Decline)	-1% (Little or no change)	-5% (Decline)	5% (Faster than average)	4% (As fast as average)
Employment Change, 2022-32	-1,000	-2,700	-2,400	4,200	1,300

*<https://www.bls.gov/ooh/production/woodworkers.htm#tab-4>

Source: BLS, 2023. Forest and Conservation Workers, Conservation Scientists and Foresters, Logging Worker, Woodworker, and Natural Sciences Managers.

As shown in Table 2, the opportunities in the sector are highly variable in terms of median pay, typical education, and the job outlook (i.e., forecast of job opportunities in the next 10 years). There are also some limitations to understanding the workforce and employment trends and conditions in the sector because of the variability in job classifications. An analysis of workforce trends across natural resources occupations found a nearly 10% decline from 2005 to 2021, in contrast to 31% growth in management occupations and a 15% decline in production occupations (Korhonen, 2024).

The success and competitiveness of the forest and wood products sector relies on the recruitment and retention of accountants, financial officers, project managers, administrative assistants, customer service representatives, and additional roles related to products, marketing, and operations.

Employment in the forest sector has been declining for more than a decade due to a range of factors, including mill closures, economic conditions, and changes in technology and automation. There are indicators of near-term and future growth opportunities for the sector, associated with innovations and product development such as mass timber, biochar, bioenergy, and ecosystem service markets. Additionally, there are many other job roles that are essential to the operations of forest and wood products organizations that are not directly related to forest resource education. The success and competitiveness of the forest and wood products sector relies on the recruitment and retention of accountants, financial officers, project managers, administrative assistants, customer service representatives, and additional roles related to products, marketing, and operations.

A comprehensive analysis of future workforce needs for the entire forest and wood products sector throughout the US has not been recently completed. However, state level studies provide some indication of the types and scale of the needs and challenges. Research of labor needs in California in 2020 concluded the forest sector is facing significant workforce challenges with the need for qualified personnel growing faster than the available talent pool, and the lack of qualified candidates for critical positions is projected to have significant negative economic impacts (CED, 2021). The Intertribal Timber Council (ITC) enacted a Workforce Development Strategic Plan and determined that the Tribes' forestry programs needed a 65% increase in staff (ITC, 2018). The Bureau of Labor Statistics (BLS) projects an average of 7,100 openings for logging workers each year from 2022-2032, driven by the need to replace workers who transfer to other occupations or exit the labor force, such as to retire (BLS, 2023).

Most recently, the Georgia Forestry Foundation (GFF) partnered with the Carl Vinson Institute of Government at the University of Georgia to facilitate a statewide, comprehensive labor study of Georgia's forestry sector. The study looked at workforce throughout the wood and fiber supply chain, from harvesting to the mills, and estimated the employment needs for the next five years. The study found that by 2026, the total employment need for the sector across the state of Georgia rises from about 20,400 to about 21,300 people, and the sector will need to hire 2,514 people annually to meet this need, driven by turnover, retirements, and job growth (GFF, 2023). Using the GFF study results and the economic impact study (Engle, 2019) to extrapolate potential total employment needs for the sector across all states over the next five years provides an estimate of a need to hire approximately 50,280 people annually.²

The potential nationwide employment needs of the US forest and wood products sector over the next five years could include a need to hire approximately 50,000 people annually.

² The Engle, 2019 study identified Georgia as representing 5% of the total direct employment for the sector. The GFF study reported Georgia needs to hire 2,514 people annually. Therefore, the national calculation is generated by $2,514/0.05 = 50,280$.

Racial, Ethnic, and Gender Diversity

Reviews and discussions of the racial, ethnic, and gender diversity of the US forest and wood products sector have been ongoing for many generations. A recent comprehensive literature review identified 260 relevant publications, research articles, dissertations, editorials, and reports on demographic diversity of US natural resources from 1919-2018 (Brown, 2020). However, as shown in the following table, the composition of the sector's workforce in many parts of the industry today does not reflect the demographics of the US workforce in general (Table 3).³

Table 3. Employed Persons by detailed industry, sex, race, and ethnicity (Numbers in thousands), 2022.

Industry	Total Employed	Percent of total employed				
		Women	White	Black or African American	Asian	Hispanic or Latino
Total (all industry, 16 years and over)	158,291	46.8%	77.0%	12.6%	6.7%	18.5%
US Census Data (2023)*	n/a	50.4%	75.5%	13.6%	6.3%	19.1%
Agriculture, forestry, fishing, and hunting	2,290	28.3%	91.7%	3.4%	1.1%	24.5%
Support activities for agriculture and forestry	155	37.0%	91.5%	3.3%	2.1%	27.8%
Forestry, except logging	51	34.6%	94.8%	3.7%	0.5%	12.3%
Logging	82	10.3%	90.7%	5.5%	0.0%	2.6%
Wood products manufacturing	409	17.4%	87.2%	7.8%	1.5%	17.5%
Sawmills and wood preservation	133	13.1%	84.8%	11.0%	1.5%	8.0%
Paper manufacturing and printing	783	31.4%	80.7%	13.0%	2.7%	17.8%
Pulp, paper, and paperboard mills	168	21.8%	79.3%	17.0%	1.7%	5.8%
Paperboard container manufacturing	94	26.2%	68.6%	23.2%	2.2%	17.5%

* Census data includes people outside of the workforce (i.e., minors and retired persons)

Source: Labor Force Statistics from the Current Population Survey, BLS, 2022.

<https://www.bls.gov/cps/cpsaat18.htm>; US Census Bureau,

<https://www.census.gov/quickfacts/fact/table/US/PST045219>

As shown in Table 3, the sex, race, and ethnicity of all employed persons in the US reflects the overall census data fairly closely (see the top two rows, shown in a light blue color). In the forest and wood products sector, however, there is variability across industries. For example, the percentage of women in the total workforce is 46.8% (women are 50.4% of the total population) whereas in the forest and wood products sector related industries the percentage of women ranges from 10.3% in logging to 37.0% in support activities for agriculture and forestry.

³ Note that Table 1 reports approximately 2.9 million in direct, indirect, and induced employment in forestry-related businesses across 32 states and about 1 million in direct employment. The data in Table 1 differs from the data in Table 4 because the categorization of jobs by industry and the geographic coverage of the data is not the same.

The percentage of white employed persons in the total industry workforce is 77% (compared to 75.5% of the total population) whereas in the sector it ranges from 68.6% in paperboard container manufacturing to 94.8% in *forestry (except logging)*. The percentage of Black or African American employed persons is 12.6% of the total workforce (13.6% of the total population) and ranges from 23.2% in *paperboard container manufacturing* to 3.3% in support activities for agriculture and forestry. The percentage of Asian employees in the total industry is 6.7% (6.3% in the total population) and ranges from 0.0% in logging to 2.7% in *paper manufacturing and printing*. The percentage of Hispanic or Latino workforce is 18.5% in the total industry (19.1% in the total population) and ranges from 2.6% in *logging* to 27.8% in *support activities for agriculture and forestry*. Approximately 3.0 million American Indians and Alaska Natives (AIANs) account for 1.2% of the US population 16 years of age and over (BLS, 2023a). Data about AIANs in the workforce is not generated due to the small sample size. Persons with a disability account for about 12% of the US population and 4.7% of the total workforce (BLS,2022).

Another consideration for the sector is the age representation of the workforce (Table 4). As shown in the following table the median age of the total US workforce is 42.3 years. In forest and wood products related industries the median age ranges from 43.0 to 50.5 years. The data also shows that 31% of employees in forestry and wood products manufacturing are over 55 years of age. This age group represents 38% of logging employees. The percentage of the workforce over age 55 is 22% in wood products manufacturing, which is close to the 24% overall workforce percentage of this age group.

Table 4. Employed persons by industry and age (Numbers in the thousands) 2022.

	US Workforce	Forestry (except Logging)	Logging	Wood Products Manufacturing	Paper Manufacturing and Printing
Total 16 and over	158,291	51	82	409	783
16-19 years	5,600	0	2	11	12
20-24 years	13,778	1	9	37	40
25-34 years	35,300	11	11	83	128
35-44 years	34,624	7	11	96	164
45-54 years	31,654	17	17	91	196
55-64 years	26,761	10	23	63	186
65 years and over	10,574	6	8	27	56
<i>Median age</i>	42.3	50.5	49.2	43.0	47.5

Source: <https://www.bls.gov/cps/cpsaat18b.pdf>

The development of much of the sector’s workforce relies on recruitment to undergraduate wood science and forestry programs. As shown in the following table, undergraduate enrollment for forestry and wood science/products may have lower gender and race/ethnicity diversity than other natural resource degree programs and does not reflect the US population (or workforce) in general (Table 5).

Table 5. Undergraduate enrollment percentages for women and minorities in natural resource programs by discipline, 2017.

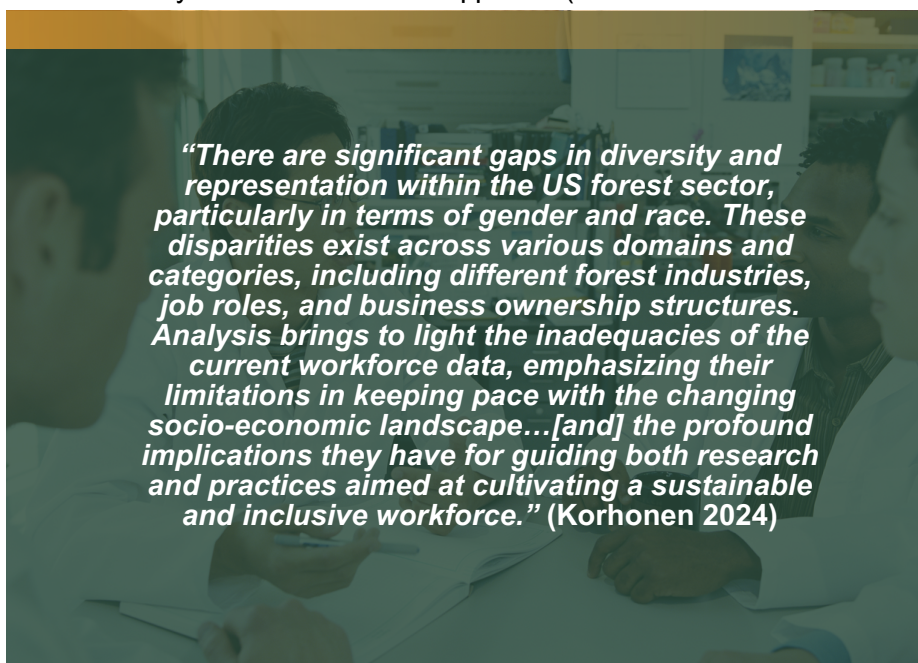
Discipline	% Women	% Minority
Environmental Science & Studies	57.5	22.8
Fisheries & Wildlife	50.4	13.4
Conservation & Management	51.3	23.1
Recreation	39.7	11.6
Range Science & Management	42.5	14.0
Watershed Science & Management	34.6	13.5
Wood Science/Products	25.6	18.1
Forestry	23.0	11.1
<i>Total Enrollment</i>	<i>46.6</i>	<i>17.1</i>

Source: (Bullard, Walker, and Burger 2023)

The workforce in the US and in the forest and wood products sector are subject to the general population dynamics in the US, including the long-term trend of an aging workforce. The number of people in the workforce over the age of 75 is projected to nearly double (96.5% growth) by 2030 (BLS, 2021). The racial and ethnic demographics of the overall population and the workforce are also shifting. Over the past 40 years, from 1979 to 2019, the percentage of the workforce that is Black or African-American, Asian, or Hispanic or Latino nearly doubled from 12% to 22% (BLS, 2021a).⁴

According to a recent study, a vast majority of US adults (81%) believe that corporate America should reflect the diversity of the nation, and a similar majority (78%) support businesses taking active steps to make sure companies reflect the diversity of the American population (The Harris Poll, 2023). These views are widely represented across race with the survey finding Black Americans support active steps by businesses by 88%, Hispanic support is at 78%, and white Americans at 75%. The younger Americans in the Gen Z and Millennial age groups support business action at an 83% rate and Baby Boomers are 74% supportive (The Harris Poll 2023).

Analysis of companies reveals a statistically significant connection between diversity and financial performance. Companies ranked high (e.g., in the top 25%) for gender diversity were 15% more likely to have financial returns above their national industry median, and companies ranked high for racial/ethnic diversity were 35% more likely to have better financial returns (McKinsey & Company, 2015). The reverse is also true, with the study finding that companies in the bottom quartile in both gender and ethnicity underperformed (McKinsey & Company, 2015).



⁴ Note the BLS has not consistently tracked race and ethnicity data and this can impact analysis of trends. The most recent BLS data (2019) provides expanded analysis of [Labor Force Characteristics by Race and Ethnicity](#), including data related to disparities in employment rates and earnings.



The Value of Diversity, Equity, and Inclusion

As a recent article in *The Northern Logger* stated, “If the industry is going to thrive, we’re probably looking at a workforce that is more diverse and includes people who grew up somewhere else” (Kingsley, 2024). Rural America saw reductions in both working-age populations (age 18-65) and young people (under 18) from 2010-2020, the first recorded decade of overall nonmetropolitan population decline for the country (USDA, 2022). If the forest industry – primarily located in rural areas of the country – is to meet its workforce needs, part of the strategy includes developing and supporting vibrant and resilient rural communities where young people want to live (Kingsley, 2023). Given the needs of the sector and the available employment population, in order to meet the workforce needs of the forest and wood products sector it is also necessary to adapt existing recruitment, retention, and leadership development strategies to incorporate objectives and effective approaches for supporting diversity, equity, and inclusion (DEI).

What is Diversity, Equity, and Inclusion (DEI)?

Diversity, equity, and inclusion (DEI) is a reference to “three closely linked values held by many organizations that are working to be supportive of different groups of individuals, including people of different races, ethnicities, religions, abilities, genders, and sexual orientations” (McKinsey & Company, 2022).



What is Diversity, Equity, and Inclusion (DEI)?

DIVERSITY - Diversity is the range of human differences, including but not limited to race, ethnicity, gender, gender identity, sexual orientation, age, social class, physical ability or attributes, religion, ethical values, and national origin.

EQUITY - Equity is treating people fairly, taking into consideration, respecting, and embracing their differences. However, equity is not equality (where all individuals are treated the same). Instead, it denotes an environment where individuals share the belief that they are getting what they need so they can contribute equally.

INCLUSION - Inclusion is involvement and empowerment, where the inherent worth and dignity of all people are recognized. An inclusive workplace promotes and sustains a sense of belonging; it values and practices respect for the talents, beliefs, backgrounds, and ways of living of its members.

Source: (Employers Council, 2021)

While recognizing the politicization and polarization around DEI, including state laws placing or proposing restrictions on DEI programs in educational institutions,⁵ the underlying concept is largely based on existing employment laws, established labor protections, and aims to leverage the research related to competitive business advantage. The definition of DEI aligns with existing labor laws in the US requiring that: “*Applicants, employees and former employees are protected from employment discrimination based on race, color, religion, sex (including pregnancy, sexual orientation, or gender identity), national origin, age (40 or older), disability and genetic information (including family medical history)*” (EEOC, 2024). Research demonstrates that workforce diversity fosters innovation and leads to more effective problem solving, and that the addition of women to collaborative teams has a positive effect on group processes (Kern, Kenefic, and Stout 2015). A compilation of findings identifies a number of business benefits and strategies associated with diversity and inclusion (see sidebar), and studies show companies with a more diverse workforce have better financial performance (McKinsey & Company, 2015). The World Economic Forum has reported on findings that companies with more diverse management teams have 19% higher revenues than companies with lower diversity and this advantage is attributed to increases in innovation (Employers Council, 2021).

The Business Case for DEI

Benefits of DEI include improvements to:

- decision-making and problem-solving,
- employee engagement and productivity,
- brand and reputation, and
- cultural competence and global perspective.

Strategies:

- Inclusive recruitment and hiring practices (*including widening the candidate pool, hiring from underrepresented communities, establishing clear diversity goals and promoting diverse representation in all levels of the organization, including leadership positions*);
- Inclusive workplace cultures (*i.e, encouraging project collaboration across departments, emphasizing communication and teamwork, and providing training programs and workshops on related skill sets and topics*); and
- Continuous evaluation and improvement (*evaluate efforts through metrics, surveys and feedback mechanisms to identify areas for improvement and develop targeted strategies*).

The recent US court cases on affirmative action (see sidebar, following page) and emerging restrictive state-level policies are focused on eliminating DEI initiatives within educational institutions (Wood, 2023). However, these legal actions also impact the perceptions of risk by many other public and private organizations and can negatively impact the willingness to continue DEI practices over fears of being labeled discriminatory (Mazzoni, 2024). The need for clarity around the regulatory climate is important as the impact of legal challenges varies from state to state and there can be specific exceptions to consider. For example, the Supreme Court ruling allows US military service academies to continue to consider race as a factor in admissions (Blackburn, 2023).

⁵ As of July 2023, 40 bills had been introduced in 22 states proposing restrictions on DEI initiatives at public colleges, according to information collected by the Chronicle of Higher Education (Wood, 2023).

Even in a politically-charged environment, there is a case to be made that this is the time to bolster DEI initiatives rather than diminish or downplay efforts. When President Reagan attempted to remove affirmative action from government contracting in the mid-1980s, some of the strongest opposition to his proposed changes came from corporations. A survey in 1985 of 128 Fortune 500 companies reported that 95% intended to keep their programs regardless of changes to the executive order, and companies filed amicus briefs and sent telegrams to the White House opposing efforts to water down affirmative action (Mark, 2024). Similarly, in a 2023 survey of more than 320 corporate executives, 91% said the Supreme Court's decision on admissions (see sidebar) has not affected their prioritization of DEI, even as 59% said they have felt the rising backlash since the court's decision (Mark, 2024).

Affirmative Action in the United States

In 2023, the US Supreme Court ruled against the continued use of affirmative action that factors race into admissions at colleges and universities, systems that had been operating since 1978 (Nittle, 2023). The change could disproportionately impact Black women who currently earn 64% of bachelor's degrees, 72% of master's degrees and 66% of doctoral degrees for Black students overall (Nittle, 2023). The increased number of women, and specifically white women, in higher education and in the workforce provides evidence that they have been the greatest beneficiaries of affirmative action since gender was included as a consideration in the Civil Rights Act of 1964 and added to federal contracting in 1967 (Kohn, 2013). The most recent forms of affirmative action in the US date back to the 1960s, but the concept originates in the early-1900s including use in federal labor regulations in 1935 (Mansky, 2016). During the Reagan Administration, the US Department of Labor studied the effectiveness of affirmative action and found that between 1974 and 1980 minority employment among federal contractors rose by 20 percent, and by 15 percent among women. In comparable businesses that were not subject to federal affirmative action requirements, the study found that minority employment rose by only 12 percent, and just 2 percent for women (History.com Editors, 2023). In 1995 the federal government defined affirmative action as *“any effort taken to expand opportunity for women or racial, ethnic and national origin minorities by using membership in those groups that have been subject to discrimination as a consideration”* (Stephanopoulos, 1995). A study in 2013 at Harvard found that *“in states where affirmative action programs had been repealed, the representation of women and certain minorities in the workplace fell between 4 and 37 percent”* (History.com Editors, 2023).

The needs that DEI addresses include improved recruitment and retention across gender, race, and ethnicity, which are still prevalent needs in the workforce and needs that will likely still take some time to be more fully resolved (Van Horn, 2023). The term “diversity fatigue” was originally used in the 1990s to describe “the stress associated with management’s attempts to diversify the workforce through recruiting and retention efforts” (Employers Council 2021). Diversity fatigue can show up as distress in response to a sense of inadequate results from DEI efforts, or for individuals that see diversity work as being merely for the sake of political correctness, or when efforts are viewed as a strategy solely to enhance and further the brand (Employers Council, 2021).

Evidence supports the importance of a strong employer commitment to DEI to ensure relevance to today’s early career professionals. The Gen-Y (born between 1981 and 1996) and Gen-Z (born between 1996 and 2010) populations hold diversity, inclusion, and social responsibility as core values, seek authentic leadership on these values, and want to be part of workplace environments that have a positive impact (Andrade, 2023). A “lay-low” strategy on DEI misses the opportunity to counter the misinformation, maintain and build trust with audiences, and provide inspiring leadership to current and potential employees (Harper, 2024).

What are effective DEI strategies and practices for the forest and wood products sector?

Recent research has summarized specific recruitment and retention issues for natural resources and forestry. The identified issues are directly related to recruitment and retention in undergraduate degree programs, but these issues also exist outside of the educational setting. Some of the issues identified are directly related to the value of DEI. For example, the issues include “few female and minority role models”, “historically marginalized groups having fewer outdoor opportunities”, and “cultivating a sense of belonging” (Bullard, Walker, and Burger 2023)⁶ Workforce development may appear to focus on early-career and entry level positions; however, DEI initiatives for mid-level and senior level leaders are key to establishing role models and supporting a sustainable strategy.

Research has identified effective strategies for addressing barriers to recruitment, retention, and leadership development. The effective practices range from engagements in early childhood and middle school through to the college and career development experiences. A list of practices for effective DEI initiatives is shown in the sidebar, and the next section provides examples of efforts to apply these strategies to public, non-profit, private, and academic organizations in the US forest and wood products sector.

Practices and Strategies for Effective Diversity, Equity, and Inclusion Initiatives

<p><i>Strategies to Improve Diversity Recruiting</i></p> <ul style="list-style-type: none"> - Review risk of biased language or other barriers in job postings - Expand referral network - Address risks of affinity bias in interview and selection process - Communicate organizational culture - Provide pay transparency 	<p><i>Strategies to Improve Diversity Retention</i></p> <ul style="list-style-type: none"> - Have clear, up-to-date, and accessible information about company policies and values - Provide education and training to support organizational culture - Intervene and address occurrences of harm or conflict - Incorporate diversity into teams and all levels of operations - Establish support structures, such as Employee Resource Groups (ERGs)
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Sources: Employers Council, 2021; Catalino, N., 2022.

⁶The complete description of these issues and the associated research related to each is included in the Appendix of this report.

Leadership Opportunities

There have been a variety of efforts undertaken in the US forest and wood products sector to understand and address needs to improve diversity and inclusion in the workforce. These efforts include leadership in the private and public sectors.

USDA Forest Service

The history of addressing diversity, equity, and inclusion in the workforce of the US Forest Service (USFS) spans many decades. While recognizing that the Civil Rights Laws of the US are based on the 13th, 14th, and 15th Amendments to the Constitution, the history of inclusion in the Federal workforce also marks a beginning point in 1940 with President Franklin Delano Roosevelt’s Executive Order 8587 that bars discrimination in hiring: *“No discrimination shall be exercised, threatened, or promised by any person in the executive civil service against or in favor of any applicant, eligible, or employee in the classified service because of race, or his political or religious opinions or affiliations, except as may be authorized or required by law”* (USFS 2022). The USFS recognizes four eras of change in the workforce regulations and practices of the agency, ranging from the World War II era to the most current period that is marked as starting in 2007 with the swearing in of Abigail Kimbell, the first woman to serve as Forest Service Chief, and ending in 2021 with the swearing in of Randy Moore, the first Black person to serve as Chief of the Forest Service (USFS, 2022).

The USFS has undertaken recent efforts to address workforce needs and support diversity and inclusion in the agency. The efforts include gathering employee data and evaluation of trends, including racial and gender representation within the workforce. The findings to date have brought some challenges to light for the agency. For example the analysis shows that employees from historically underrepresented racial and ethnic backgrounds have been advancing more slowly in their careers and are significantly more likely to be fired from the USFS (USFS, 2023). The analysis also provides insights into opportunities, including the success of trainee and internship programs as mechanisms that Hispanic and Black employees are much more likely to utilize as routes to enter employment in the agency (USFS, 2023).

“..there’s a myth that the people who built our nation were white—that the first pioneers and settlers were white—that the first people who cared for our forested landscapes were white. The truth is more complex. People from all races built this country, and African-Americans played a crucial role. For centuries, African-Americans have helped develop our natural resources—as explorers, as pioneers, as farmers, as foresters, and as conservationists. African-Americans have a rich history of caring for the land and using it to serve people.” - Dale Bosworth, Chief of the Forest Service, August 22, 2006 (USFS 2006)

The USFS has supported specific workforce development strategies, including the Multicultural Workforce Strategic Initiatives (MWSI), and related Job Corps programs such as the Student Temporary Employment Program (STEP), and Student Career Experience Program (SCEP). These efforts were undertaken in partnership with forestry schools such as Alabama A&M University and Florida A&M University and included providing annual support to enrolled students and resulted in job conversion rates as high as 50% (USFS, 2005). Despite measurable success in workforce recruitment, these programs are no longer part of the USFS Pathways Internship program (USDA Forest Service, 2024).

The leadership of the USFS has committed to making substantial changes in hiring, training, and retention with a goal of developing a workforce that better reflects the population of the US (USFS, 2015). Recent research examined the demographic profiles of populations within a 1-hour drive time around Forest Service workplaces and then compared those regional populations to USFS workforce demographics at each location. The research found that the USFS had a greater proportion of white employees than the US population as a whole, and racial/ethnicity diversity was lower than surrounding communities at 99.7% of Forest Service workplaces (Locke, 2023). The researchers noted that the design of this evaluation offers a model for spatial assessments of workforce diversity, especially for geographically dispersed organizations.

Society of American Foresters

The mission of the Society of American Foresters (SAF) is to *“advance sustainable management of forest resources through science, education, and technology, promoting professional excellence while ensuring the continued health, integrity, and use of forests to benefit society in perpetuity”*. Today, SAF is a 10,000-member community of forestry and natural resources professionals from throughout the country (SAF, 2024). To ensure a representative organization, SAF has adopted a Diversity and Inclusion Policy and undertaken a number of actions to advance the goals of the policy (SAF, 2017). Examples of the activities and actions undertaken by SAF in support of their Diversity and Inclusion Policy include:

- Anti-Harassment Policy
- Diversity and Inclusion Working Group (F3);
- Diversity Leadership Award; and
- Student Diversity Scholar Program

There is also a Gregory Award Program from SAF that focuses on international engagement, and SAF recently initiated a diversity scholarship and internship effort first awarded in 2022 and enabled with the support of Resource Management Service (RMS), an Alabama-based timber investment management organization (TIMO). Most recently, SAF is engaging in a partnership with the Intertribal Timber Council (ITC) to provide free SAF memberships for the recipients of the ITC’s Truman Picard Scholarship. SAF continues to review policy and programs to consider opportunities for greater inclusion, such as recently making changes to the national science awards to include DEI metrics as part of the scoring.

In partnership with the US Forest Service and the National Association of University Forest Resource Programs, SAF also supported the development of the research and stakeholder engagement report *“Increasing Talent Through Increasing Diversity”* that provides key steps and recommendations to help attract and retain talent in forest resource management and aids in the better understanding of how to foster a culture of inclusion (ILC, 2016).

The U.S. Endowment for Forestry & Communities

In 2022, the U.S. Endowment for Forestry & Communities (the Endowment) led the establishment of the Forest and Wood Products Inclusion Council (Inclusion Council) to bring forest sector leaders together with experts in diversity, equity, and inclusion to address racial and gender inequities in the sector (U.S. Endowment for Forestry and Communities, 2022). The Council includes representatives from public, private, not-for-profit, academic, and Indigenous organizations in the forest sector, and in 2023 they announced the priorities within their National Action Plan (U.S. Endowment for Forestry & Communities, 2023).

The first goals of the National Action Plan outlined by the Inclusion Council members are:

- A research and survey process to understand workforce and diversity challenges facing the sector,
- Learning Labs to share diversity, equity, and inclusion best practices from forestry industry leaders, and
- Convening practitioners, advocates, and champions from within the sector to build a community of practice around strengthening the sector workforce.

The Inclusion Council leaders recognize that to better compete in today's global market and meet labor market demands, the sector's workforce must grow in ways that reflect our communities. The Council's efforts focus on collecting better data to understand DEI trends in the sector; attracting, retaining, and advancing historically underrepresented groups; and building awareness and access to create an equitable workforce and workplace. An example of an Inclusion Council supported research effort is the DEI Strategy for an Inclusive Workplace in the Forest and Wood Products Sector (DEI in Work) project started in 2023.⁷

Rayonier

Many private sector employers in the forest and wood products sector have taken actions to address workforce needs and the value of DEI.⁸ One example of corporate leadership is the approach demonstrated by Rayonier.

Rayonier (NYSE: RYN) is a leading timberland real estate investment trust (REIT). Rayonier was founded in 1926 in Shelton, Washington and today is headquartered in Wildlight, Florida. Over the years, Rayonier has expanded to become the second-largest timber REIT, and now manages 2.8 million acres of working forests, located in 10 U.S. states — focused in the U.S. South, U.S. Pacific Northwest, and New Zealand (Rayonier, 2024).

Rayonier produces an annual sustainability report that examines environmental, social, and governance dimensions of their operations, including diversity, equity, and inclusion (Rayonier, 2022). Additional social considerations in their reporting include safety, employee recruitment and retention, employee development, employee wellness, community affairs, and Indigenous Peoples.

Rayonier embraces DEI “because it leads to a more enriching work experience for everyone, a higher functioning team, and a positive impact on the communities in which we operate” (Rayonier, 2022). Some of the strategies for Rayonier include:

- embrace and encourage individuality, where employees with different backgrounds, experiences, and behavioral styles feel included and comfortable sharing their perspectives and ideas;

⁷ For more information, visit: *DEI Strategy for an Inclusive Workplace in the Forest and Wood Products Sector (DEI in Work)* (<https://www.competitive-forest.com/dei>)

⁸ For additional examples of social impact leadership in the sector, see the report *ESG 101: Information for the Forest and Wood Products Sector* (Dovetail Partners, 2023).

- focus on creating greater forestry career awareness through a range of initiatives (including providing scholarships, awards and internships, using social media storytelling, increasing broad community engagement, engaging with underrepresented groups and organizations, participating in teaching opportunities at middle and high schools, and sponsoring job fairs and educational events at minority-serving institutions);
- offering an inclusive workforce culture—one that fosters a sense of belonging, where employees feel valued, heard, and comfortable sharing their ideas and perspectives; and
- a commitment to creating an equitable work environment by “leveling the playing field” and providing each employee with the necessary education, tools, and opportunities to thrive and succeed.

Rayonier provides DEI education to employees and reports workforce data for employees by gender, leaders by gender, and employees by ethnicity. The company also reports on hiring outcomes, including annual new hires by age, gender, and ethnicity. This information is made available in its annual Sustainability Report (Rayonier, 2022).

Implementation and oversight of Rayonier’s DEI initiatives are led by their Senior Leadership Team and Board. A DEI task force, along with a full-time DEI Director, help guide policy objectives and promote DEI initiatives within Rayonier.

Rayonier earned recognition in 2022 from Women Executive Leadership, Inc. for advancing gender diversity in the board room, where 30% of Rayonier’s non-employee Board members are females (Rayonier, 2022).

NC State University

NC State University ([NC State](#)) is based in Raleigh, North Carolina and is a comprehensive research university, consisting of 12 colleges and 68 departments. NC State is a public, land-grant university with strengths in developing students for science, technology, engineering and math careers, including faculty leadership in teaching and research across agriculture, business, humanities and social sciences, and natural resources.

NC State has undertaken a number of initiatives to address diversity, equity and inclusion on their campus and in their programs, including their forestry and natural resource related colleges and departments. These initiatives include efforts for students, staff and faculty, and programs that are specific to gender and sexual orientation inclusion, military-affiliated students, cultural awareness and leadership development, and first-year student engagement (NC State, 2024). In November 2023, NC State’s College of Natural Resources (CNR) also established a first of its kind Associate Dean for Diversity and Inclusion after having this role as an interim associate position since 2020. Dr. Stacy Nelson’s role includes ensuring that the college prioritizes its mission of creating a welcoming space for all and supporting community engagement and well-being efforts.

NC State is also a chapter of the national organization Minorities in Agriculture, Natural Resources and Related Sciences (MANRRS). The NC State Chapter of MANRRS has been reinvigorated after reaching a low-point during the pandemic and the group focuses on being open to everyone, offering professional development, company networking, friends, and new perspectives to student members (Sargent, 2021). MANRRS is a national society that promotes academic and professional advancement by empowering students who are interested in promoting diversity and inclusion in agriculture and other science-related careers (see sidebar).

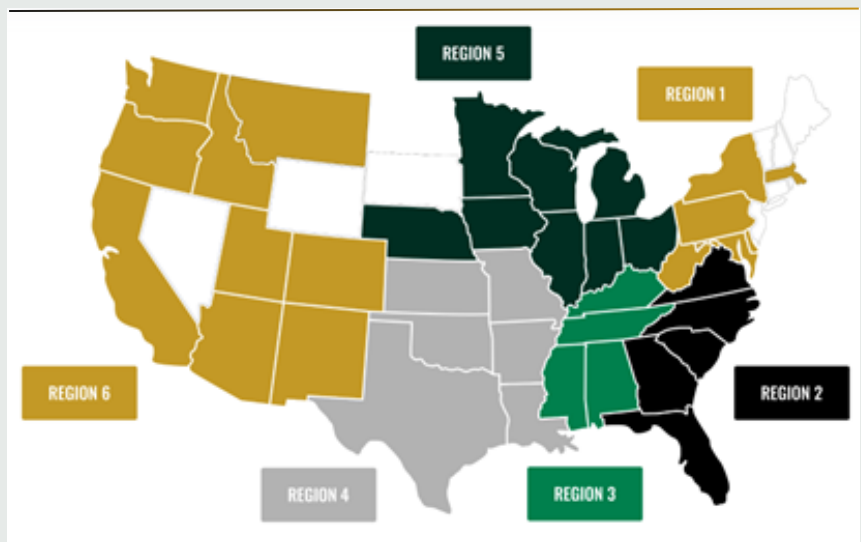
The Nature Conservancy (TNC)

The Nature Conservancy (TNC) is a global environmental nonprofit founded in the U.S. in 1951, and today the organization represents more than a million members, a staff with over 400 scientists, and impacts conservation in 79 countries and territories directly or through partners (TNC, 2024). The TNC has a multi-faceted approach to DEI, including annual reporting to address progress on goals and supporting a number of Employee Resource Groups (ERGs). The ERGs offer support and opportunities for a range of identities with the TNC workforce, including young professionals, women, veterans, multicultural, and LGBTQ+⁹ employees (TNC, 2023).

MANRRS Collegiate Chapters and Partnerships

Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS) began with a group of students and faculty at Michigan State University (MSU) in 1982 and Pennsylvania State University (PSU) in 1985. The goal was to develop a network between minority agriculture and natural resources students and professionals from academic institutions, government entities, and organizations within the industry. Today, MANRRS continues to promote academic and professional advancement by empowering minorities in agriculture, natural resources, and related sciences. MANRRS has collegiate chapters in more than 35 states throughout the country (Figure 3) and 42 additional partnerships through diverse industries. At the collegiate level, MANRRS provides access to internships, conferences, and opportunities for students. Membership is available for undergraduate and graduate students. Academic institutions, associations, government and corporate organizations can become MANRRS partners. Partners can access collaboration opportunities and the ability to recruit top candidates. Partners demonstrate a commitment to the advancement of representation and equity by being a part of the nation's largest minority-focused student and professional association for agriculture, natural resources, and related sciences.

Figure 3. Map of MANRRS Collegiate Chapters



<https://www.manrrs.org/collegiate-chapters>

⁹ LGBTQ+: lesbian, gay, bisexual, transgender, queer/questioning, plus (others)

There are additional efforts and resources available to support a sense of belonging in the forest and wood products sector. Further examples include:

- [Intertribal Timber Council](#): A nonprofit nationwide consortium of Indian Tribes, Alaska Native Corporations, and individuals, the ITC is dedicated to improving the management of natural resources of importance to Native American communities and provides training and resources for Indian foresters and Tribal officials as well as scholarships for Native Americans seeking degrees in natural resources and provides training and resources for Indian foresters and Tribal officials as well as scholarships for Native Americans seeking degrees in natural resources.
- [Black Faces in Green Spaces](#): A career resource guide developed in partnership with Minorities in Agriculture, Natural Resources, and Related Sciences (MANRRS), Sustainable Forestry Initiative (SFI), and Project Learning Tree (PLT). This guide introduces youth to jobs in forestry and conservation through the lens of Black Professionals currently working in the sector. Filled with inspiring stories and profiles, the reader gains insight on career paths taken by individuals who found their way into a green career through their love of nature and the outdoors.
- [Women's Forest Congress](#): A forum to develop strategies and solutions for forests through a female lens. Women throughout the forest space have come together to share personal and professional experiences, connect with other women in the sector, shape the latest innovations, and consider how actions informed by the female perspective can make a profound impact on the future of forests.
- [ForestryWorks®](#): A collaborative effort between the Forest Workforce Training Institute and various partners within the forest industry to develop a pipeline of qualified workers for the nation's forestry and forest products manufacturing industries. Educating students, parents, and teachers about career opportunities in the forest industry while providing pathways for students and job seekers to start their future career in the industry.

There are also related efforts in Canada and internationally:

- [Free To Grow](#): An initiative aiming to achieve gender equality and meaningful inclusion of equity-deserving groups (women, Indigenous Peoples, new Canadians, global majorities, 2SLGBTQI+, people living with disabilities) at all levels from technical to executive level positions in the forest sector.
- [Women in Wood](#): Created to bring together passionate women from across Canada and around the world to share their love for the woods. Whether you work in the woods, with wood, or for the woods, WIW provides a networking opportunity to help you find mentors, seek career advice, or meet other passionate women.
- [IUFRO Gender Equality in Forestry Task Force](#): The overall objective of this Task Force is to explain and promote gender equality as it relates to forests – their use, management, economic production, and as it relates to the scientific and research practices of the International Union of Forest Research Organizations (IUFRO). The Task Force will strengthen the science-society interaction in relation to forests by improving capacities for scientific cooperation, addressing emerging issues in a proactive manner, and viewing research topics from different perspectives.
- [Women in Construction, Wood, and Forestry](#): A study that strengthens the European Federation of Building and Woodworkers' (EFBW) commitment to gender equality; to identify the main challenges faced by women in construction, wood, and forestry; to highlight the good practices and good examples of how to overcome obstacles; and to present the solutions in a practical and targeted way for those working in the field.



The Bottom Line

A thriving forest and wood products sector is dependent on a wide array of talent, and the sector needs to have the ability to recruit, retain, and develop leadership across all workforce segments. Despite ongoing political debates and differing opinions on strategy, there remains the basic need to support the workforce of today and compete for the workforce of the future. Poor performance in recruitment and retention are very expensive for any organization. Long hiring processes, high rates of turnover, and reputational risks from negative employee experiences threaten the competitiveness of any employer. These conditions trickle over to impact other employers within a common sector. Applying effective strategies for diversity, equity, and inclusion in the forest and wood products sector helps support the success, relevance, and economy-wide benefits of the full range of forest products and services throughout America's rural, suburban, and urban communities.



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Appendix: General and Specific Recruitment and Retention Issues and Supporting Citations

	Recruitment Issues	Supporting Citations
Specific to FRNR Professions and Degree Programs	1 There is a general <u>lack of awareness</u> of FRNR careers and professions; this is true across society, including high school students, parents, teachers, and counselors, as well as among college advisors and currently enrolled college students.	Abusow et al. (2023); Balcarczyk et al. (2015, 2016)*; Burmann et al. (2022)*; Carter et al. (2021); Hager et al. (2007); Hubbard (2014); Jean-Philippe et al. (2020); Maughan (2001); Moreno et al (2020); O'Herrin et al. (2018); Sharik et al. (2015)
	2 Among those who are aware of FRNR professions, there is a <u>common perception that the jobs are relatively low paying and/or not prestigious or stable</u> .	Adams and Moreno (1998); Bettis and Bettis (2017); Cotton et al. (2009); Griffin et al. (2016); Mejia and Griffis-Kyle (2020)*; Nyland (2008); O'Herrin et al. (2018); Outley (2008); Sharik and Frisk (2011); Talbert et al. (1999)
	3 There are <u>relatively few female and minority role models</u> in some FRNR disciplines and professions; this is particularly true in forestry and forest industry-related disciplines.	Anderson (2020); Bal and Sharik (2019); Burmann et al. (2022)*; Dewsbury et al. (2019)*; Haynes et al. (2015)*; Macinnis-Ng and Zhao (2022); McGown (2015); Morgan (2013)*; Outley (2008); Staples (2020); Sharik (2015)
	4 FRNR professionals and undergraduate students often cite a love or passion for the outdoors as a vocational motivator, but <u>historically marginalized groups have generally had fewer opportunities to be engaged in the outdoor environment and FRNR issues</u> . They may see wildlife-related careers on TV or social media, but this is not true for forestry and forest industry-related professions.	Burmann et al. (2022); Flores et al. (2018); Haynes et al. (2015); Innovative Learning Concepts (2016); Kuhns et al. (2004); McGown (2015); Moreno et al. (2020); Morgan (2013)*; Outley (2008); Rouleau et al. (2017); Sharik et al. (2012, 2015, 2020)
General	5 <u>College affordability</u> is a critical issue, particularly for students from groups that are historically underrepresented in FRNR careers.	Coker and Glynn (2017); Delaney (2014); Foltz et al. (2014); Groutt (2022); Keane (2019); Minta (2022); Perna and Li (2006); Peters et al. (2019); Weibeck et al. (2014)
	6 <u>College accessibility</u> is critical, particularly for first-generation students and their families navigating unfamiliar processes for college admission as well as for federal, state, and university financial assistance.	Anzelone (2023); Boyer 2030 Commission (2022); Coker and Glynn (2017); Gault et al. (2014); Keane (2019); Minta (2022); Perna (2006); Woodward Hines Education Foundation (2023a)
	Retention Issues	Supporting Citations
General	7 <u>Cultivating a sense of belonging must be highly intentional</u> in the student's academic program; inclusiveness means being present, but it also means being heard and truly engaged.	Bal and Sharik (2019); Balcarczyk et al. (2015)*; Crandall et al. (2020); Hausmann et al. (2009); Hurtado et al. (2009); McGown (2015); Murphy et al. (2020); Newhouse (2023); Rawana et al. (2015); Taylor (2018); Westphal et al. (2022)
	8 <u>Affordability issues continue throughout the undergraduate experience</u> , particularly for students without a 'safety-net' of financial support.	Anderson and Kim (2006); Coker and Glynn (2017); Estrada et al. (2016); Foltz et al. (2014); Jean-Philippe et al. (2020); Maughan et al. (2001); Peters et al. (2019)

Source: <https://academic.oup.com/jof/advance-article/doi/10.1093/jofore/fvad043/7428713> (Bullard, Walker, and Burger 2023)



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