Journal of Environmental Studies and Sciences (2018) 8:379–384
https://doi.org/10.1007/s13412-018-0518-1

Enhancing racial diversity in the Association for Environmental Studies and Sciences

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Published online: 6 September 2018

Abstract
From the outset, the Association for Environmental Studies and Sciences (AESS) has sought to create a diverse and inclusive organization. Though AESS has clearly outlined strategies for enhancing diversity, the association has found it challenging to attract robust numbers of students of color as well as faculty of color to its ranks. This paper contains excerpts from an address presented at the 2018 AESS Awards Dinner. The paper identifies some of the reasons for the limited participation of people of color in the association and suggests new approaches to increasing racial and ethnic diversity.

Keywords Ethnic minorities · Strategies · Workforce participation · Recruitment · Inclusion · Students

Introduction

The theme of the 2018 Association for Environmental Studies and Sciences (AESS) conference was "Inclusion and Legitimacy." Theme notwithstanding, the sparse number of Blacks, Latinx, Asians, and Native Americans in attendance at AESS' Washington, D.C. conference did not go unnoticed. The limited participation of racial and ethnic minorities in the associations' national conferences goes back to its inception. Is this typical of conferences focused on environmental themes? While some might be quick to say "yes", it is not always the case.

In April, 2 months before the AESS conference, the inaugural New Horizons in Conservation conference was also held in Washington, D.C. More than 150 of the roughly 220 participants were students of color majoring in environmental studies and sciences (ESS), ecology, biology, natural resources, conservation, and related disciplines (see Images 1 and 2) (School for Environment and Sustainability, 2018). People of color were active in every aspect of the conference from obtaining funding support for it, to conceiving of and planning the event, and serving as keynote speakers, panelists, moderators, recruiters, and professional development specialists. Not only do people of color flock to New Horizons, they converge on the People of the Global Majority in the Outdoors Nature and Environment (PGM ONE) conference also. This begs the question—how can AESS attract more people of color to the organization and to its meetings?

This is an excerpt of a talk delivered at the 2017 Association for Environmental Studies and Sciences Awards Dinner

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AESS diversity statement and efforts

AESS is cognizant of the lack of racial diversity in the organization and has taken important first steps to address the challenge. A section of the association's website that focuses on diversity and outreach activities calls attention to the "the importance of promoting diversity within the field of environmental studies and sciences." The website goes on to list strategies for enhancing diversity that includes having panels at the annual meetings that are related to the concerns of racial and ethnic minorities, inviting prominent people of color to deliver keynote addresses, publicizing AESS to "HBCUs, tribal colleges, and professional associations devoted to scholars of color," having roundtables organized by the Caucus of Color, holding conferences in racially diverse cities, inviting scholars of color to join the program committee, creating travel grants to "help students and scholars from under-resourced institutions attend the conference," and creating "workshops on grant writing and mentoring that will give special attention to the needs of minority scholars" (https://aessonline.org/about-aess/aess-diversity/).

However, listing such strategies without developing explicit plans for achieving these goals or without being very intentional about infusing them into the structure, functions, processes, and operations of the association will quite likely leave AESS

in the situation it found itself in Washington, D.C., in 2018. That is, the association organized a national conference on environmental studies and sciences in the nation's capital but there was a low percentage of people of color in attendance.

So, while AESS executed one of its strategic goals—that of holding the conference in a racially diverse city—the conference had no obvious connections to the environmental studies departments in two well-known historically black colleges and universities (HBCUs) located in the host city. Washington, D.C.—a city that is 47% Black, 37% White, 11% Latinx, and 4% Asian (U.S. Census Bureau, 2017)—is home to Howard University and the University of the District of Columbia. Both of these HBCUs have environmental studies departments. Despite the fact that connecting to HBCUs is a strategic objective of AESS, that connection was missed at the last conference. Moreover, there are several professional associations and organizations that cater to people of color that are housed in Washington, D.C., that were not a part of the conference. Hence, without heightened awareness about the causes of lack of diversity and more intentional planning to enhance inclusivity, relatively few people of color in ESS will attend the annual gatherings. In the future, AESS should seek to strengthen collaborations with colleges, universities, professional associations, diversity pathway programs, and environmental institutions that serve primarily people of color in the host cities in which the conferences are held. Being intentional means going beyond statements suggesting that AESS promote its programs to HBCUs, tribal colleges, and people of color professional associations to actually developing meaningful, long-term collaborations that can result in greater participation of people of color in the association's programming.

Image 1 Participants at the New Horizons in Conservation Conference gather for a photograph. The conference was held in Washington, D.C., from April 18–20, 2018. Photo credit: Dave Brenner, University of Michigan. School for Environment and Sustainability

Students of color in environmental courses and pathway programs

Is the lack of students and faculty of color at AESS just a pipeline problem that reflects lack of people of people of color in environmental pathways? Leaders of environmental organizations and faculty and administrators in environmental departments often explain lack of racial diversity in their institutions and academic units as a function of disinterest on the part of students of color, and lack of knowledge of and awareness about environmental issues among ethnic and racial minorities (Taylor, 2018b; 2014; 2007).

Additionally, some faculty in environmentally related fields frame students of color as problematic and obstacles and that these factors are drivers of lack of racial diversity. For instance, O'Connell and Holmes' (2011) article on diversity reduces students of color's perceptions of the field, interactions with the outdoors, and career aspirations to stereotypes. In the article, the researchers focus on what they see as a lack of behavioral adjustment and surmise that few students of color pursue degrees in the geosciences because such students do not find the outdoors appealing and that they do not enjoy hiking, camping, or boating. The researchers argue further that students of color are less likely than White students to want to work on science projects in outdoor settings, and that the families of minority students are unsupportive if the students decide to major in the geosciences. They conclude that: "It is likely, therefore, that underrepresented minorities find

Image 2 Participants at the New Horizons in Conservation Conference take time to greet each other. The conference was held in Washington, D.C., from April 18–20, 2018. Photo credit: Dave Brenner, University of Michigan. School for Environment and Sustainability

geoscience's emphasis on fieldwork and the outdoors a deterrent to majoring in the discipline."

The article fails to recognize the diversity of environmental experiences and attitudes that students of color have. It also does not consider how mentoring, the availability of role models, the racial and gender composition of the faculty, finances, racism and discrimination, alienation, access to resources, and recruiting influence whether students major in the geosciences. Yet, Huntoon et al. (2015) find that helping students of color to feel like they belong in geosciences programs enhances retention—especially at the doctoral level.

Misperceptions of students of color and lack of knowledge of how and where to recruit students might be contributing to ESS faculty missing golden opportunities to bring a broader array of students into the disciplines. As Table 1 shows, a national study of the intended majors of freshmen shows that between 30 and 54% of students of color planned on majoring in science and engineering (S&E). The percentage of Black and White freshmen wanting an S&E degree is almost identical (40.4% and 40.3% respectively); 30% of Native American, 45.1% of Latinx, and 54.2% of Asian freshmen wanted to pursue such majors. The highest percentage of freshmen of color was considering majors in the biological and agricultural sciences (Higher Education Research Institute, 2014). However, Table 2 shows that by the time students earn their bachelor's and master's degrees, there is significant decline in the percentage of Asian, Black, Latinx, and Native American students who eventually earn S&E degrees (Table 2). These data suggest that if ESS faculty make connections with students of color early on in the college careers, there are opportunities to identify those who are interested the field and bring more of these students into the discipline.

It is a common practice to depict students of color, especially Blacks, as being disinterested in the outdoors (see Taylor, 2018a for an extensive review of this literature). However, my recent study of 157 science, technology, engineering, and math (STEM) college students found that 90.7% of Blacks and 91.2% of other minorities reported that they felt somewhat or very connected to nature. More than 97% of Blacks and other minorities indicated that they were either curious or very curious about nature (Taylor, 2018a).

My research also finds that students of color are taking ESS courses and have grade point averages that are similar to their White counterparts. Table 3 shows that 44.2% of Black and 45.5% of other minority students had taken environmental science courses; additionally, 34.9% of Black and 28.8% of other minority students have taken environmental studies courses (Taylor, 2018b).

Workforce participation

Not only are ethnic minority students preparing themselves academically for ESS careers, they want jobs in the field. Since the 1990s, high percentages of students of color have consistently reported that they want to work in federal environmental agencies and environmental nonprofits—these include organizations in which outdoor work would be expected and in jobs that are in ESS-related fields (Taylor, 2018b; 2007). Currently racial and ethnic minorities constitute about 29% of the STEM workforce and about 38% of the US population (Landivar, 2013; U.S. Census Bureau, 2016). However, Blacks comprise only 5%, Asians 0.7%, and Latinx comprise 4.8% of the environmental sciences and geosciences workforce in 2017 (Bureau of Labor Statistics, 2018). Thus, even within STEM fields, people of color are underrepresented in the environment and geosciences sector.

Though students of color are thought to have limited interest in participating in the environmental workforce and have salary expectations that exceed what the market pays, studies show otherwise. The median pay for environmental scientists and specialists in 2017 was $69,400 and the typical entry-level requirement was a bachelor's degree (Bureau of Labor Statistics, 2018). Students of color in my study referenced above were asked to say what was the minimum salary they would accept to work in such organizations. The mean minimum acceptable salary for Black students was $52,683; it was $47,455 for other minority students and $44,105 for White students. Though students of color had higher salary

Table 1 Intentions of freshmen to major in science and engineering fields, by race/ethnicity: 2014

Race or ethnicity	All science and engineering majors	Biological and agricultural sciences	Engineering	Mathematics, statistics, and computer sciences	Physical sciences	Social and behavioral sciences
All races and ethnicities	44.6	13.8	13.8	4.9	2.5	9.6
White	40.3	12.5	11.7	4.5	2.8	8.8
Asian	54.2	19.1	15.4	8.7	2.6	8.4
Black	40.4	14.3	9.0	4.0	1.9	11.2
Latinx	45.1	13.3	12.1	4.1	2.0	13.6
Native American	30.0	13.0	5.3	2.2	4.3	5.2

Source: Compiled from Higher Education Research Institute (2014). Survey of the American Freshmen. University of California at Los Angeles

Table 2 Ethnic and racial distribution of bachelor's and master's degrees awarded to US citizens and permanent residents by field: 2014

	White		Asian		Black		Latinx		Native American	
Science and engineering fields	Bachelors	Masters	Bachelors	Masters	Bachelors	Masters	Bachelors	Masters	Bachelors	Masters
All fields	63.4	61.8	6.6	5.9	9.9	12.3	11.6	8.5	0.6	0.5
Science and engineering fields	61.5	60.0	9.5	8.7	8.7	10.7	12.1	8.8	0.5	0.5
Science	60.6	59.6	9.1	7.3	9.4	12.2	12.3	8.8	0.6	05
Agricultural sciences	78.5	78.0	4.0	3.6	3.0	3.7	7.0	6.0	0.7	0.4
Biological sciences	59.4	61.5	15.1	14.0	7.2	6.8	10.8	7.5	0.5	0.4
Computer sciences	58.5	50.7	10.1	14.0	10.3	13.4	10.3	6.9	0.5	0.4
Earth, atmospheric, and ocean sciences	80.1	81.9	3.3	2.3	2.2	2.1	7.6	5.2	0.7	0.2
Mathematics and statistics	67.3	66.6	11.3	13.3	5.2	4.7	9.0	6.7	0.3	0.1
Physical science	65.3	70.8	12.3	9.0	6.3	4.3	8.7	6.4	0.5	0.4
Psychology	59.1	60.6	6.1	3.6	11.7	13.5	15.2	10.5	0.6	0.6
Social science	57.8	56.1	7.4	5.1	11.2	16.1	13.9	9.9	0.6	0.7
Engineering	66.9	61.2	11.7	14.0	4.2	4.8	10.4	8.7	0.4	0.2
Non-science and engineering	64.3	62.3	5.2	5.3	10.6	12.6	11.4	8.5	0.6	0.5

Source: Compiled from National Science Foundation (2017b). National Center for Science and Engineering Statistics, special tabulations of U.S. Department of Educations, National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey

expectations than White students, the differences were insignificant. In addition, the salary expectations of minority students were well below the median for salaries currently being paid in the field (Taylor, 2018b).

Recruitment

These data suggest that we should look beyond the issues O'Connell and Holmes (2011) identify. We should ask the question, if students of color want to major in ESS, are taking ESS courses, are desirous of jobs in the field, and have reasonable salary expectations, are they being recruited effectively into the profession and into organizations like AESS? It would not be surprising if the answer is no because many professionals and practitioners in predominantly White disciplines do not actively recruit people of color. To complicate matters, when there is a desire to recruit ethnic minorities, those wanting to do so often do not know how to.

Quite frequently, when diversity pathway programs are being developed, program managers say they will recruit Black students from HBCUs, Latinx from the Hispanic Association of Colleges and Universities (HACUs) or Hispanic Serving Institutions (HSIs), or Native American students from tribal colleges. If pushed, such managers routinely name the same three or four HBCUs and one or two tribal colleges they plan to recruit from. The problem with this approach is that everyone trying to recruit students of color converge on a handful of colleges and universities to jostle for a small number of students. Faculty, staff, and students at these campuses are fatigued by the large number of people in search of talent for "diversity" purposes.

Recruiters do not take into consideration that not only are there hundreds of colleges that meet the aforementioned criteria, only a relatively small percentage of students of color actually attend these colleges. That is, less than 3% of Native American students attend tribal colleges, about 17% of Black students attend HBCUs, and about 34% of Hispanic students attend HACUs or HSIs (National Science Foundation, 2017a).

So, focusing on only the top three HBCUs means that recruiters who adopt this strategy are not making contact with most of the ethnic minority college students in the country. For recruiters who want to recruit from a wide variety of minority-serving institutions (MSIs), the Department of Education maintains comprehensive lists of hundreds of colleges and universities that fit this description (U.S. Department of Education, 2017). Recruiters should also be careful not to overlook predominantly White institutions (PWIs). Some PWIs—like large public universities—have significant numbers of ethnic minority students who can be recruited readily.

ESS faculty and administrators should tackle the issue of diversifying their sector of the workforce head on. Beyond college campuses and the confines of professional associations, there are several modestly priced options for organizations seeking robust and diverse applicant pools to explore. The *Chronicle of Higher Education's* online advertising platform has a diversity boost portal (https://careers.chronicle.com/careers/products). This site is particularly helpful in searches involving faculty, research scientists, administrators, and freshly minted doctoral students. *Diverse Issues in Higher Education* reaches a broad pool of African Americans; Native Americans; Asian; Pacific Islanders; Latinx; lesbian, gay, bisexual, and transgender; military; and

Table 3 Racial differences in the relevant academic coursework completed

Courses	Percent taking one or more courses			
	Total sample ($n = 157$)	White ($n = 46$)	Black ($n = 43$)	Other Minorities ($n = 68$)
Biology	74.8	73.9	79.1	72.7
Environmental Sciences	47.7	61.4	44.2	45.5
Ecology/Ecosystem Studies	44.8	55.6	32.6	45.5
Environmental Studies	36.8	50.0	34.9	28.8
Environmental Justice	31.0	28.3	34.9	30.3
Conservation	29.9	40.0	18.6	30.3
Geology/Earth Sciences	29.7	37.0	25.6	27.3
Climate Sciences	26.0	35..6	23.7	21.2
Sustainability	25.8	41.3	16.3	21.2
Natural Resources Management	22.6	23.9	30.2	16.7
Geography	20.6	19.6	27.9	16.7
Agriculture/Agronomy	19.4	23.9	20.9	15.2
Botany	18.7	17.4	23.3	16.7
Marine/Ocean Sciences	17.5	19.6	20.9	13.8
Nature Writing/Environment Literature	16.1	19.6	16.3	13.6
Biochemistry	15.6	15.6	14.0	16.7
Atmospheric Sciences	15.5	17.4	16.3	13.6
Water Resources Hydrology	12.9	17.4	14.0	12.1
Soil Science	12.3	19.6	14.0	6.1
Natural History	10.3	13.0	11.6	7.6
Wildlife Management	10.3	13.0	9.3	9.1
Zoology	9.7	13.0	2.3	12.1
Forestry	9.1	8.7	7.1	10.6
Horticulture	4.5	0.0	9.3	4.5

Source: Taylor, D (2018b) "Racial and ethnic differences in students readiness, identity, perceptions of institutional diversity, and desire to join the environmental workforce." *Journal of Environmental Studies and Sciences*. Vol. 8(2): 152–168. DOI: 10.1007/s13412-0447-4

women. Its DiverseJobs platform is good for posting academic and nonacademic jobs as well for advertising internship and fellowship programs (http://diversejobs.net/).

DirectEmployers places advertising for staff and faculty on Listservs that reach diverse audiences. Institutions are using it to create more diverse applicant pools (https://directemployers.org/). A group of millennials have created a diversity job posting site called *DiversityEmployers* that can be helpful in staff searches (https://www.diversityemployers.com/).

Once recruited, ethnic minority talent has to be retained. Taylor (2014) chronicles the experiences of people of color who describe alienation and exclusion from the prevailing cultures of environmental organizations. Some leave the sector because of lack of mentoring, discrimination, racial insensitivity, and the feeling that they do not fit in. The ESS sector can learn from this. That is, organizations hoping to retain ethnic minority workers need to expand their diversity activities and create supportive work environments for all their employees. Organizations can further diversity efforts by developing a diversity, equity, and inclusion strategic plan; having a diversity budget; and engaging a broad group of stakeholders on diversity initiatives. It also means paying competitive market wages and making counter offers if employees are being wooed away by other institutions.

Conclusions and future strategies

Ethnic minorities comprise a growing segment of the population and the census projects that they will constitute a majority of the US population by 2045 (Frey, 2018; U.S. Census Bureau, 2018). If ethnic minorities are not incorporated into the ESS sector more effectively, this could be problematic over the long run. This is the case because ESS are in a growth sector. According to the Bureau of Labor Statistics (2018), the sector is growing faster than average and the number of jobs in the field will increase by 11% by 2026. To make matters worse, the US labor force is aging, and this is true of ESS too (Bureau of Labor Statistics, 2013). The AESS membership is reflective of this. Consequently, the ESS sector has to incorporate young and

talented ethnic minorities into the disciplines and workforce now in order to meet its future workforce and leadership needs.

At the college level, not only is it necessary to identify students who are interested in the field early, the students need effective mentoring and engaged learning opportunities to nourish their interests. This will mean broadening the traditional ESS curricula to include courses that incorporate the life experiences, expertise, and ideas of people of color into the syllabi. This should also include assigning reading materials authored by people of color.

AESS can further its strategic goals of enhancing the diversity of its membership and leadership. It can also continue to incorporate more topics related to equity, justice, inclusion, and cultural diversity into the agenda of its annual meetings. As the association develops its committee structure, AESS should create a diversity committee. The committee could be tasked with helping to diversify the leadership structure and the membership of the association. The committee can also help with recruitment, work with the conference planning committee to consider the demographic composition of panels, and encourage other forms of inclusive engagement in the annual meetings.

Diversity recruitment cannot and should not be the sole domain or responsibility of a single committee. Hence, all current members of AESS should be asked to participate in broadening the audiences the association currently reaches and collaborates with. To this end, members can tap into their networks on platforms such as LinkedIn to recruit new members, invite people to participate in programming, make connections, and mentor young scholars and professionals. AESS members can do the same with the research communities they are embedded in on virtual sites such ResearchGate or Academic.edu. Increasing diversity will strengthen AESS. The association has taken bold steps forward; it is up to the membership to continue the journey.

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