

NATURE

AT ASU

Inaugural Report
2016-2018



Director's Note

Corey Caulkins

Director

Conservation Biology & Ecology Senior



As Nature at ASU completes its second full academic year, I'd like to reflect on some of the achievements and impacts that have resulted from the hard work of our student leaders.

The theme of our second year was membership. The establishment of public meetings and expanded recruitment efforts has allowed us to give environmentally-minded students a platform to connect with one another. Engagement throughout this year has been enthusiastic. Next year and beyond, we aim to stabilize the foundations of the community by increasing consistency of participation.

New relationships have been established with Career Services and the Center for Biodiversity Outcomes, giving us the support to distribute an informative monthly newsletter, establish a centralized office space, and lay the groundwork for future career-themed events. Meanwhile, the Nature Guides mentorship program, our flagship effort, has continued to grow and facilitate transfers of knowledge between students.

This past year has been one of growth and change, and though growing pains are inevitable, I'm extremely proud of what this collection of motivated student leaders has been able to achieve. As I finish my tenure as Executive Director of Nature at ASU, I can confidently say that the organization's best years still lie ahead.

Corey Caulkins



Our challenge

In 2016, undergraduates in the Conservation Biology & Ecology major at ASU realized there was a problem. As the heart of the largest university in the nation, we were surrounded by young people like us who were thinking deeply about our environment and conservation of Earth's biodiversity for our shared future. We had role models of who we wanted to be as the next generation of diverse scientists, natural resource managers, educators, and decision makers, but at every step of our college experience we came across inadvertent barriers that seemed to cloud our path forward. As incoming students, we had seen clear and lucrative career pathways for pre-medical and business majors that enticed us. Our parents saw those pathways too, which led many of us to reconsider if we belonged in an environmental degree – especially those of us who are the first in our families to go to college or underrepresented in natural resource fields.

Although we were passionate about studying and protecting the environment, we felt lost. We did not understand the wide range of majors and careers that could help us pursue our passion for the natural world. We did not know how to find and learn from each other. We felt isolated in an academic structure that split up environmental degree programs into distinct schools and campuses. Ultimately, upon graduating, we worried about being under-qualified and under-competitive for jobs in environmental fields that required proven leadership and communication skills in addition to technical and scientific knowledge.

Our solution

We created Nature at ASU to address these challenges. As undergraduates, we are building an inclusive community of scholars who are united in our interests in studying, protecting, and restoring nature for our shared future. We designed a compass as our logo to represent our mission to help students find their way towards a rewarding future in environmental or conservation careers. To get there, we are recruiting students into environmentally focused majors, supporting a diverse community across academic units, and preparing students with communication and critical thinking skills to be effective scientists, practitioners, and leaders.





**Our mission is to build,
unite, and empower a
diverse community of
students at Arizona State
University to protect the
future of life on earth and
our natural ecosystems.**

Our approach

Nature at ASU is built on four pillars that are each designed to address a fundamental challenge facing environmental students. The objectives within each of these pillars is directed by an elected undergraduate leader.



BUILD

Incoming students struggle to connect their passion for nature to a major that will help them develop critical thinking, communication, and technical skills to make a difference. We will engage prospective students by exposing them to educational opportunities, diverse like-minded students, and career pathways.



UNITE

Academic environmental programs are siloed at an undergraduate level. We will connect students to ideas, opportunities, and each other by reaching across institutional boundaries to build a networked, inclusive community.



EMPOWER

Undergraduates are not aware of classes, internships, skills, and experiences that are necessary to be qualified and competitive for a wide range of environmental jobs. Nature at ASU will empower students by connecting university resources with career requirements, assisting with early career planning, curating opportunities in environmental fields, and connecting students with alumni and employers.



SUSTAIN

As a community organization run by undergraduates, Nature at ASU will prepare and plan for long-term success by developing a pipeline of leaders with the charisma, skills, and vision to realize our shared mission.

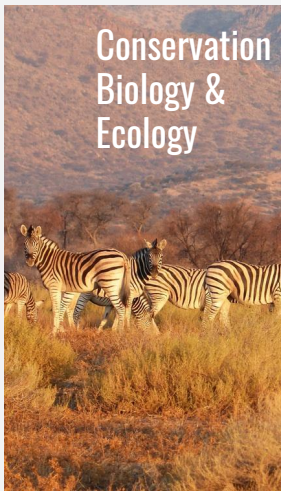


ASU offers a variety of environmental degree programs, each with its own focus and culture.

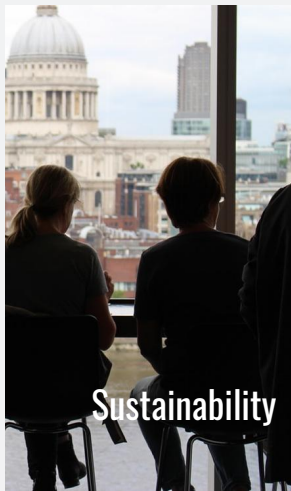
Nature at ASU has targeted 6 programs to showcase and connect to undergraduates. In its first two years, Nature at ASU focused on 3 of the 6 programs, including the Conservation Biology & Ecology major, the Sustainability major, and the Earth & Environmental Studies major.

Our target programs

ASU School of Life Sciences
Arizona State University



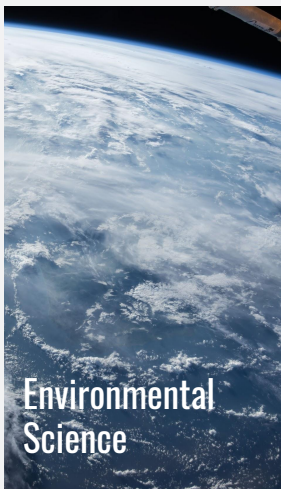
ASU School of Sustainability
Arizona State University



ASU School of Earth and Space Exploration
Arizona State University

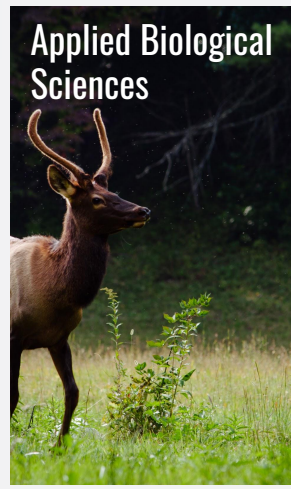


Tempe Campus



ASU New College
of Interdisciplinary Arts and Sciences
Arizona State University

West Campus



ASU College of Integrative Sciences and Arts
Arizona State University

Polytechnic Campus



ASU School of Community Resources and Development
Arizona State University

Downtown Campus



BUILD

The Build pillar was one of two focal areas of Nature at ASU's inaugural 2016-17 year (Year 1). We continued our outreach activities in this area in Year 2 (2017-18).

- Hosted numerous outreach events with our message reaching over **4500 parents, students, and community members.**
 - Passport to ASU (August, 2017)
 - School of Life Sciences Night of the Open Door (February, 2017)
 - Earth Day Festival (April, 2017)
 - Tabling at the ASU Memorial Union (March 2018)
 - School for Earth & Space Exploration Open House (April 2018)
- Promoted our environmental degrees to **750+ freshman** in the School of Life Sciences.



- Established Nature at ASU student ambassadors in the School of Life Sciences Advising Office to bolster recruitment efforts.
- Developed a first-of-its kind newsletter distributed to **~200 recipients.**
- Connected to local Phoenix high schools and community colleges to establish a recruitment pipeline.
- Developed Environmental Career Pathways resources and Nature at ASU promotional materials for distribution by the School of Life Sciences advising office.
- Collected and analyzed demographic data from the Schools of Life Sciences and Sustainability to identify challenges to underrepresented students who are interested in environmental majors (Liska 2017, Givens 2017).

Ethnic minorities represent 39% of the US population but only 16% of staff in environmental organizations. Also, despite recent gains, natural resource professions are still dominated by men.

Taylor 2014; Arismendi and Penaluna 2016

Nature at ASU intends to address this deficiency.





UNITE

- Executed 14 community building events which focused on professional development and leadership opportunities for students.
- Partnered with the Center for Biodiversity Outcomes to obtain office space for leadership meetings and student-peer mentor advising.



Dr. Leah Gerber



Dr. Andrew Smith



Dr. Tom Sharp



Dr. Ben Minter



Dr. Arianne Cease



Dr. Arjun Heimsath



Dr. Heather Throop



Dr. Mike Schoon



Dr. Dan Childers

Partnered with **nine** faculty ambassadors across three schools within ASU. These faculty partners help to spread the word about Nature at ASU to current and prospective students.

An exemplar success of the ‘Unite’ pillar is the **Nature Guides** program, which is a first-of-its kind peer-to-peer mentor program within the School of Life Sciences. The objective of Nature Guides is to provide professional and academic mentorship to first-through-third year Conservation Biology & Ecology students, including students who have transferred into ASU from community colleges. To date, our Nature Guides have trained 13 student mentors, advised 21 freshmen and 10 sophomores, and developed materials to guide students and future mentor cohorts to success from an early stage.

- **Nature Guides Peer Mentor Handbook:** A best practices guide for future mentors on what to expect, how to prepare for meetings, and how to solve common peer-mentoring challenges.
- **Nature at ASU Resource Guide:** A summary of environmental classes, faculty, and employer information, available for both mentors and mentees.
- **Conservation Biology & Ecology Major Map:** A suggested timeline of opportunities including finding a research mentor, identifying internships, studying abroad, and more.



Our Fall 2017- Spring 2018 Nature Guides. From left to right: Morgan Flander, Brock Williams, Brianna Tomooka, Heather Coates, Chelsea Avelino, Jessica Givens, & Kyli Denton.



I owe many of my own successes to Nature Guides. I have acquired critical leadership skills by being the current director of the mentoring program and I've gained a great deal of self-confidence as a student, enough to pursue my dream internship and actually get the position!

-Chelsea Avelino, Sophomore



Being a mentor for Nature was one of best decisions I made while at ASU. Being able to pass on my knowledge of the conservation program to future students and guide them along in their studies was a life changing experience. I got to relive what it was like to be a freshman again and how daunting university can be especially without a helping hand. Since I didn't have this type of guidance as a freshman, I wanted to give guidance to those who needed it and set them on the path to success. Watching the mentees develop into successful students was such a rewarding experience.

-Ryan O'Leary, Nature at ASU Alumnus

When I first saw the opportunity to become a conservation mentor I thought: "what an amazing chance to learn new things and guide others towards a career in conservation biology." Being a mentor has taught me more in three semesters than I learned in my first two years of higher education. I now understand the need for Conservation Biology and Ecology students. It has taught me how to step out of my comfort zone, reach for opportunities, find resources, and receive support from peers and faculty.

As a mentor I have had the pleasure of assisting others in receiving internships and research positions. In addition, I have aided undergraduates in assessing which direction to take that is best suited for them.



-Morgan Flander, Senior

CACSCB

Central Arizona Chapter of the Society for Conservation Biology



As a key part of the Unite pillar of Nature at ASU, the undergraduate-run CACSCB group connects students at ASU to local conservation and wildlife practitioners to teach relevant technical skills related to conservation biology, provide opportunities to network with researchers, and establish opportunities for friendship and connection within the Nature community.

CACSCB connects over 100 members and hosts ~10 events each semester.



Undergraduates radio-tracking desert tortoises.

CACSCB was like finally getting plugged in to the conservation community that I had been looking for all along. As a student, it was my access to career advice, like minded friends, professional connections, and hands-on experience. The skills that I gained were essential to launching my career after graduation.

-Meghan Cook, CACSCB Alumnus

Undergrads participating in a saguaro survey.



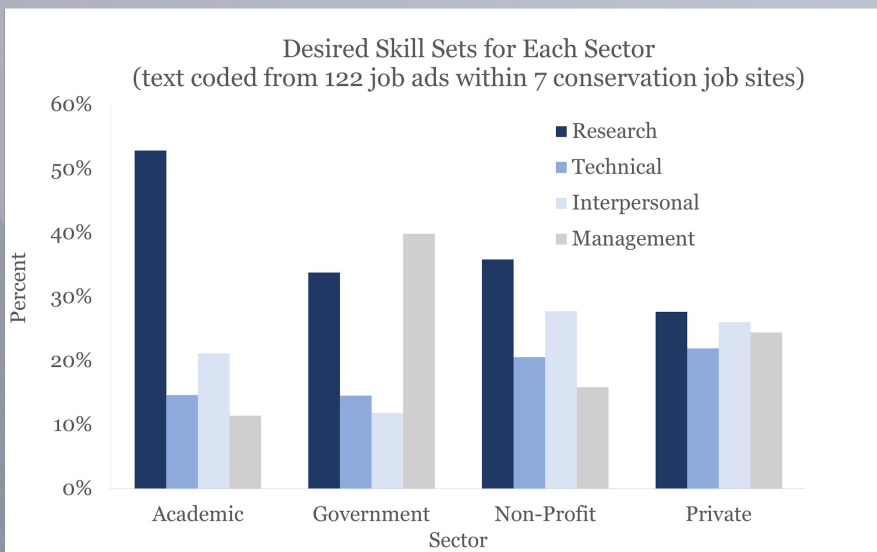


EMPOWER

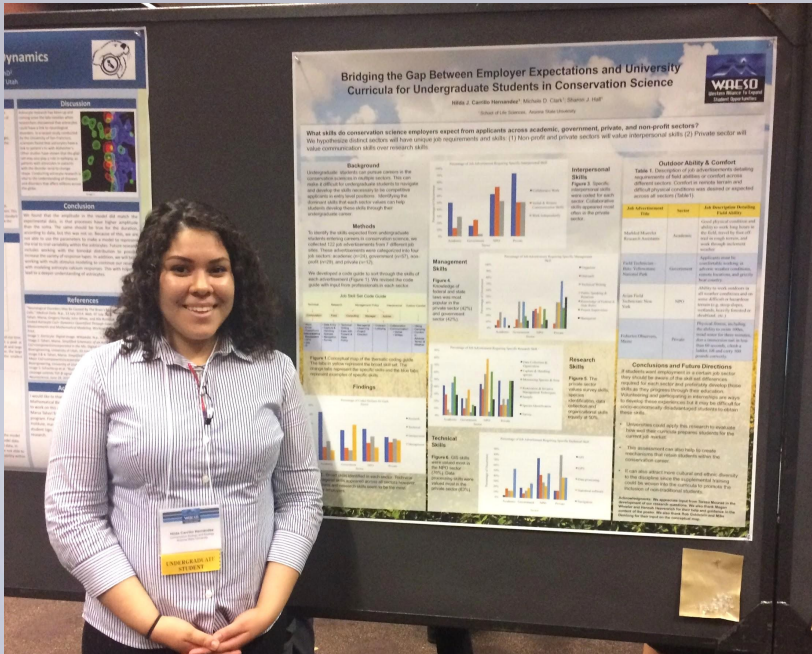
The Empower pillar will be the focus of Nature at ASU's Year 3 initiatives (2018-19).

To date, we:

- Partnered with ASU Career Services to gather resources on job fairs, professional options, and professional development as well as share Nature at ASU's career resources.
- Gathered a list of potential employers for conservation students.
- Curated environmental job boards, which are hosted on the CACSCB website.

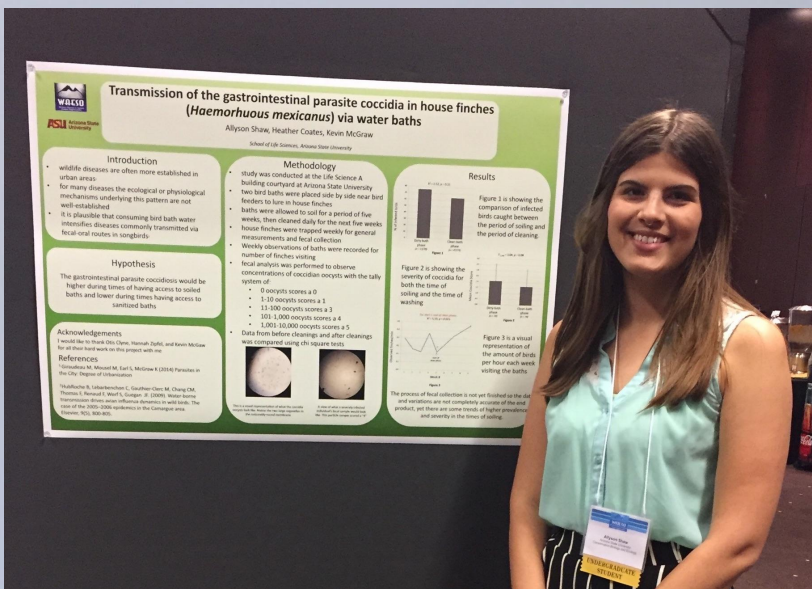


Nature at ASU students partnered with Ecological Society of America to analyze desired skills across academic, government, private and non-profit environmental jobs (Carrillo et. al 2017).



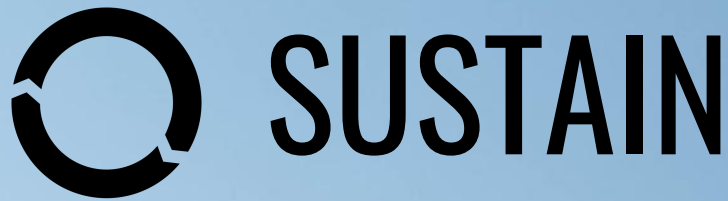
Nature at ASU students have received fellowships from the NSF-funded WAESO program (Western Alliance to Expand Student Opportunities) which encourages diverse students to join the STEM pipeline.

Top panel: Hilda Carrillo Hernandez, senior, presents her research findings on bridging the gap between environmental employer expectations and student curriculum at the 2017 WAESO conference.



Bottom panel: Allyson Shaw, junior, presents her undergraduate research on the disease ecology of urban birds at the 2018 WAESO conference.





As an organization run by undergraduates, for undergraduates, Nature at ASU's success depends on sustained leadership and institutional memory towards our common goal.

Locally, we are developing new talent to tackle institutional challenges within our own environmental community. By solving this challenge at home, we are also building the next generation of scientific and environmental leaders who will have the experience and skills to move individuals, communities, and decision makers towards conservation action.

- Developed the first Nature at ASU Strategic Plan (2017).
- Hosted two consecutive Nature at ASU annual retreats for leadership development and strategic planning (2017 & 2018).
- Developed Nature at ASU bylaws, including rules for leadership transfer and training (2018).
- Brokered a partnership with the Center for Biodiversity Outcomes with the mutual goal to engage youth in conservation leadership (2018).



62% of current or former Nature at ASU leaders are female, and 31% are from groups that are traditionally underrepresented in natural resource careers.

Meet the Forces of Nature

We are your undergraduate friends who are fiercely passionate about improving the environmental movement

Current Leaders



Corey Caulkins
Director



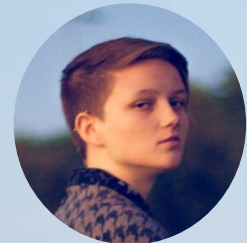
Allyson Shaw
Recruitment



Jessica Givens
Graduate Advisor and
Founding Director



Christa Burgess
Job Placement



Rae Fadlovich
Community

Leaders Elect



Allyson Shaw
Director



Ethan Goad
Recruitment



Jessica Givens
Graduate Advisor and
Founding Director



Christa Burgess
Job Placement



Chelsea Avelino
Community

Past Leaders

Tawni Fonner
Christina Madonia

Monro Obenauer
Ryan O'Leary

John Lebens
Otis Clyne

Moving forward

In Year 3 (2018-19), we will assess and strengthen our programming in the Build and Unite pillars and develop new activities within the Empower pillar to connect students with career skills and opportunities. We will also develop the Sustain pillar, which aims to strengthen the leadership pipeline and plan for long-term funding.

BUILD



- Partner with the First Year Success Center, Barrett Honors College, and College of Liberal Arts and Sciences to recruit high school and community college students to our environmental majors.
- Work with ASU centers and offices (e.g. Office of Inclusion, Admissions Office, Center for Gender Equity in Science and Technology, SACNAS, ASU identity coalitions) to develop recruitment strategies for first generation college students and groups that are underrepresented in environmental fields.

UNITE



- Connect Nature Guides to the informal student mentor programs in the Schools of Sustainability and Earth/Space Exploration to share best practices.
- Host professional development workshops for Nature at ASU members.
- Co-market extra-curricular, skills-centered field trips and seminars with CACSCB.
- Connect Nature at ASU to other environmental student groups at ASU (e.g. the Outdoors Club).
- Strengthen student and faculty relationships among academic units.





EMPOWER

- Connect environmental ASU alumni to the ASU student community.
- Co-develop career workshops and job database resources for environmental students with the ASU Career Services office.
- Develop profiles of environmental professionals to showcase career pathways for students.



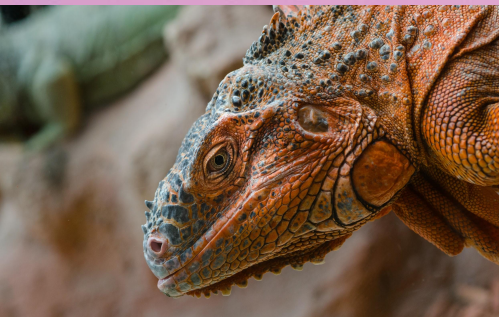
SUSTAIN

- Formalize the Nature at ASU leadership onboarding/training process.
- Secure long-term funding to build and retain talented student leaders.
- Build a toolkit of design principles to expand our programs and strategies to other universities as a part of a national Nature Alliance.



By being a part of Nature at ASU, I have had the opportunity to meet and be a part of a diverse and nature-minded community. It has given me the chance to connect and be involved with so many fantastic people that both share my passions and open my eyes to new ones. The all-inclusive atmosphere of Nature at ASU has helped build my success and given me knowledge of the more nature focused opportunities at ASU, helping me advance in my degree program.

-Heather Coates, Senior



Closing thoughts



Dr. Sharon J. Hall

*Nature at ASU Founding Faculty Advisor
Associate Professor, School of Life Sciences*

In nature, nothing exists alone.

Rachel Carson, Silent Spring

I don't remember much from the first few years of college except that I felt both wonder and worry almost daily. Like many undergraduates, I entered college with diffuse dreams about my future life but no clue how to get there. I knew I loved nature TV shows, but the only clear path I knew was towards medicine. So, like other students before and after me, I followed a pre-health trajectory until, upon graduation, I realized that I didn't want to go to veterinary school after all.

What I didn't realize then was that my university years would be the easiest time to gain the scientific, technical, and people skills to propel me into a wildlife or conservation career, had I known practitioners in these jobs and understood what was required.

Nature at ASU was born from the passion and persistence of undergraduates at ASU who were bewildered, as I had been, that they had not found each other – like-minded nature scholars and protectors – until their final years in school.

I am proud of these fearless young leaders for their powerful vision and relentless drive to fix an overwhelmingly big and seemingly impersonal system. By sharing their stories and resources, and demanding change from their faculty members and degree programs, they created a community and collectively forged a networked pathway for other students who dream of an environmental career.

To all the supporters, students, and friends of Nature, I look forward to sharing our compass on the next leg of this journey.

Sharon Hall



This work would not be possible without the relentless efforts by our undergraduate leaders and members. We would also like to express our sincerest gratitude to our graduate, staff, and faculty allies who have supported, contributed, and amplified the voices of students looking to rock the boat.

Dr. Max Wilson
John Lebens
John Watson
Scot Schoenborn
Ivy Esquibel
Michele Clark
Dr. Jesse Senko
Charlie Rolsky

Dr. Beth Polidoro
Hilda Carrillo Hernandez
Virginia Downing
Laura Zafirakis
Suzanne Higgs
Selina Pogue
Erick Lundgren
Dr. Jorge Ramos

Dr. Heather Bateman
Michael Mitrani
Alison Willis
Brittney Monus
Sarah Geren
Shinji Otsuru
Nathan Muniz

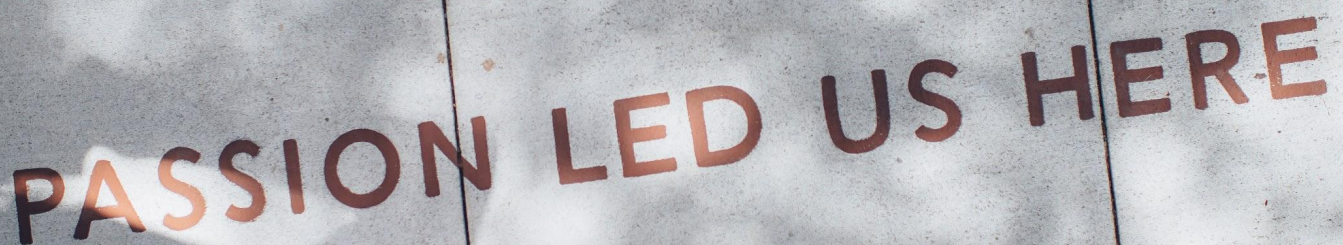
Additionally, we would like to thank our community members who all make the journey worth it.

Arielle A.
Matthew R.
Kevin G.
Sara el S.
Brielle J.
Marcela S.
Vincent M.
Grant R.
Itzel B. C.
Harry C.
AJ G.
Jeremy S.
Rachel C.
Joseph M.
Varsha J.
Aaron K.
Casey R.
Kylie V.
Nick G.
Rida I.
Quinn S.
Cristian D.

Rajat A.
Anjalee S.
Laurel J.
Jared H.
Aruj S.
Xan S.
Riley T.
Nathan W.
Abi D.
Ethan F.
Kerrigan C.
Camila L.
Alejandra G.
Rebecca R.
Rachael S.
Carlos Z.
Meghan M.
Xingfang X.J.
Jordan H.
Jacqueline S.
Emma Z.
Maddie M.

Rebecca P.
Gillian L.
Kat C.
Ngoc N.
Nicole W.
Cat C.
Alicia O.
Rachael E.
Maddie A.
Breanna S.
Mike C.
Cassandra S.
Sydney M.
Sabrina R.
Arlette G.
Alexander A.
Marcela B.
Dave M.
Maria S.
Sol V.
Lydia M.
Maddie L.

Rushik T.
Sai C.
Helen H.
Colin M.
Neal S.
Sukhmani S.
Sujoyot M.
Nishan S.
Brittney D.
Keily M.
Haley G.
Amy C.
Jake M.
Caleigh C.
Joe M.
Kelly M.
Elisa J.
Bobby M.
Paige L.
Ivanna C.



PASSION LED US HERE

Finally, we would like to thank the groups and organizations who have provided financial support for our students and programs:



Citations

- I. Arismendi and B.E. Penaluna. 2016. Examining Diversity Inequities in Fisheries Science: A Call to Action. *BioScience* 66(7):584–591.
- H.J. Carrillo Hernandez, M.D. Clark, and S.J. Hall. 2017. Bridging the Gap Between Employer Expectations and University Curricula for Undergraduate Students in Conservation Science. Annual Research Conference for the Western Alliance to Expand Student Opportunities (WAESO) Program, Tempe, AZ, March 2017.
- J. Givens and S.J. Hall. 2017. Building a Diverse Undergraduate Community in Sustainability and Conservation Science. Annual Research Conference for the Western Alliance to Expand Student Opportunities (WAESO) Program, Tempe, AZ, March 2017.
- K. Liska. 2016. An Evaluation of the Inclusivity of the Conservation Biology and Ecology Concentration at Arizona State University. Barrett Honors College Thesis, Arizona State University.
- D. Taylor. 2014. The State of Diversity in Environmental Organizations: Mainstream NGOs, Foundations, and Government Agencies. Ann Arbor, University of MI.

A photograph showing a person's feet in blue and white sneakers standing on a concrete floor. The floor has the words 'PASSION LED US HERE' painted in large, orange, block letters. The perspective is from above, looking down at the feet and the floor.