



2018

OFFICE FOR SUSTAINABILITY



UNIVERSITY OF
ARKANSAS

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MISSION

The University of Arkansas Office for Sustainability motivates, facilitates, and coordinates innovation and progress through partnerships with students, faculty, and staff across the U of A to create a culture of sustainability.

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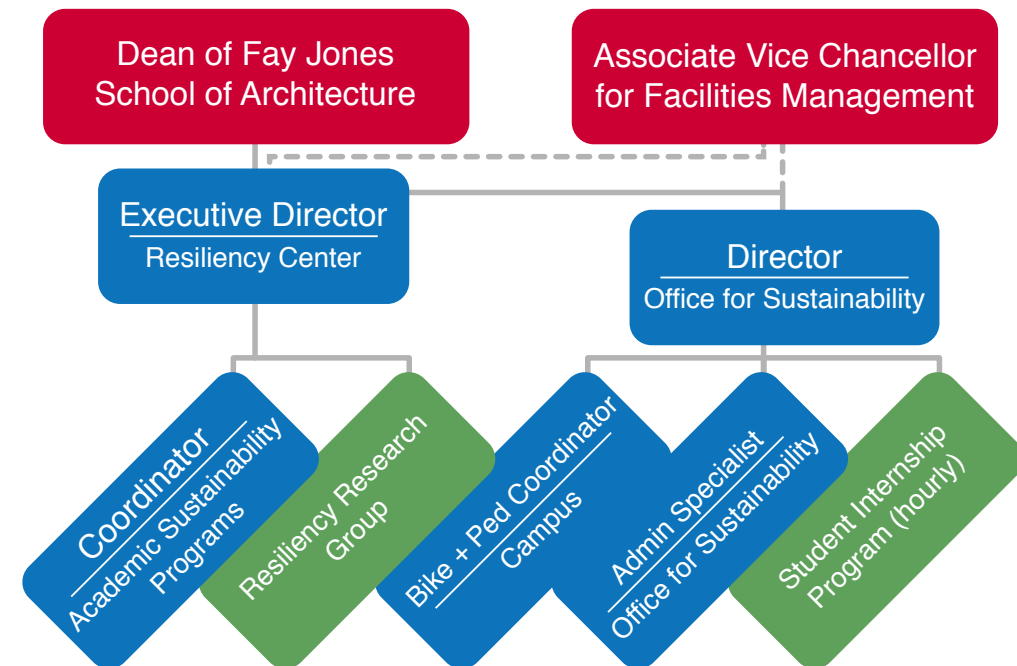
Greek Sustainability Scorecard

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RECOGNITION



LEADERSHIP



Marty Matlock

Executive Director

Dr. Marty Matlock is executive director of the UofA Office for Sustainability and a professor in the Biological and Agricultural Engineering Department at the University of Arkansas. The focus of Dr. Matlock's research is developing metrics that inform best management practices, ecological services restoration, ecological risk assessment, and life cycle assessment of supply chain systems.

Eric Boles

Director

Eric Boles is director of the UofA Office for Sustainability and executive secretary of the UofA Sustainability Council. Eric is the co-founder of Paradigm Sustainability Solutions, which assists organizations with sustainability planning. He takes great pride in helping organizations acknowledge the importance of social, economic, and environmental sustainability.

David Hyatt

Academic Programs Coordinator

Dr. David Hyatt is the coordinator of Academic Sustainability Programs and a clinical assistant professor at the University of Arkansas's Sam M. Walton College of Business. Dr. Hyatt's primary research concerns sustainability in global supply chains, and when, how, and why nonprofits and businesses collaborate to solve issues of the natural environment.

Dane Eifling

Bike-Pedestrian Coordinator

Dane Eifling is the Bicycle and Pedestrian Coordinator for the UA Office for Sustainability as well as the City of Fayetteville. He is a certified instructor by the American League of Bicyclists and bridges the gap between University and City communication on the walk and bike-ability of the area.

Graduates

Georgia Gazette - English
Todd Hansen - Architecture
Deanna Mantooth - Geology
Jan Partain - Horticulture

Seniors

Linden Cheek - Biological Engineering
Kendrick Hardaway - Biological Engineering
Yvonne Ngome - Biology (Pre-Med)
Krtstiina Ala-Koko - Biology
Olivia Morgan - Psychology
Fischer Jones - Accounting
Daniel Marsh - Political Science
Jack Scaccia - Finance

Juniors

Avery Nihill - Environmental Science

Freshmen

Julia Nall - International Studies / Arabic
Sophie Hill - International Studies / Middle Eastern Studies / Arabic



PAID INTERNS

FACULTY

More than 40 faculty members are directly engaged in sustainability research and education at the University of Arkansas. This is not a comprehensive list; in many ways the challenges of sustainability are core to the mission of a land grant university, engaging almost every faculty research and teaching program.

Dale Bumpers College of Food, Agriculture, and Life Sciences

Kristophor Brye, Ph.D. Crop, Soils and Environmental Sciences
Zola Moon, Ph.D. Sustainability Program and Human Environmental Sciences
Lanier Nalley, Ph.D. Agribusiness and Agricultural Economics
Jennie Popp, Ph.D. Agribusiness and Agricultural Economics
Curt Rom, Ph.D. Horticulture
Mary Savin, Ph.D. Crop, Soils and Environmental Sciences
Thad Scott, Ph.D. Crop, Soils and Environmental Sciences
Andrew Sharpley, Ph.D. Crop, Soils and Environmental Sciences
Kate Shoulders, Ph.D. Agricultural Education, Communications and Technology
Lance Cheramie, Ph.D. Agriculture, Food and Life Sciences

Fay Jones School of Architecture and Design

Noah Billig, Ph.D. Landscape Architecture
Phoebe Lickwar, M.L.A. M.Ed. Landscape Architecture
Carl Smith, Ph.D. Landscape Architecture
Ken McCown, MS-Arch Landscape Architecture
Steve Luoni, MS-Arch Community Design Center
Peter MacKeith, MS-Arch Architecture
Alison Turner, MS-Arch Architecture

School of Law

Nicole Civita, J.D. School of Law
Uché Ewelukwa, S.J.D. School of Law
Sara Gosman, J.D. School of Law
Janie Hipp, J.D. School of Law
Don Judges, J.D. Ph.D., School of Law
Christopher Kelley, J.D. School of Law
Susan Schneider, J.D. School of Law

J. William Fulbright College of Arts and Sciences

Myria Allen, Ph.D. Communications
Robert Coridan, Ph.D. Chemistry and Biochemistry
Jackson Cothren, Ph.D. Geosciences
Ralph Davis, Ph.D. Geosciences
Sean Dempsey, Ph.D. English
Marlis Douglas, Ph.D. Biological Sciences
Michael Douglas, Ph.D. Biological Sciences
Michelle Evans-White, Ph.D. Biological Sciences
Kevin Fitzpatrick, Ph.D. Sociology and Criminal Justice
Rocio Gomez, Ph.D. Latin American History
Warren Herold, Ph.D. Philosophy
Brian Nakamura, Ph.D. Political Science
Kusum Naithani, Ph.D. Biological Sciences
David Stahle, Ph.D. Geosciences
J. D. Willson, Ph.D. Biological Sciences

College of Engineering

Andrew Braham, Ph.D. Civil Engineering
Brian Haggard, Ph.D. Biological and Agricultural Engineering
Jamie Hestekin, Ph.D., P.E. Chemical Engineering
Alan Mantooh, Ph.D., M.S.E.E. B.S.E.E. Electrical Engineering
Marty Matlock, Ph.D., P.E., B.C.E.E. Biological and Agricultural Engineering
Darin Nutter, Ph.D., P.E. Mechanical Engineering
Scott Osborn, Ph.D., P.E. Biological and Agricultural Engineering
Benjamin Runkle, Ph.D., P.E. Biological and Agricultural Engineering
Greg Thoma, Ph.D., P.E. Chemical Engineering
Wen Zhang, Ph.D., P.E. Civil Engineering
Jun Zhu, Ph.D., P.E. Biological and Agricultural Engineering

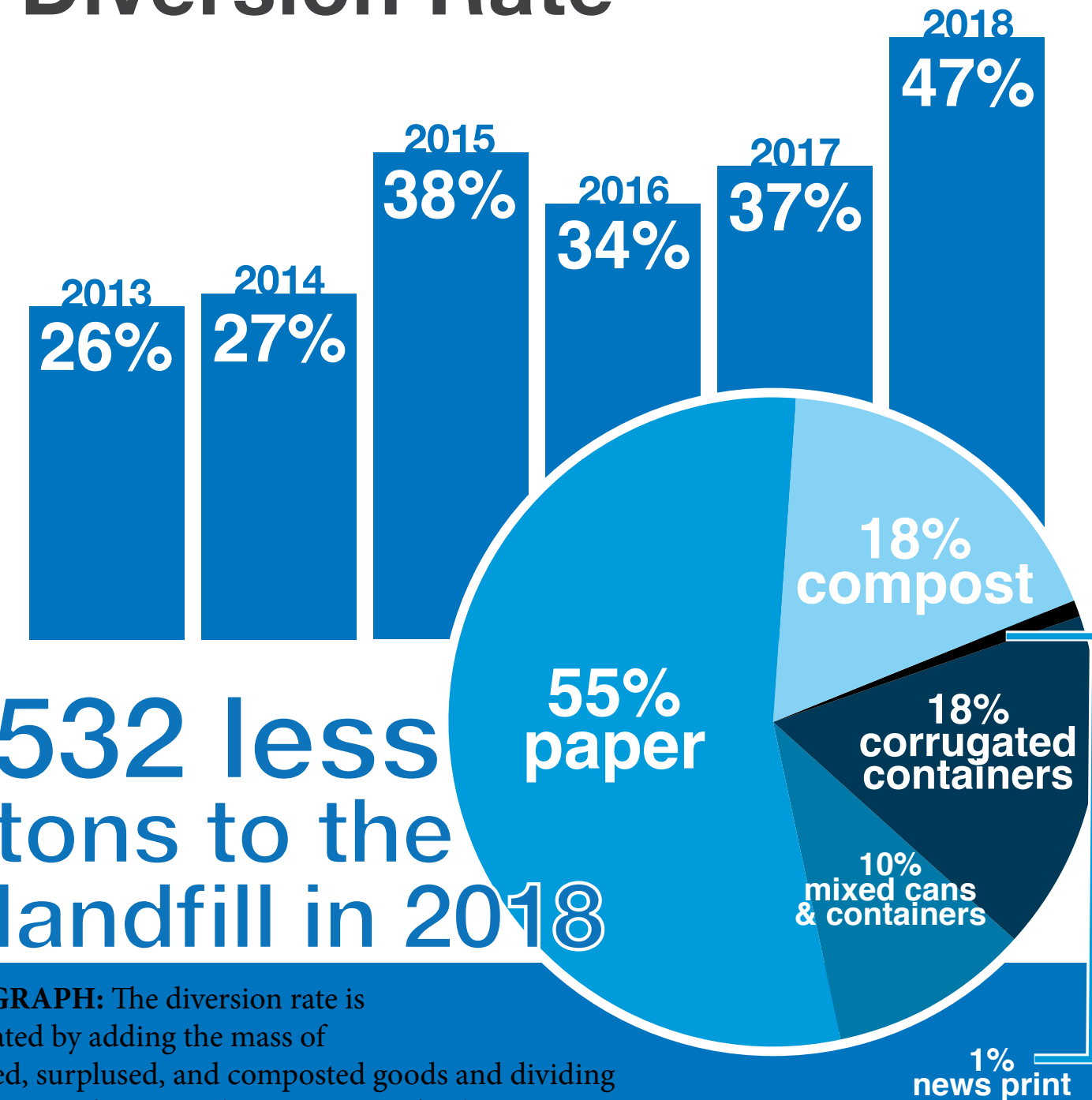
Sam M. Walton College of Business

Amy Farmer, Ph.D. Economics
David Hyatt, Ph.D. Supply Chain Management
Jon Johnson, Ph.D. Management
Gary Peters, Ph.D. Accounting
Mathew Waller, Ph.D. Supply Chain Management

ZERO WASTE

The UofA is dedicated to becoming a zero-waste campus by 2040, reaching a 90% diversion rate. The campus also has an intermediate goal of 50% diversion from landfill by 2021, which is within reach!

Diversion Rate



532 less tons to the landfill in 2018

TOP GRAPH: The diversion rate is calculated by adding the mass of recycled, surplus, and composted goods and dividing by the mass of waste at the University of Arkansas.

PIE CHART: This represents the composition of waste that could have been diverted but was not in 2018.

Paper (sorted white, low-grade, and printer) is the most under-recycled good on campus.

The University sent 2038 tons of waste to the landfill in 2018, which is down 532 tons from 2017's total of 2570.

DINING HALL COMPOSTING

In 2017, Chartwells Dining incorporated a behind the scenes composting program in partnership with the city of Fayetteville. This program is the continuation of a successful composting pilot program in 2016. Chartwells is currently composting in Brough, Fulbright, Pomfret, and the Union dining halls. The program allows the UA to not only divert food waste from the landfill, but to reduce greenhouse gases released by decomposing waste. Since the beginning of the program, Chartwells has composted approximately 275 tons of organic waste.

RESIDENT HALL RECYCLING

In 2017, the University's Housing Department diverted approximately 50 tons of waste from the landfill. This included surplus furniture, Full Circle Food Pantry goods, and items recycled through the residence hall streams. The Housing department has supervised a multitude of student-led recycling programs, including the Hotz Hall vs. Yocum Hall Recycling Challenge of Spring 2018. This served as a pilot program which later led to the incorporation of recycling on each floor of all 16 residence halls.

Currently, Housing continues to promote sustainability as a core matter of residence education. In the Fall of 2018, each student on campus was given a Waste Management recycling bag for their dorm room. With the current system improvements, recycling has become more convenient and attainable for students, due to Housing's commitment.



DIVERSION vs AVERSION

Waste diversion is the repurposing of goods in some shape or form, while waste aversion is the practice of avoiding wasteful goods entirely. For example, one could divert a plastic bottle by recycling it, or avert it completely by bringing one's own bottle.

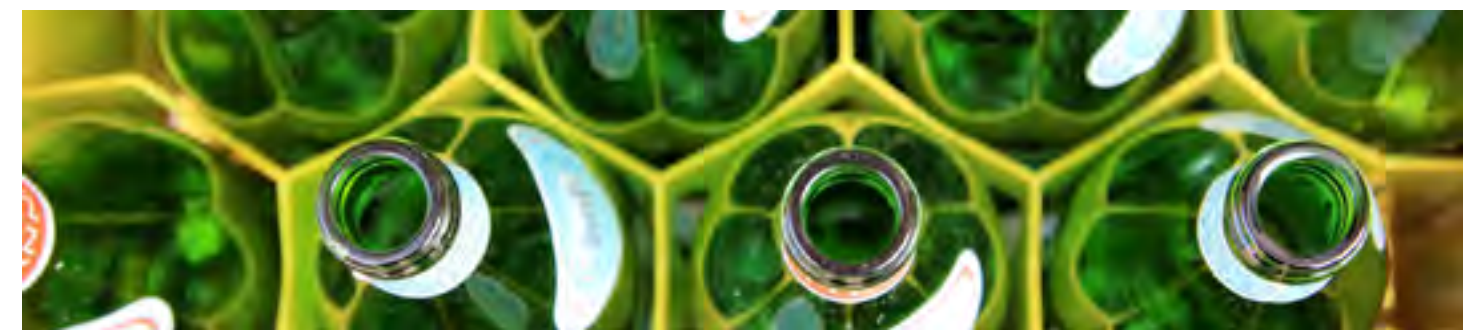
“The tremendous response of our residents in utilizing these containers to successfully reduce our trash disposal amounts demonstrates University Housing's continued commitment to leading change through the promotion, maintenance and integration of sustainable practices within our student living environments. - Jeff Vinger

Director of Residential Facilities



134,000 lbs

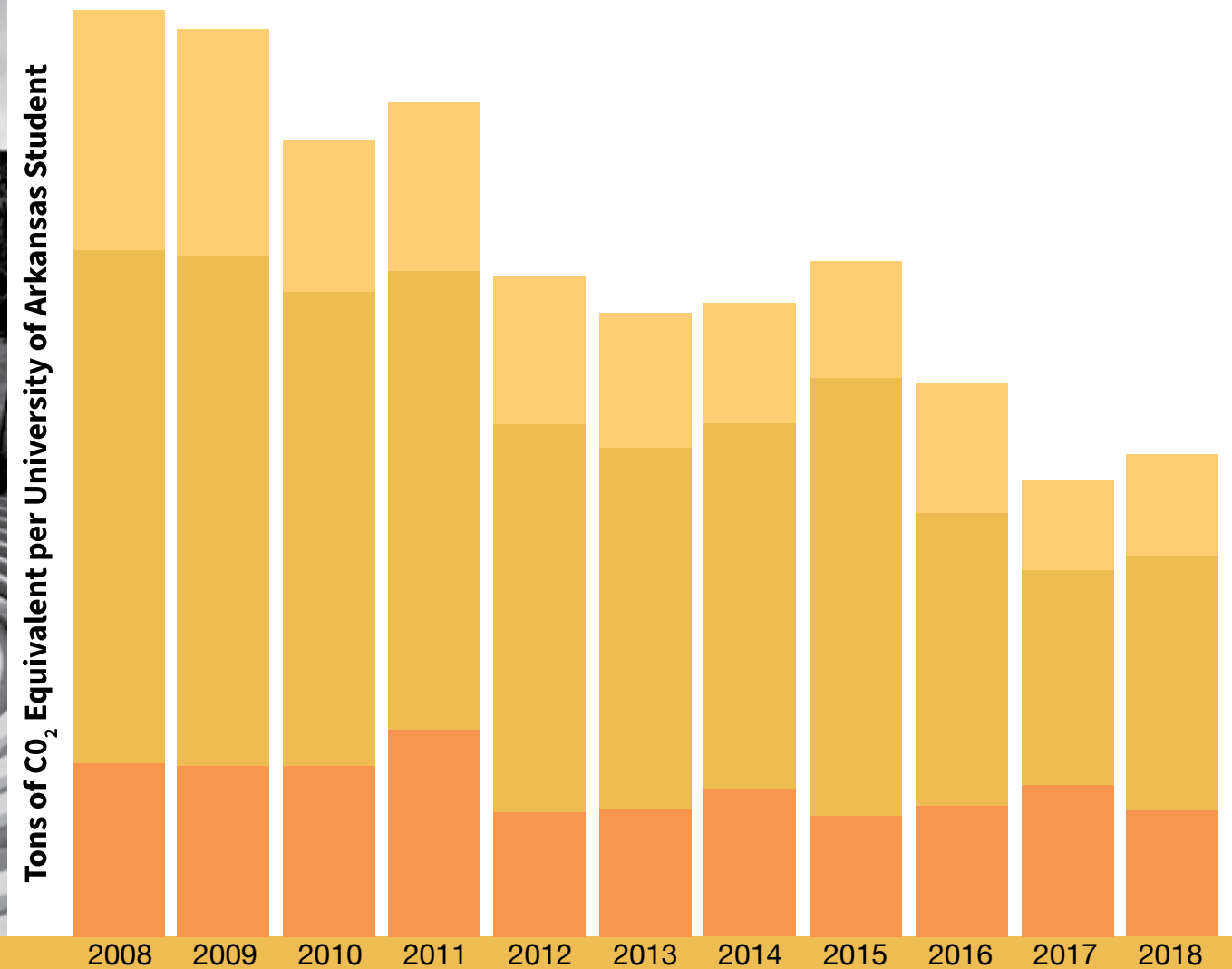
Razorback Food Recovery has recovered and redistributed over 134,000 lbs of food since 2014.



CARBON NEUTRAL

The University of Arkansas Climate Action Plan, ratified in 2009, is a plan to achieve carbon neutrality by 2040. The University's 2040 carbon-neutral goal is achievable, but only with the continued and active support of students, faculty, and staff.

130,000 University of Arkansas
2018 Carbon Footprint in
Metric Tons of CO₂ Equivalent



Scope 3

From sources not directly controlled by the UofA: Directly Financed and Study Abroad Travel, Waste and Wastewater, Student, Faculty, and Staff Commuting



Scope 2

From the generation of electricity purchased by the UofA: purchased electricity



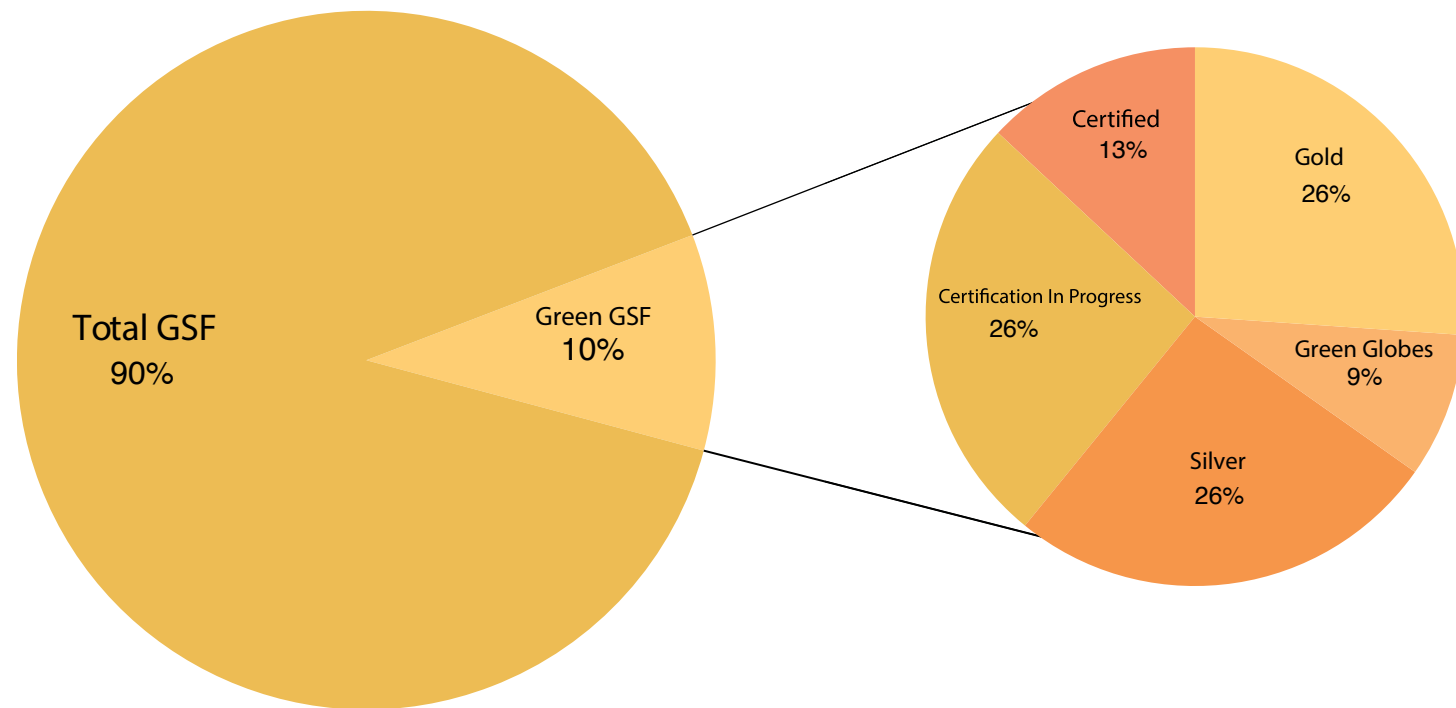
Scope 1

From sources owned or controlled by the UofA: on-campus stationary, vehicle fleet, refrigerants, fertilizer

GREEN BUILDINGS

The University of Arkansas constructed twenty certified buildings since 2004, totaling 916,116 gross square footage that belongs to certified green buildings. This represents 10% of the total campus gross square footage.

CAMPUS GSF VS GREEN GSF



The University of Arkansas committed to build a green campus. As of fiscal year 2018, there are twenty green buildings certified by a third party verification system, eighteen of which are LEED. Over 916,000 GSF of green building space was constructed between FY 2004 and 2018. Additional buildings are scheduled for certification in the future. As depicted in the University of Arkansas Climate Action Plan 2018, buildings on campus contribute to the majority of the campus carbon footprint. Continuing to use third party green building codes to align campus buildings with industry standards will be essential to leading by example.

LIBRARY STORAGE BUILDING



The new Library Storage Building represents a new and innovative era for the University Libraries on many levels, but in particular, the LSB will be the first demonstration of mass timber design and construction in the state of Arkansas. Cross-laminated timber, known in the trade as CLT, originated in Germany and Austria in the 1990s, and is a cost-competitive, sustainable, and environmentally friendly alternative to concrete, masonry and steel construction. A CLT panel is constructed of timber planks that are stacked, glued and laminated in perpendicular layers under heavy pressure. The panels are pre-fabricated according to the builder's specifications, then shipped to the building site and assembled, greatly reducing the construction time and eliminating construction waste.

CLT panels offer many advantages over traditional construction methods and materials, including improved dimensional stability to wide and tall construction, such as in the Libraries' storage facility. In addition to providing a higher fire resistance and a higher building hardening rating on the Fujita tornado scale, CLT panels are lighter and thinner than steel and concrete construction, allowing for less massive foundations, structural supports, and roof, all of which make the building more cost effective to build. They also offer sound insulation, long term structural integrity and durability (even rated against earthquakes), and warm more quickly and hold warmth longer than concrete and steel.

STEVEN L. ANDERSON DESIGN CENTER

The Steven L. Anderson Design Center, an addition to Vol Walker Hall, uses different techniques to achieve its LEED Gold certification. Some of these include sleek fritted-glass panes, designed to ameliorate the harshness and heat of western light, that comprise its curtain wall. And faculty offices each with a view to the building's green roof, a visible reminder of the ethics of sustainability that are central to the preservation ethos that provides the conceptual framework for the building.



ACTIVE TRANSPORTATION

WHAT IS ACTIVE TRANSPORTATION? Any form of human-powered transportation—walking, cycling, using a wheelchair, in-line skating or skateboarding. Active Transportation benefits the University community by easing traffic and parking demands while reducing our environmental impacts from our transportation habits. According to the 2015 University of Arkansas Transportation study 18 percent of UA affiliates engage in active transportation to and from campus. The University of Arkansas Office for Sustainability has adopted a goal of 25 percent active transportation mode share by the year 2020.

BIKE SHARE



In September 2018, University of Arkansas launched a much-anticipated bike share system. The City of Fayetteville and the University jointly contracted with the bike share company VeoRide provide service to the University Campus and the greater Fayetteville community.

The Bike Share system includes 290 customized seven speed bikes and 150 electric-assist bikes. The University of Arkansas was the first VeoRide market in the country to incorporate electric-assist bikes and has already tripled its fleet of electric-assist bikes to meet demand.

The University of Arkansas Office for Sustainability worked closely with members of UA Transit & Parking in issuing the request for proposals, managing the selection process and negotiating the terms of the final contracts.

Usage determines success for bike share systems - the UA Fayetteville system attracted more than 7,000 riders who tallied more than 30,000 rides in just the first 8 weeks. With continued improvements in technology and operations VeoRide is expected to expand regionally in the coming years.

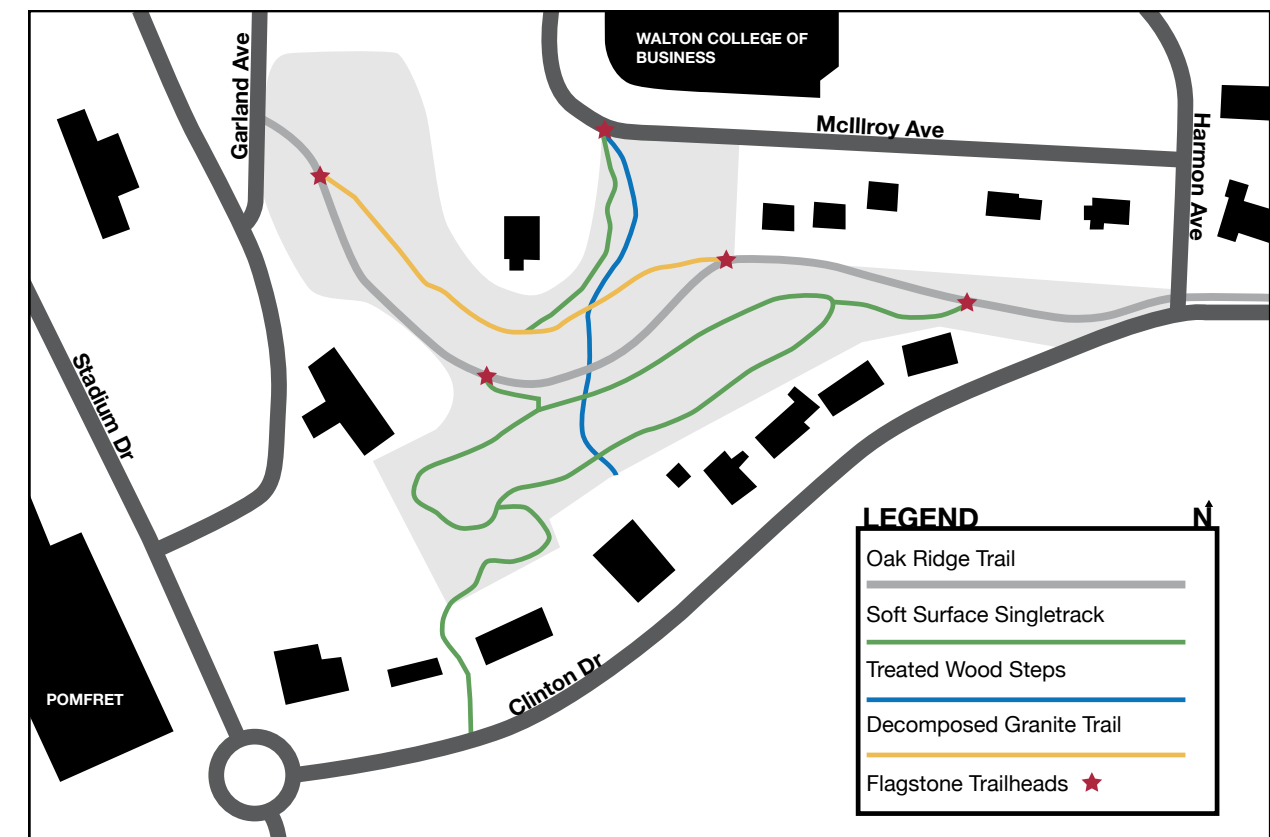


OAK RIDGE TRAILS

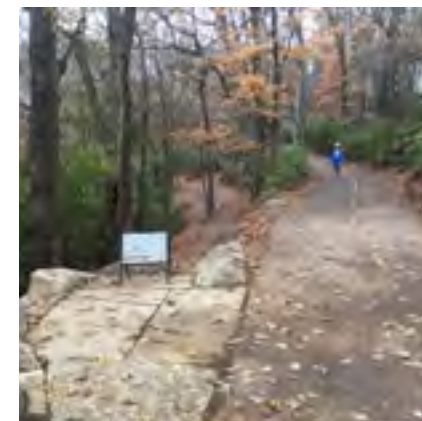
The University of Arkansas is creating nearly a mile of natural-surface trails within the Oak Ridge hillside. This new pocket park in the campus core is supported by a Walton Family Foundation grant. Once the project is complete, eroded social trails will be replaced with picturesque multi-use trails.

The Oak Ridge is a 3.5-acre wooded hillside between the Sam M. Walton College of Business and Clinton Street. The hillside is home to a scenic multi-use paved path with eroded foot trails crisscrossing the landscape. Those informal trails are soon to be reclaimed and replaced with a sustainable trail system that will enhance the safety and aesthetics of the Oak Ridge.

The updated system of paths will include decomposed granite trails, single track trails, gateway trails, treated wood steps, and flagstone trail heads. Each natural surface will provide a unique experience while fulfilling the design considerations of that area. The completed product will be durable, scenic, low impact and fun for users.



bike.uark.edu





CAMPUS BIODIVERSITY

The University of Arkansas recognizes that our campus landscape has the ability to provide much more to our community than just good aesthetics. A biodiverse urban landscape provides invaluable ecosystem services which are the benefits that humans receive from ecosystems. These benefits include air filtering, noise reduction, micro-climate regulation, water treatment, habitat, recreation, and general wellness. The Office for Sustainability plays an active role in advancing biodiversity on the University of Arkansas campus. The goal is to enhance the ecosystem services of the campus while educating students, faculty, and staff on the important role biodiversity has for a balanced ecosystem.

POLLINATOR PLOT

The Bee Campus USA certification was renewed for 2018 following pollinator projects and educational events on campus during the year. A new pollinator habitat was planted this fall at the Office for Sustainability providing a pollinator friendly naturalized area. Permanent signage was put in place to help educate students on the benefits of native plants. Additionally, this area will be monitored during its development over the next 2-3 years and will serve as a model for implementation at future locations on campus.

INVASIVE SPECIES REMOVAL

In preparation for the installation of the new trail system in the Oak Ridge, invasive species were removed from the corridor along the existing multi-use trail. The project began by utilizing Greedy Goats, a local company that provides services for an eco-conscious method of invasive plant removal. This was followed up by a half dozen volunteer days to clean out the remaining stumps and roots.

CERTIFIED BEE CAMPUS USA



The University of Arkansas became a certified Bee Campus USA in February of 2017 in response to global concerns about pollinator populations. The UA campus has decided to act locally by responsibly managing the 280 acres of open space within the core UA campus. An integrated pest management plan was created in 2014 and applies to all campus facilities. This certification considers



155

In a 2014 tree inventory of the core UA campus, researchers identified 155 different species of trees. Diversity is the foundation of resilience.

4,738

The UA campus is home to nearly 5,000 trees, which provide clean air, habitat for fauna, and shade from the summer sun.

1,905

Of the trees on campus, 1,905 of them are natives that provide valuable ecosystem services to our community.



SUSTAINABILITY PROGRAMMING

Sustainability academic programs at the University of Arkansas are growing to accommodate the increased interest in sustainability issues across our campus, community, and nation.

Net Impact hosted a panel titled 'Conscious Clothing,' where local sustainability and business leaders discussed responsibility in the apparel industry.

The UofA sustainability minor requires three core courses in addition to three elective courses from a portfolio of almost 100 technical electives within a broad range of disciplines. The three core requirements build a base of sustainability knowledge while flexible electives allow for individuals to specialize the minor for their major. The sustainability minor has consistently ranked among the top 10 most popular minors at the University of Arkansas.



Meanwhile, the University of Arkansas Graduate Certificate in Sustainability is open to any student admitted to the Graduate School and is achieved by completing one required course and four electives from a variety of disciplines. The graduate certificate was created in 2012 to provide an opportunity for graduate students and working professionals to expand their competency in the science of sustainability.

While a student's major lays the some groundwork for what she or he may do in the world, the minor and graduate certificate helps the student think about how she or he will do those things. Thus the significance of the minor and graduate certificate builds over time as students create real value - social, environmental, or economic - in society.

119 students
were enrolled in sustainability
minor courses for Fall 2018

OUTREACH

A core principle of sustainability is that we're all in this together. That's why the Office for Sustainability collaborates across campus and oceans to research and design sustainability projects, including a food incubator and food hub in Oahu, Hawaii.

FOOD HUB

The Whitmore Project is a food hub research and planning project centered in Whitmore, Hawaii (on the island of Oahu.)

A food hub acts as the missing middle in the food supply chain to connect producers and consumers. Constructing a centralized food hub on Oahu will create numerous employment opportunities for locals in a variety of fields, from packaging and processing to education and hospitality.

FOOD INCUBATOR

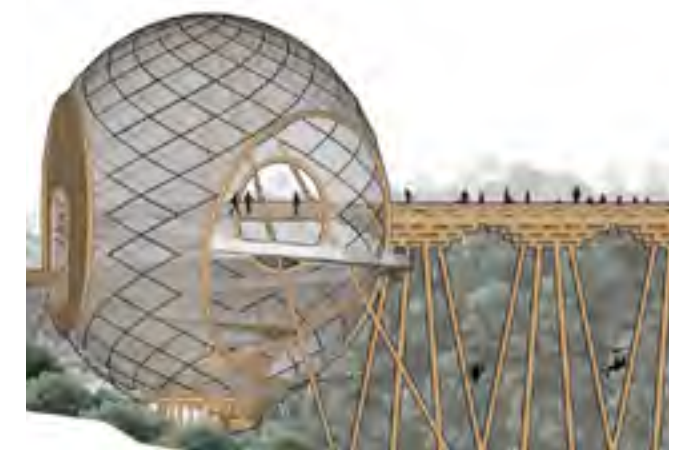
The goal of the Value-Added Product Development Center (VAC) is to develop an implementation plan and as-built designs for a farm to table food incubator in Wahiawa, HI. The VAC will be a part of the University of Hawaii Community Colleges' system in order to promote the education and training of students. Food incubators allow for local food production to flourish without the expense of each start-up requiring their own kitchen, acting as a shared space for local business. The VAC will both localize food for the area and allow for small business and academic growth.

Both the Whitmore Project and VAC are done in tandem with the University of Arkansas Community Design Center.



7 DESIGN AWARDS

The Whitmore Community Food Hub received seven awards including a 2018 Green GOOD DESIGN Award.



KAPPA KAPPA GAMMA



GREEK SUSTAINABILITY SCORECARD

According to the UA Greek Life website, approximately 30% of undergraduate students are involved in a Greek-lettered organization. This year, the Office for Sustainability created the “Greek Sustainability Scorecard” program to involve Greek houses in campus sustainability efforts. Houses submitted scorecards and were ranked based off their current sustainability standing, then given recommendations on how to improve their systems. Three houses, pictured to the left, were awarded for their efforts.

received a silver rating

KAPPA DELTA



received a gold rating

ZETA TAU ALPHA



SCORING CATEGORIES



ADMINISTRATION

Greek houses were awarded points for naming a sustainability chair and setting goals within their organization.



AWARENESS

Greek houses were awarded points for discussing sustainability during chapter meetings and volunteering with environmental organizations.



EFFICIENCY

Greek houses tracked and identified peaks within their water and energy consumption throughout the year.



WASTE REDUCTION

Greek houses were awarded points for establishing recycling and food recovery programs. Reusable dishware was also incentivized.

MONTHLY CAMPAIGNS

True sustainability requires total community engagement, and the Office for Sustainability is dedicated to bringing our campus and city together while we work towards a more sustainable future. Every month, there is a theme dedicated to one element of sustainability so that we can further educate our community.

THEMES

JANUARY  VOLUNTEERING	FEBRUARY  ENERGY	MARCH  ECOLOGY	APRIL  TRANSPORTATION
MAY  WASTE	JUNE  PROCUREMENT	JULY  WATER	AUGUST  TECHNOLOGY
SEPTEMBER  INFRASTRUCTURE	OCTOBER  POLICY	NOVEMBER  FOOD	DECEMBER  GIVING

EARTH WEEK



Earth Week celebrates our environment while bringing students together at diverse events. This year's Earth Week included 10 events hosted by 6 various campus institutions/RSO's spread out over the entire week. The activities were designed to reach a broad demographic, offering education, service and entertainment opportunities. The Earth Day Block Party (pictured above) finished off the week with watermelon, snowcones, succulents, and plenty of opportunities for community members and students to become involved and educated. The Office for Sustainability is proud this week long celebration is the most extensive sustainability event hosted at the University of Arkansas.



Office for Sustainability

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