

3rd Annual

Sustainability Summit







3rd Annual Sustainability Summit

Welcome

Kimberly Reeves | Senior Sustainability Programs Manager







Earn 200 PIPs for attending today's sustainability event

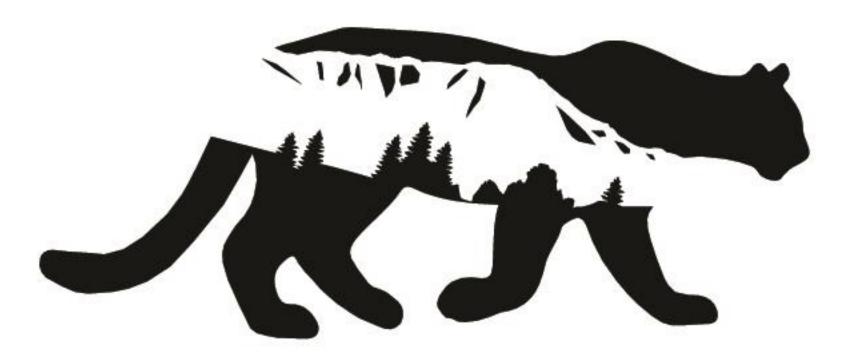
Native Land Acknowledgement

We are standing on the ancestral lands of the Ute, Arapahoe, and Cheyenne People. We pay respects to their elders, past and present.



Janice Gould 1949-2019





3rd Annual Sustainability Summit

Furthering the Integration of EDI & Sustainability

Andrea Herrera | Assoc. VC for Equity, Diversity & Inclusion





"Just" Sustainability

How do we improve people's lives in a just and equitable manner, and how do we do that while living in the limits of supporting ecosystems?

Respect interdependence of all living things

Seventh Generation philosophy



Julian Agyeman





"There is no such thing as a single-issue struggle because we do not live single-issue lives."

-Audre Lorde, African-American feminist activist and poet





The UCCS Office of Equity, Diversity and Inclusion acknowledges that human rights and social justice are directly linked to sustainability, and environmental and climate justice.





The UCCS Office of Equity, Diversity & Inclusion aspires to strengthen equity, diversity and inclusion as integral components of academic excellence; and establish the University as a regional and national leader in preparing students for success in a culturally, ethnically/racially diverse global society and workforce, and improving the quality of life of all campus stakeholders by providing support for a just and sustainable future.



UCCS - Equity Diversity and Inclusion Strategic Plan

Goal:

Develop and support mechanisms for cross-pollination and integration between **sustainability and EDI** strategic planning, leadership, education, and initiatives.

Outcome:

Provide inspired sustainability leadership and education and advance and direct an informed application of social, environmental, and economic sustainability measures in all University activities.

Implementation summary:

Increased collaboration between EDI and sustainability staff.

Communication strategy to demonstrate the interdependence of EDI and sustainability.

Ensure that sustainability is included in meaningful way in EDI strategic planning...





Sustainability Tracking, Assessment, and Rating System, STARS 2.1

UCCS Gold –Every 3 years with higher thresholds



EDI Specific Credits in STARS – 2018

- Diversity and Equity Score1.78/2.00
- Assessing Diversity and Equity Score 1/1
- Support for Underrepresented Groups Score 2/3
- Affordability and Access Score 2.54/4



United National Sustainable Development

Gnale



























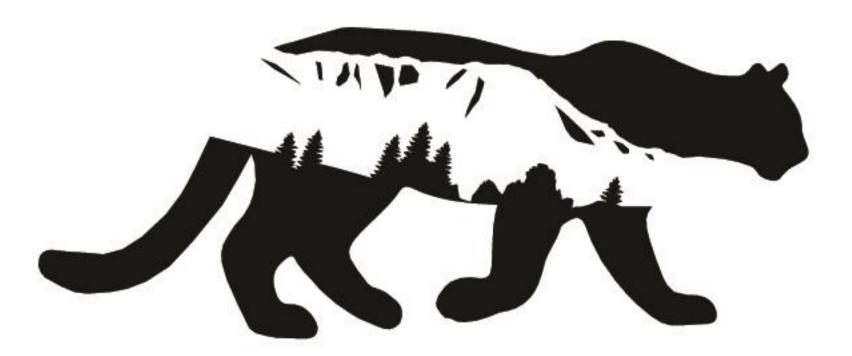












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UCCS and System Level Sustainability

Kent Marsh | Assoc. VC for Campus Planning & Facilities Management



NATIONALLY RECOGNIZED PERFORMANCE

- AASHE STARS 2018 Gold rating–74.27
- AASHE Sustainable Campus Index 2019 6th Overall Top Performer (master's level institutions)
- AASHE Sustainable Campus Index 2019 8th Top Energy Performer
- Sierra Cool Schools 2019 Ranked 25/282
- Princeton Review Green Honor Roll 2020 1 of 26 schools to achieve highest score of 99
- EPA Green Power Partnership largest green power user in RMAC (RECS purchase)







BENEFITS OF SUSTAINABILITY STRATEGIES

- Avg. yearly savings in 13 LEED bldgs. - \$533,862
- Cumulative cost avoidance from LEED bldgs. - \$3,403,077
- Retrofit & conservation projects = over \$3 million in cost avoidance since 2006
- Evidence supporting sustainability's influence on admissions decisions important to 64% of students







AREAS WHERE UCCS SCORES WELL

- Gen ed requirement of sustainability (Compass Curriculum)
- Over 75% of electricity offset by on-site solar, solar gardens, purchase of RECs
- All new buildings since 2007 -LEED Gold (13)
- Comprehensive Sustainability Strategic Plan (2012-2020)
- Student engagement
- Collaboration with community
- Innovation







CLIMATE COMMITMENT AND ENERGY GOALS

 On target for 2020 Climate Goals of 20% reduction of ghg emissions(with RECs)

CHALLENGES

- Success based on RECS no direct ROI
- Renewable products from CSU cost prohibitive
- Local PUC has low renewable energy goal (20%)(Excel=100%)

OPPORTUNITIES

- System leveraging of renewables to reduce costs
- Energy Performance Contracting to improve efficiency and reduce operating costs
- Alternative technologies (geo-exchange)









OPPORTUNITIES AND STRATEGIES

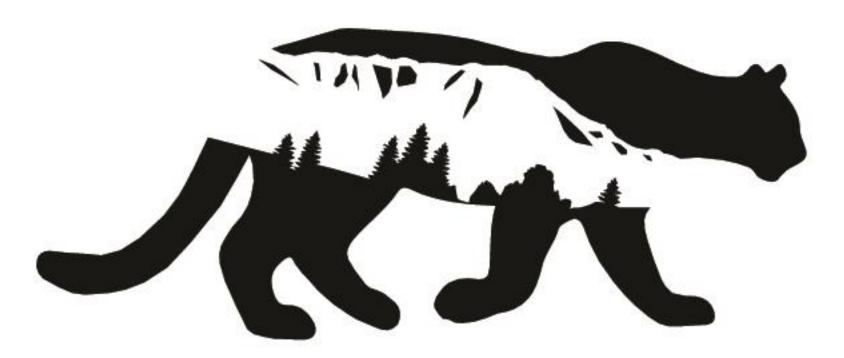
- Update Climate Action Plan (for 2030)
- Update Sustainability Strategic Plan (for 2030)
- Operations Increased focus/investment on energy and water savings, fleet, food products
- Purchasing Leverage system size to develop coordinated approach and buying power
- Renewables Transition from RECS to on-site generation and green power purchases from local PUC
- Energy curtailment (voluntary)
- Investigate potential for shutting down select buildings over summer











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UCCS Tree Ring Lab and Sustainability Minor

Christine Biermann | Asst. Professor, Geo. & Environmental Studies



What Kind of Times Are These

By Adrienne Rich

There's a place between two stands of trees where the grass grows uphill and the old revolutionary road breaks off into shadows near a meeting-house abandoned by the persecuted who disappeared into those shadows.

I've walked there picking mushrooms at the edge of dread, but don't be fooled this isn't a Russian poem, this is not somewhere else but here, our country moving closer to its own truth and dread, its own ways of making people disappear.

I won't tell you where the place is, the dark mesh of the woods meeting the unmarked strip of light—ghost-ridden crossroads, leafmold paradise:
I know already who wants to buy it, sell it, make it disappear.

And I won't tell you where it is, so why do I tell you anything? Because you still listen, because in times like these to have you listen at all, it's necessary to talk about trees.



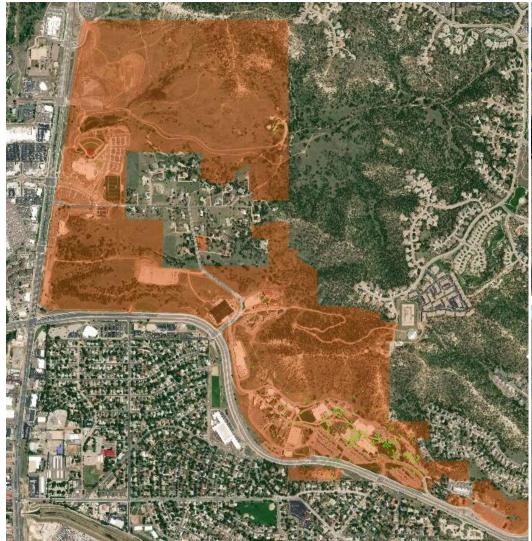




PROJECT GOALS

- 1. Analyze how global change-type droughts are impacting montane woodland-shrubland ecosystems of UCCS and Colorado Springs
- 2. Use this information to provide insight into local ecosystems' resilience to drought (and other environmental changes)
- 3. Ground abstract concepts in local environments; foster a sense of place and responsibility to place in students



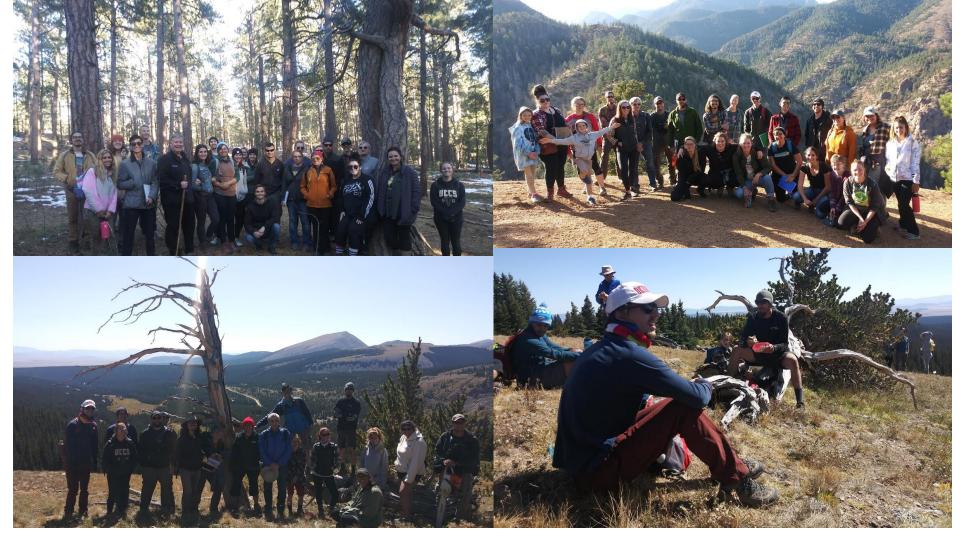






Campus as a Living Lab





Alannah Ward

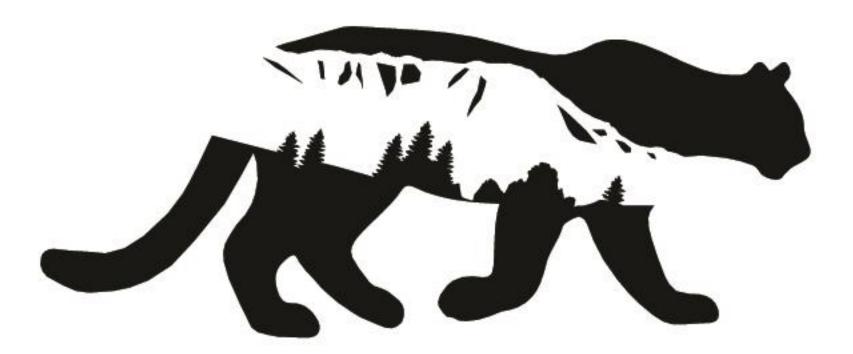
Geography & Environmental Studies Major, Sustainability Minor





Sustainability Minor

- 32 students with declared minor
- Coming from six different majors (all within LAS)
- Old Name: Minor in Sustainable Development
- Two required courses
 - Introduction to Environmental Studies and Sustainability (GES 1500) and Sustainability Seminar (GES 4800)



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Green Action Fund

Alex Jobe | Graduate Student + GAF Project Coordinator Hannah Daugherty | Undergraduate Student + Chair





Mission



 The Green Action Fund reduces the ecological footprint of UCCS and promotes sustainable environmental, social and economic values through a variety of student-led projects

 \$5/semester student fee - approved by students



Grant Opportunities

- Small (<\$14,999)
- Large (\$15,000+)
- Research Seed (<\$5,000)
- Sustainability
 Conferences





FY12-20 Impact Summary

- \$822,298
 invested
- 133 projects
- 20 departments
 /organizations
 represented





PV Installation Course

Spring 2019 approval

- Goals: provide experiential learning opportunity for UCCS students to design and install a photovoltaic system and help the Sustainability Demonstration House reach net zero energy
- 8 scholarships 14 students directly impacted
- \$16,050.00 invested



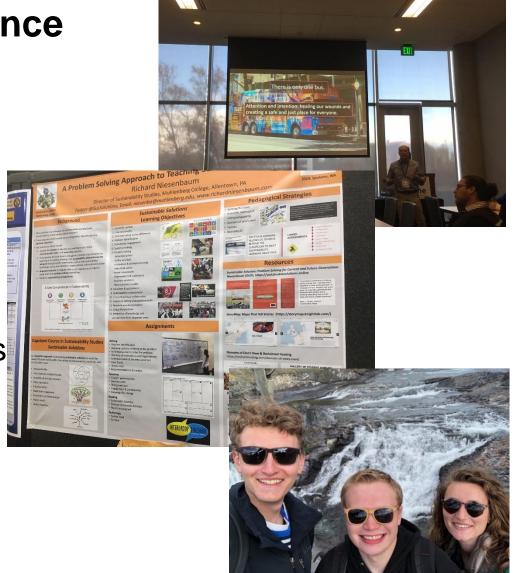


2019 AASHE Conference

Spring 2019 approval

 Goals: The 2019 Association for the Advancement of Sustainability in Higher **Education Conference is** an opportunity for students to engage & discuss effective models, policies, research, & collaborations relating to sustainability.

4 students attended





Outdoor Services-Plant ID Signage

Fall 2018 approval

- Goals: help campus community identify plants to use in their own yards along with native water wise and Plant Select® plants that use less water
- 4 students directly involved
- \$1,693.98 invested



Install



Clyde's Cupboard Fresh Food Program

Fall 2018 approval

- Goals: provide fresh fruits and vegetables to the existing food pantry and provide reusable tote bags for students to positively address stigma
- Over 100 students using the Fresh Food Program
- Over 750 students received reusable tote bags
- \$2,903.00 invested





Native Bat Habitat

Spring 2019 approval

 Goals: Construct a bat house and implement a water source to increase biodiversity on campus and educate students about the importance of wildlife and its positive impacts on the environment.







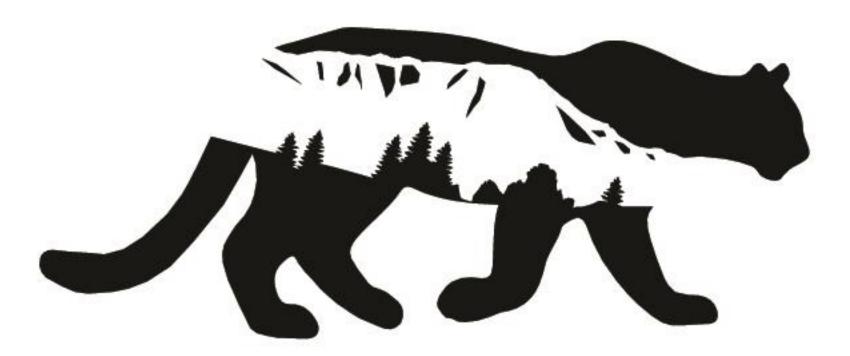
What next? Submit your ideas!

st-sus01@uccs.edu

719.255.3089







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Positive Impact Points

Ryan Maikell | Undergraduate Student + PIPs Engagement Specialist



What are PIPs?

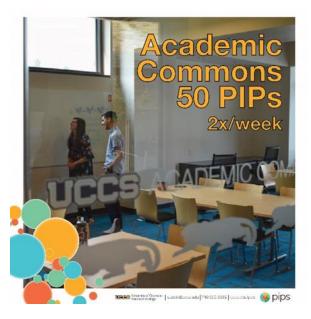
Positive Impact Points

 Earned by completing sustainable actions

Riding your bike, studying at academic commons, etc.

- Redeem for
 Trader Joes gift cards, etc.
- PIPs for School Earn a 1:2 match









UCCS

PIPs ACTIVITY AND IMPACT 10-19

USERS

1394 TOTAL USERS

293 NEW USERS OCTOBER

> 29% ACTIVE USERS

PIPS

2,100,000 TOTAL AVAILABLE

836,281 AWARDED TO DATE

60% %AGE PIPS REMAINING

ACTIONS

33,714 All UCCS Earn Actions Taken to date

19,277 All UCCS Earn Actions Taken in October

Top Earn Actions - Refilling water bottles, recycling, riding bus

PARTICIPATION

489 Eating UCCS Food Next Door

72 Clean the Stream Volunteering

72 Touring UCCS Sustainability Demo House

IMPACT (since launch in August)

IVII ACT (Since lautien in August)		
Carbon Saving Actions	Total Actions Taken	Impact (lbs CO2 saved)
Refilling Water Bottles	13,484	2461
Recycling	6618	2364
Riding the bus	1324	1570
Biking*	69	89
Total CO2 Saved		6490 lbs of CO2 saved
Equivalency		57 Trees Planted

* Does not include most rides in October

VALUE



PIPS FOR SCHOOL 30,,000 PIPS COMMITTED IN 10/19; 57% OF ALL PIPS USED,



27 GIFT CARDS, CREDITS REDEEMED IN 10/19; 59% FOR FOOD

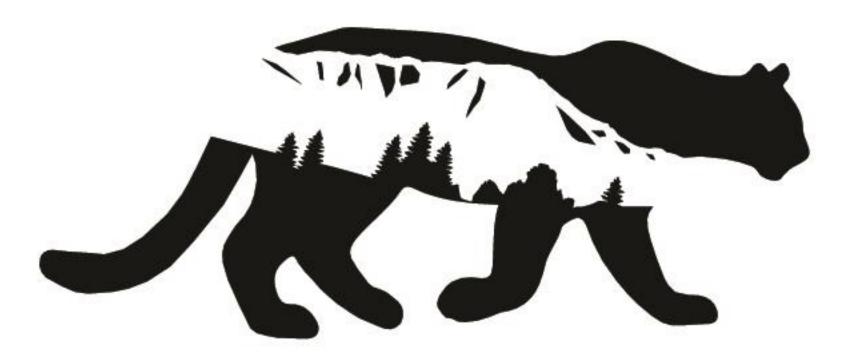


AT LEAST \$140 REDEEMED LOCALLY IN 10/19





- Next Steps:
 - Focus groups + survey
 - Increase local partnerships for redemption options
 - Cross-campus marketing
 - More trivia contests



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LED Retrofit in Gallogly Recreation & Wellness Center

Skyler Rorabaugh | Director of Campus Recreation





Add a Lot of Light Into Your Life

Campus Recreation LED Lighting Upgrades



LED Light Upgrade Benefits

Energy efficiency; extended periods, aim light (don't emit light—and heat). 75% less, 25 times longer

Extended life; 30,000–50,000 hours, incandescent bulb = 1,000 hours, fluorescent = 8 to 10,000 hours, maintenance

Cold temperature operation; LEDs love the cold unlike fluorescent lamps

Durability; Without filaments or glass enclosures, breakage resistant and largely immune to vibrations

Instant on; Most fluorescent and HID lamps require three minutes or more

Rapid cycling; LEDs are unaffected by rapid cycling

Controllability; semiconductor devices inherently compatible with controls. Dimmed to 10 percent of light output

No IR or UV Emissions; LEDs emit virtually no IR or UV

THE RIGHT CHOICE

LEDs are the right choice for all applications because of their energy efficiency; selection should be based on a combination of factors, including light quality and distribution, dimmability, and expected lifetime.





Aquatics Center; Summer 2017

Pre-Existing Fixture Type	1-400 Metal Halide
Watts Per Fixture	400
Number of Fixtures	28
Post Retrofit Fixtures	125w-LED
Watts Per Fixture	125
Number of Fixtures	28
Yearly Hours of Operation	4818
Savings in kilowatts	7.70
Savings in kilowatt hours	48,228 = \$4,292 savings
Materials Cost	\$7,000
Labor Cost	Internal Building Trades
CSU Rebate	<u>\$3,453</u>





South Fitness Center; Summer 2018

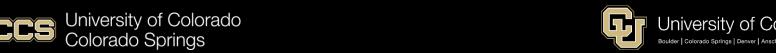
Pre-Existing Fixture Type	2-F32t8
Watts Per Fixture	64
Number of Fixtures	103
Post Retrofit Fixtures	T813w
Watts Per Fixture	26
Number of Fixtures	103
Yearly Hours of Operation	5,824
Savings in kilowatts	3.93
Savings in kilowatt hours	29,633.7 = \$2,637 savings
Materials Cost	\$6,300
Labor Cost	Internal Building Trades
CSU Rebate	<u>\$1,694.82</u>





Rec Center South Gyms; Spring 2019

Pre-Existing Fixture Type	F54T5-835
Watts Per Fixture	324
Number of Fixtures	34
Post Retrofit Fixtures	IBL 24L ND 277 LP750 WGX
Watts Per Fixture	245
Number of Fixtures	103
Yearly Hours of Operation	6935
Savings in kilowatts	7.10
Savings in kilowatt hours	63,973.99 = \$5,693 savings
Materials Cost	\$8,000
Labor Cost	\$5,400
CSU Rebate	<u>\$2,350.34</u>



Rec Center South Offices; Winter 2020

Pre-Existing Fixture Type	4-F32T8 / 2-G24q-3
Watts Per Fixture	128 / 52
Number of Fixtures	36 / 36
Post Retrofit Fixtures	T813w / CDL-6-21w-3500k-1500lm
Watts Per Fixture	26 / 21
Number of Fixtures	36 / 36
Yearly Hours of Operation	5824
Savings in kilowatts	3.67 / 1.12
Savings in kilowatt hours	27,801 / 8,449 = \$3,226 savings
Materials Cost	\$500 / \$735
Labor Cost	Internal Building Trades
CSU Rebate	<u>\$?</u>





Multifarious Info

CSU Rebate – half of material cost

- Includes both rebuild and fixture cost
- Utility cost increases

Lighting Controls

- auto dim within expansion
- Timers on south side

Installation

- Removes ballasts recycle (facilities)
- Hard Wired
- Can lights drivers
- Utilize PDC for lighting specialist, Complete Lighting
- Building Trades assistance
- Replacement cost savings



LED Light Upgrade Benefits

- Widespread use of LED lighting has the greatest potential impact on energy savings in the United States. By 2027, widespread use of LEDs could save about 348 TWh (compared to no LED use) of electricity: This is the equivalent annual electrical output of 44 large electric power plants (1000 megawatts each), and a total savings of more than \$30 billion at today's electricity prices.
 - US Department of Energy -

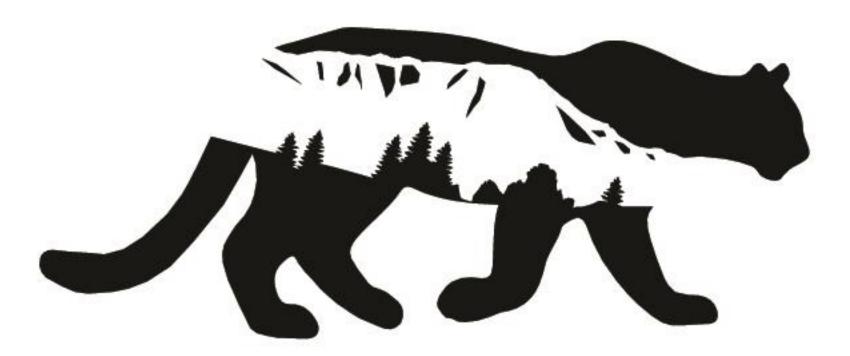


Future Campus Rec Sustainability Projects

- Complete LED upgrades throughout all facilities
- Pool Covers
- Solar Thermal Investigation
- Water Efficient Fixtures
- HVAC Setbacks
- Lighting Controls
- Energy Management Plan
- Low VOC Chemicals







3rd Annual Sustainability Summit

Moving Forward: Sustainability Strategic Planning, Sustainability Committee

Joel Tonyan | Asst. Professor, Systems & User Experience Librarian



Sustainability Committee

- Advisory Committee of Faculty Assembly
- According to the committee's bylaws:

The Sustainability Committee strives to create a welcoming, inclusive environment for all interested faculty members, staff, and students, and to involve as many disciplines and perspectives as possible from across campus to improve teaching, research, operations, and practical works related to sustainability.

What are We Working on This Academic Year?

- First Annual Sustainability Fall Social
- Integrating Sustainability Student Groups and Organizations into the Committee
- Partnering with the Office of Sustainability to develop a new Sustainability Strategic Plan

First Annual Sustainability Fall Social: Friday, October 4, 2019



- Collaboration between the Sustainability
 Committee, the Office of Sustainability, and SWELL/Food Next Door
- Highlighted sustainability initiatives across campus
- Recruited new students, staff, and faculty to the Sustainability Committee

Added Student Organization Representatives to the Committee

- Green Action Fund: https://www.uccs.edu/gaf/
- Students for Environmental Awareness and Sustainability (SEAS): https://www.uccs.edu/seas/
- Sustainability, Wellness & Learning (SWELL): https://www.uccs.edu/swell/

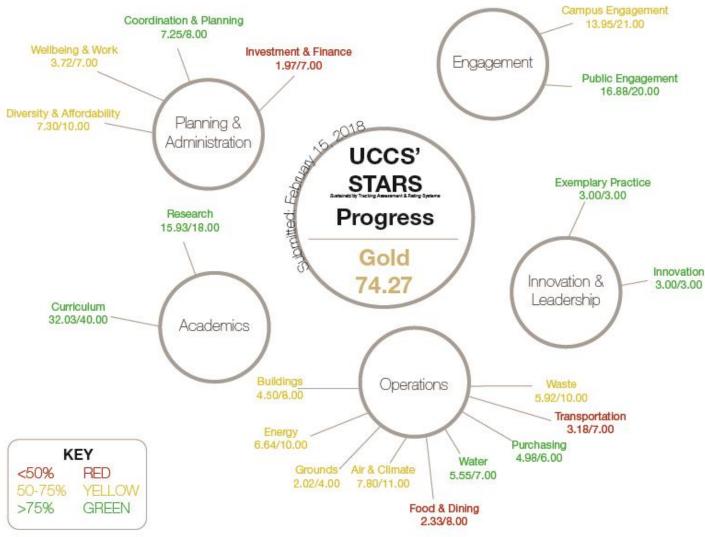


Sustainability Strategic Planning

- Current UCCS Sustainability Strategic Plan expires in 2020: https://tinyurl.com/UCCSssp2020
- Committee is partnering with the UCCS Office of Sustainability on developing a new Sustainability Strategic Plan
- The goal is to develop a plan that can guide the work of the committee for years to come
- Expect to hear about lots of opportunities for providing input as we get further along in this process



Sustainability Strategic Planning





Sustainability Strategic Planning, 2020-2030

DRAFT OF FOUR CORE STRATEGIES:

- Foster a culture of sustainability at UCCS and beyond.
- Cultivate excellence in research and teaching related to sustainability.
- Model sustainability, efficiency, and innovation in our campus operations and facilities.
- Engage UCCS students, faculty, and staff, and members of the Colorado Springs community with events and programming related to sustainability.

GET INVOLVED!

 Email <u>itonyan@uccs.edu</u> if you would like to join the committee (Students, faculty, and staff all are welcome!)

- Attend our December meeting:
 - 12:00 p.m. to 1:30 p.m. on December 9th
 - Sustainability Demonstration House

Sustainability Strategic Plan Input

Visit the 4 easels and tables with core strategies. Provide feedback and ideas on the flipchart or 3 X 5 cards.





3rd Annual

Sustainability Summit







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Food Literacy + UCCS Farm Stand

Sean Svette | DPD/ISPP Program Director + Instructor





ulder | Colorado Springs | Denver | Anschutz Medical Campus



































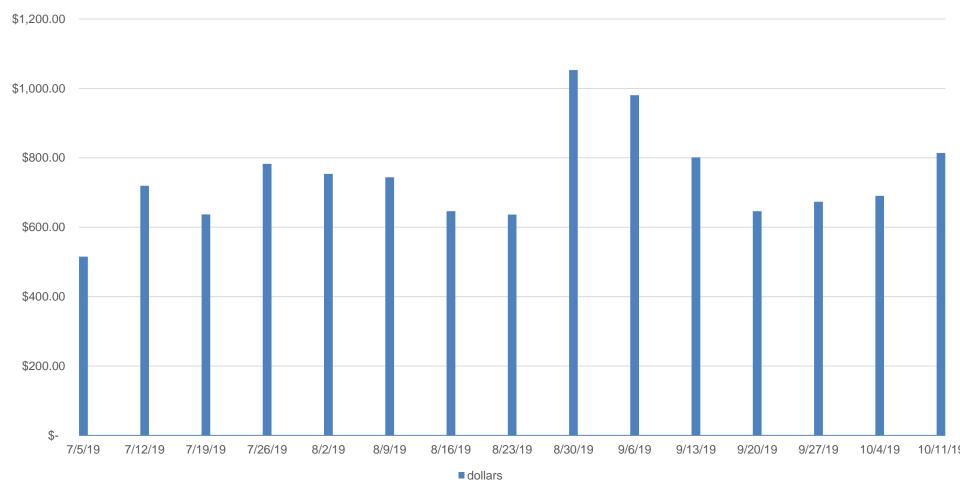








UCCS Farm Stand Revenue 2019 \$11,124





































































Clyde's Cupboard

Carlie Snethen | Graduate Assist. Dean of Students Office





Tues. Wed. and Thurs. 10-5pm Student Life Lounge

- Implementation of reusable bags
 - Spring 2019 plastic bag free.
- Increase in student access
 - Opportunity for creative programs.
- **Addition of fridge in Spring 2019**
 - Provide fresh food offerings.
- Increase in usage
 - Greater awareness of cupboard resources.
 - Decreased stigma.
 - Increase in volunteers in special projects.





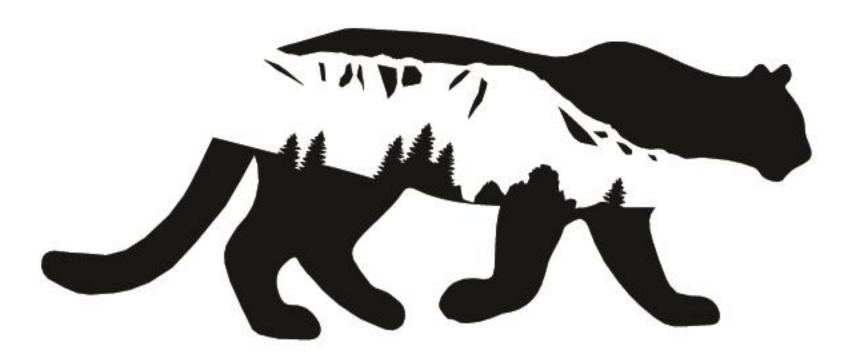




For more information, contact: Carlie Snethen, csnethen@uccs.edu







Greening the Library: Strategic Planning, Recycling, & Composting

Joel Tonyan | Asst. Professor, Systems & User Experience Librarian Martin Garnar | Dean, Kraemer Family Library





KFL TEAM GREEN, est. 2014

KFL Team Green raises awareness of sustainability opportunities in the Kraemer Family Library and around the UCCS campus, and explores ways to enable environmentally sustainable behavior in our professional and personal lives.







Wendy Kisicki (Co-Chair), Molly Mulligan, Joel Tonyan, Shad Harder, Julia Bullock (Co-Chair), Carlos Duarte

Joe Bono, joined 2019



Library 2019-2021 Sustainability Strategic Plan

Available at: https://www.uccs.edu/library/info

The Kraemer Family Library pledges to be an active partner in advancing sustainability at UCCS through the following action items that align with the library strategic plan and campus sustainability plan. We seek to empower KFL staff and student employees to embed sustainability practices throughout daily activities and to inspire individual and organizational decisions that lead directly to reducing energy use and waste production so we may reduce our environmental impact. We wish to apply sustainability thinking in our operations, programs, and practices into the future. Through such initiatives, we can establish the library as a living example of sustainable practice to serve as a teaching tool for students, staff, and faculty on campus and in the community.



EXPANDED RECYCLING IN THE LIBRARY



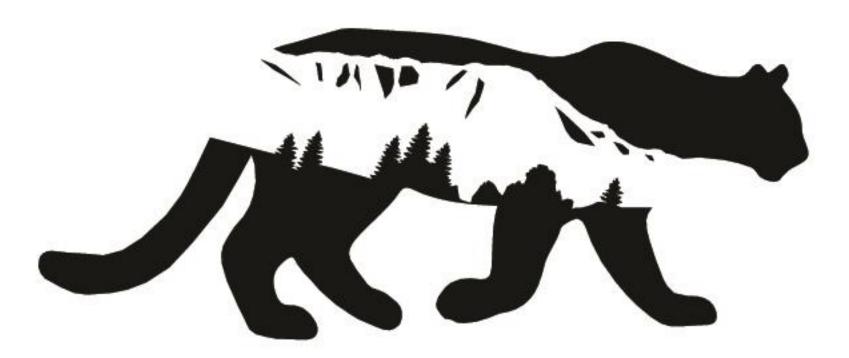
- Now accept pens, mechanical pencils, markers, and binders for recycling
- Green Action Funded Project

COMPOSTING IN THE LIBRARY



- Composting bins now available in the library wherever trash and recycling are found
- Thanks to the Office of Sustainability, Facilities Services, and Rob Dougherty for making this possible!





Online Biology Labs Get Sustainable with Instructor-Created Kits

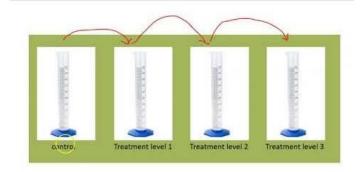
Dr. Maggie Gaddis | Lecturer, Biology



Online Biology in the Modern World (BIOL1060)

- 15 weeks of lab, 1 credit
- Follows the lecture course outline (BIOL1000)
- Students design labs
- Lab topics include:
 - Scientific process
 - Cellular, molecular biology
 - Evolution
 - Life kingdoms

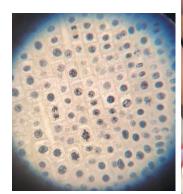






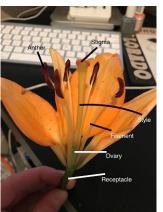
Online students need lab supplies

- Historically, lab kit was purchased from an outside vendor (\$230)
- Now, I write the labs and place an order for the supplies through the biology department using the lab fee students already pay (\$100)
- Students come to office hours to pick up the supplies
- If afar, they can purchase the same supplies online









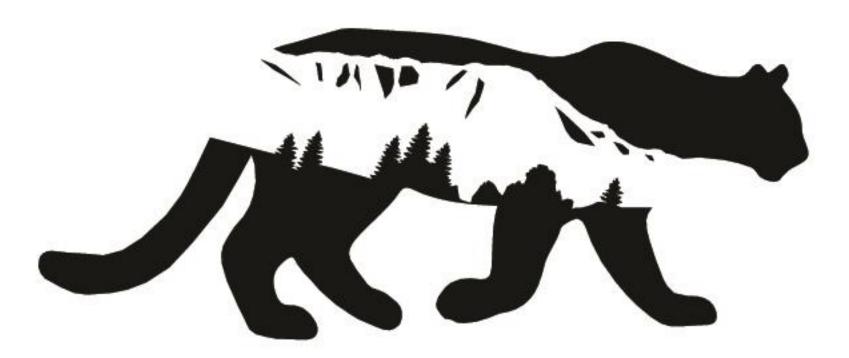
Sustainability outcomes

- Facilitates student engagement online
- Facilitates equipment recycling → creates potential for new supplies/software for labs as supply bank develops
- Facilitates alignment between the in-class lab and the online lab









Students for Environmental Awareness & Sustainability

Emma Henley Undergraduate + Member of SEAS

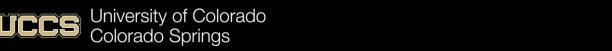






Experiential Learning at the Sustainability Demonstration House and Farmhouse

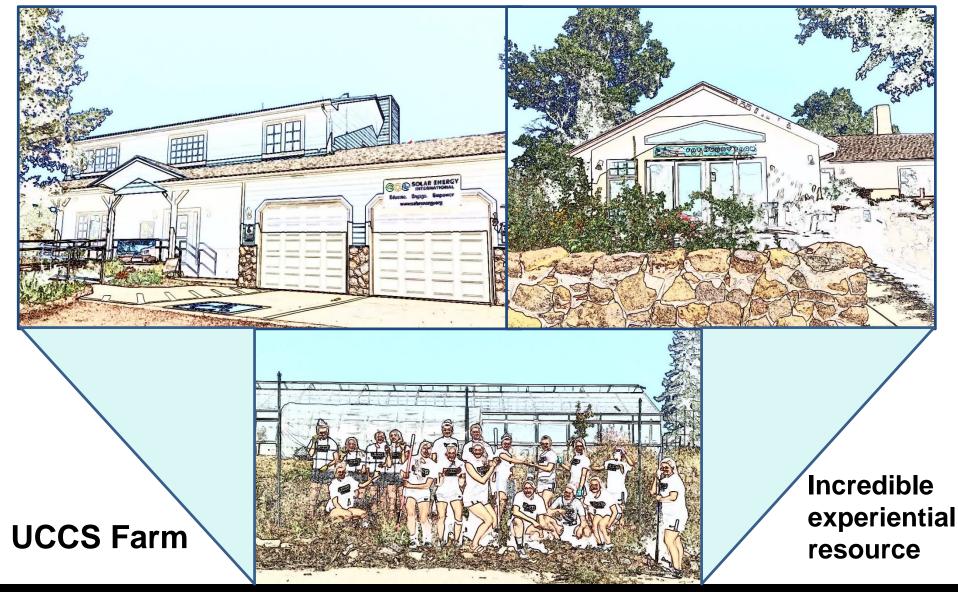
Linda Kogan | Director of Sustainability
Nanna Meyer | Assoc. Prof., Beth-El College of Nursing & Health Sci.





Sustainability Demonstration House

Farmhouse







Solar Design and Installation Course

Partners - Solar Energy International, Aim High Solar, and Sunshare

Scholarships Funded by GAF

14 students – 6 days 3.5kW system 6 students took for UCCS credit in their home departments



Clean Solar Energy

FNERGY

Educate. Eng

SDH Energy Audits and Weatherization Workshops

Partners – Energy Resource Center Funded by Green Action Fund

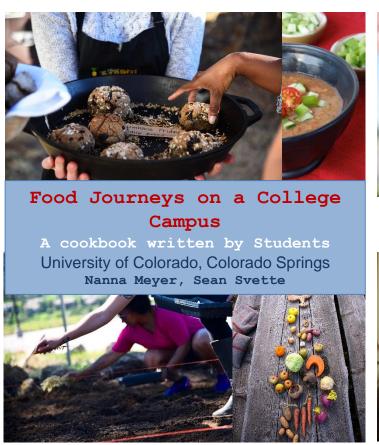








"Food Journeys on a college campus: A cookbook written by students"





Student-Supported Publishing

Food Journeys on a College Campus

Nanna Meyer Associate Prof and SWELL Manager



What will this book cover?

Where our food comes from (5)
UCCS's Food for Athletes (10 recipes)
71
The Flying Carrot (40 - seasonal)
Food Next Door (10 - bulked)
173
Grain School (10)
224
Farmhouse Fridays (5)
255
Farm to Institution
286

Conclusion, References, Resources, Index pages 287-300

The story of those who feed us Sustainability in Sport Nutrition Seasonal, Local, Food Literacy Protein, Planet, People Seeding the Front Range Grain Chair Seed-to-Plate Curriculum in College Refreshing America's Institutions: Pledge to procure 20% local! Calling for Policy Change



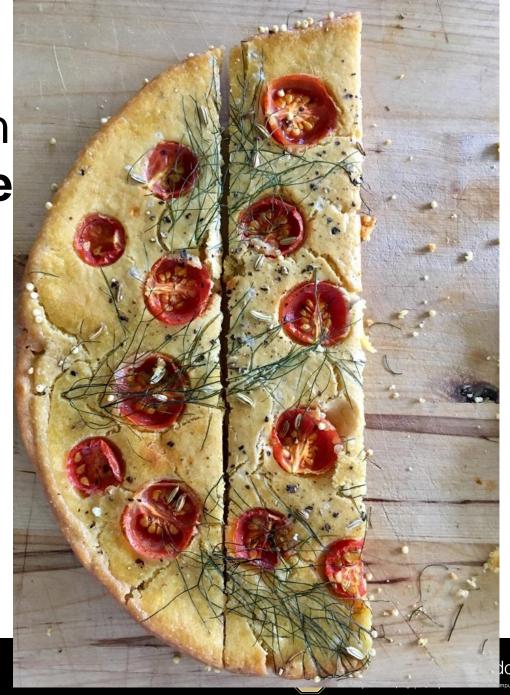
Progress

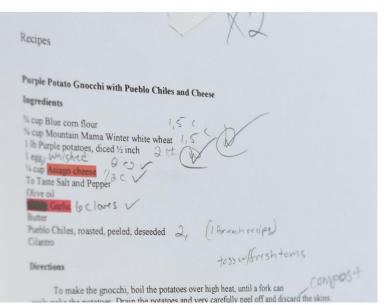
- 2018 Spring: Introduction workshops
 - Photography course with Doug Merriam
- 2018 Spring, Summer, and Fall: Cookbook Fridays (each with 5-10 students)
- 2019 Spring, Summer: Retesting recipes
- 2019 Fall: Recipe organization
- 2019 Fall: hired designer for book
- Dec 6, 2019: completion of recipes, grad project
- Spring Semester 2020: narratives and design
- · Release by Fall 2020
- Cookbook Blog
 - www.uccs.edu/swell



Experiential Learn 1 recipe at a time

- 1. Identify recipe
- 2. Source from farmer
- 3. Test recipe
- 4. Decide to keep
- 5. Retest
- 6. Photography
- 7. Write up
- 8. Retest





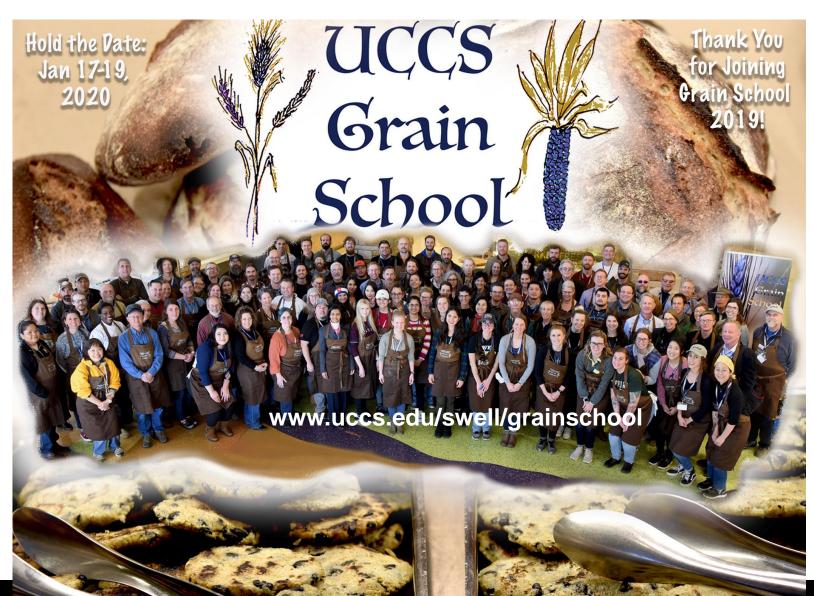


COME AND TASTE THE COOKBOOK DEC 6th AT THE FARMHOUSE









2016-2020 School

Grain related work at

Field Trials

Identifying the 20 best by 2020

Wheat

Barleys

Rye

Flour Corn

UNFI

Colorado **Grain Chain**

Grain Chain Literacy Guide

Grain Chain Market Assessment

USDA

RMFU

Pueblo Grain Hub

CO Gates Family Foundation

Grain **Biodiversity Project**

"Healthiest Tortilla for America!"

Field trial results

Tortilla Formulations

Corn Literacy Guide

Rural Workforce Development

CO Gates Family Foundation

2016 - 2019 2019 2019-2021



Grain School in the Field 2020

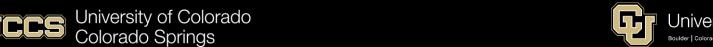


Started in 2016 based on call from farmers to lead the re-building of Colorado's heritage grain economy, while addressing rural communities, nutrition, and climate change.

We celebrate our 5-year anniversary from January 17-19, 2020, having contributed to re-stablishing Colorado's heritage grain production and having launched the Colorado Grain Chain.

For more information see www.uccs.edu/swell/grainschool

https://www.youtube.com/watch?v=U8Zy8aUtQYI&feature=youtu.be





Sustainability Strategic Plan Input

Visit the 4 easels and tables with core strategies. Provide feedback and ideas on the flipchart or 3 X 5 cards.





3rd Annual

Sustainability Summit







Keynote Presentation

Behavior Change Toolkits: A Systems Thinking Framework for Conservation

Jeni Cross | Prof. of Sociology Colorado State University





Today you have seen the great sustainability work of your peers across the campus and you have learned more about a systems thinking framework for conservation from Dr. Cross.

What is something that you are taking with you from today that you would like to work on with regards to sustainability in your area? Discuss.





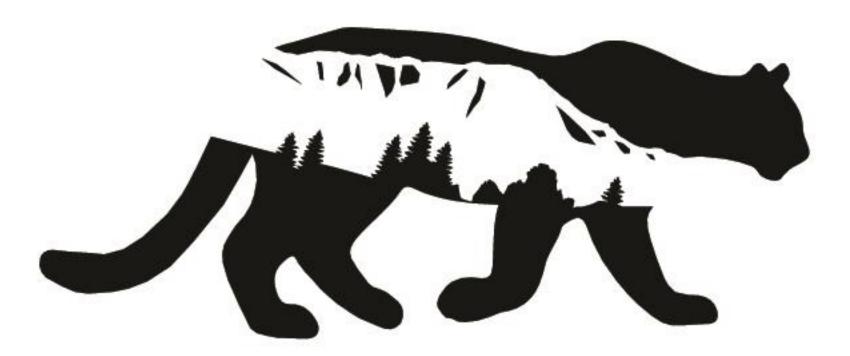


3rd Annual

Sustainability Summit







Thank you!

Kimberly Reeves | Senior Sustainability Programs Manager





University of Colorado Colorado Springs

