

Capitol Reef Field Station | 

# 2020-21 ANNUAL REPORT



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Michael T. Stevens

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## DIRECTOR'S INTRODUCTION

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*We re-opened the field station on May 1, 2021*, after being closed for over a year due to COVID-19. During our closure, we greatly appreciated guidance from UVU's Robin Ebmeyer (Director of Emergency Management and Safety), Provost Dr. Wayne Vaught, and Dr. Cheryl Hanewicz and Dr. Janet Colvin (both previous Interim Associate Provosts for Engaged Learning). They all helped us to make the tough decision to close and to carefully develop protocols **to protect the health of our visitors** after they returned. We currently require all of our visitors to complete a **health questionnaire** and provide evidence of **full vaccination** or a recent negative COVID-19 test before their arrival. Additionally, because Capitol Reef Field Station (CRFS) is federally-owned, masks are currently required indoors. With these safety measures in place, we've been **delighted to be able to welcome back visitors** and overjoyed that university faculty, staff, and **students are clamoring for the unique brand of in-person interaction and place-based learning that only the field station can offer**. Welcome back, Wolverines!

While we were closed to visitors, *we were busy with a variety of engaged-learning projects and research* that you can read about in our annual report. Our Advisory Board **developed a multi-disciplinary set of Canvas modules called Capitol Reef Connections**, which will allow us to offer field-station experiences for a wide range of audience members who may not be able to visit the field station themselves. Our site manager, Joe Ceradini, started a research project on the **distribution and habitat use of desert bighorn sheep** in the park and continued his study of **small mammals and their interactions with Mexican spotted owls**. These projects involved collaborations with park personnel, Utah Valley University (UVU) faculty, and UVU undergraduates. Additionally, Joe developed a **science education outreach project** to introduce an online audience to the wonders of the Pleasant Creek watershed over Instagram. Two more research projects involved: 1) **studying park visitors and their experiences** in Capitol Reef National Park under the direction of Dr. Maria Blevins, and 2) **the digital preservation of the cultural history of Sleeping Rainbow Ranch** led by Emily Hedrick.

Both of these projects are highly interdisciplinary and involve faculty from multiple UVU colleges.

In sum, the field station was able to actualize its mission, even in the face of a pandemic.



Michael T. Stevens, Ph.D.  
Director, Capitol Reef Field Station



## ABOUT CRFS



## OUR MISSION

Capitol Reef Field Station, in partnership with Capitol Reef National Park, *promotes and supports engaged learning, environmental ethics, and research and creative work* through the exploration of the Colorado Plateau.





## About CRFS

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## OUR VISION

Our vision is that visitors leave the field station having learned more than the content of their coursework. Far away from many of life's daily distractions, visitors are able to immerse themselves in educational experiences that are enriched by the natural world that surrounds them. Practicing conservation encourages all visitors to think about their role in the environment and deepen their understanding of environmental ethics. We hope that every visitor connects to the landscape and develops an appreciation for the natural and cultural legacies of the Colorado Plateau.

## OUR PLACE

Beyond the paved roads, our buildings sit atop a mesa in Pleasant Creek Valley in the heart of Capitol Reef National Park. The field station is surrounded by stunning views of canyon country. The sun rises over the last mountain range in the continental United States to be mapped, the Henry Mountains, and sets over Boulder Mountain, which was an active volcano tens of millions of years ago and supported glaciers during the last ice age. At night, casual stargazers and serious astronomers alike can see the Milky Way and abundant constellations against a sky so dark that it's recognized by the International Dark-Sky Association. Only 3.5 hours from UVU and the Wasatch Front, our incredible location provides an unparalleled opportunity for place-based learning.







## About CRFS

# OUR PARTNERSHIP

The success of CRFS is made possible through the partnership between UVU and Capitol Reef National Park. There are only ten other university-operated field stations located inside U.S. national parks. Our uncommon partnership allows CRFS to provide its visitors with educational experiences that are as remarkable as the landscape in which they occur. CRFS is property of the National Park Service (NPS) and is operated by UVU in accordance with our 10-year general agreement with Capitol Reef National Park.







CAPITO  
KEEP  
FIRE  
STATION





## VISITATION SUMMARY

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After being closed for over a year due to the COVID-19 pandemic, we were finally able to open our doors to visitors on May 1, 2021. As a result, ***this annual report includes visitation data for only two months*** of the fiscal year (May 1-June 30, 2021). Over this period, our user days, calculated by multiplying the number of visitors by the number of calendar days they spent at the station, ***totaled 553***. This represents a 69% decrease over the previous fiscal year (when we were open for over 8 months before closing due to COVID-19). On the upside, our monthly visitation for fiscal year 2020-21 ***was up 23%*** when compared against the same time period in fiscal year 2019-20.

***Fifty-nine percent of our user days were associated with UVU.*** The University of Kansas was another major source of visitors (Fig. 1). Visitors from UVU came primarily from Continuing Education, the College of Humanities and Social Sciences, and the College of Science (Fig. 2). During the 2020-21 fiscal year, ***167 people visited CRFS in 17 groups***. The average group size was 12, in part due to COVID-19 occupancy restrictions. The average stay per group was 4 days. Women and men comprised 57% and 43% of visitors, respectively.



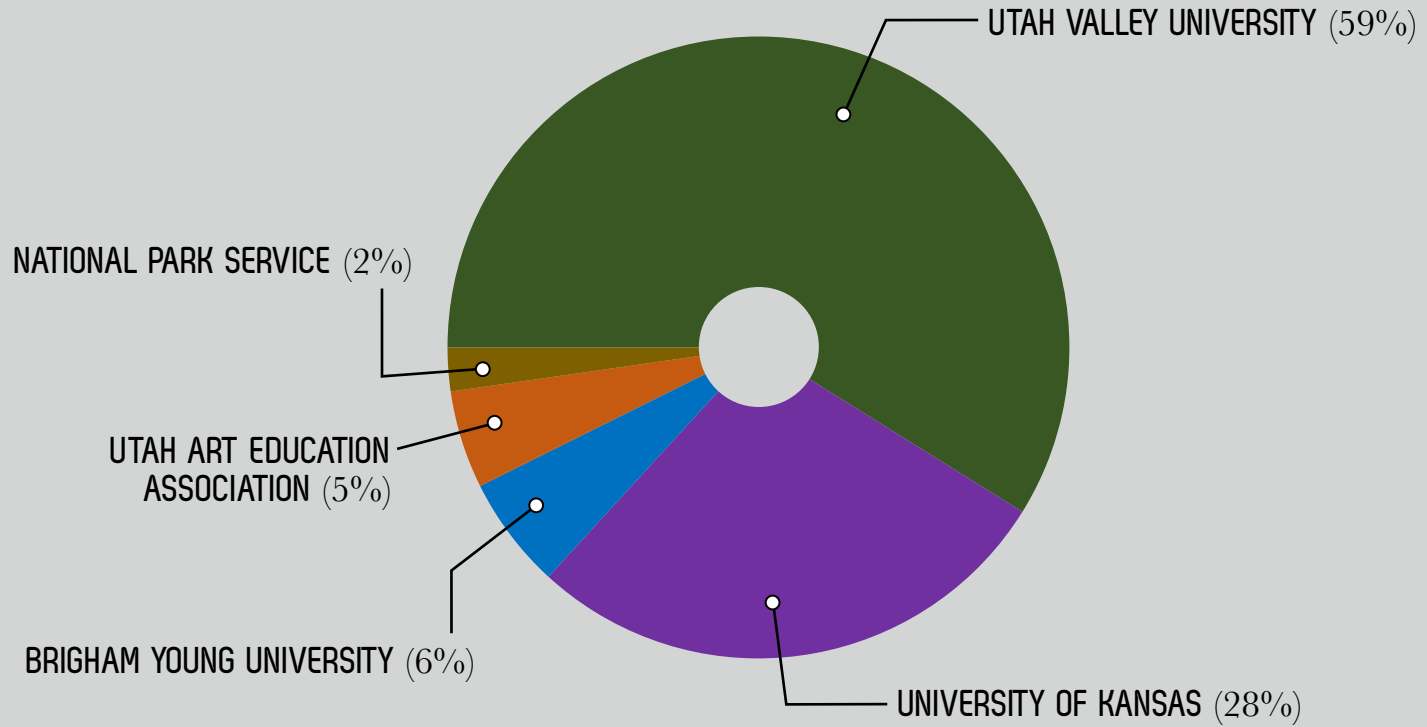


## Visitation Summary

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FIG. 1

PERCENTAGES OF CRFS USER DAYS FROM VARIOUS INSTITUTIONS.

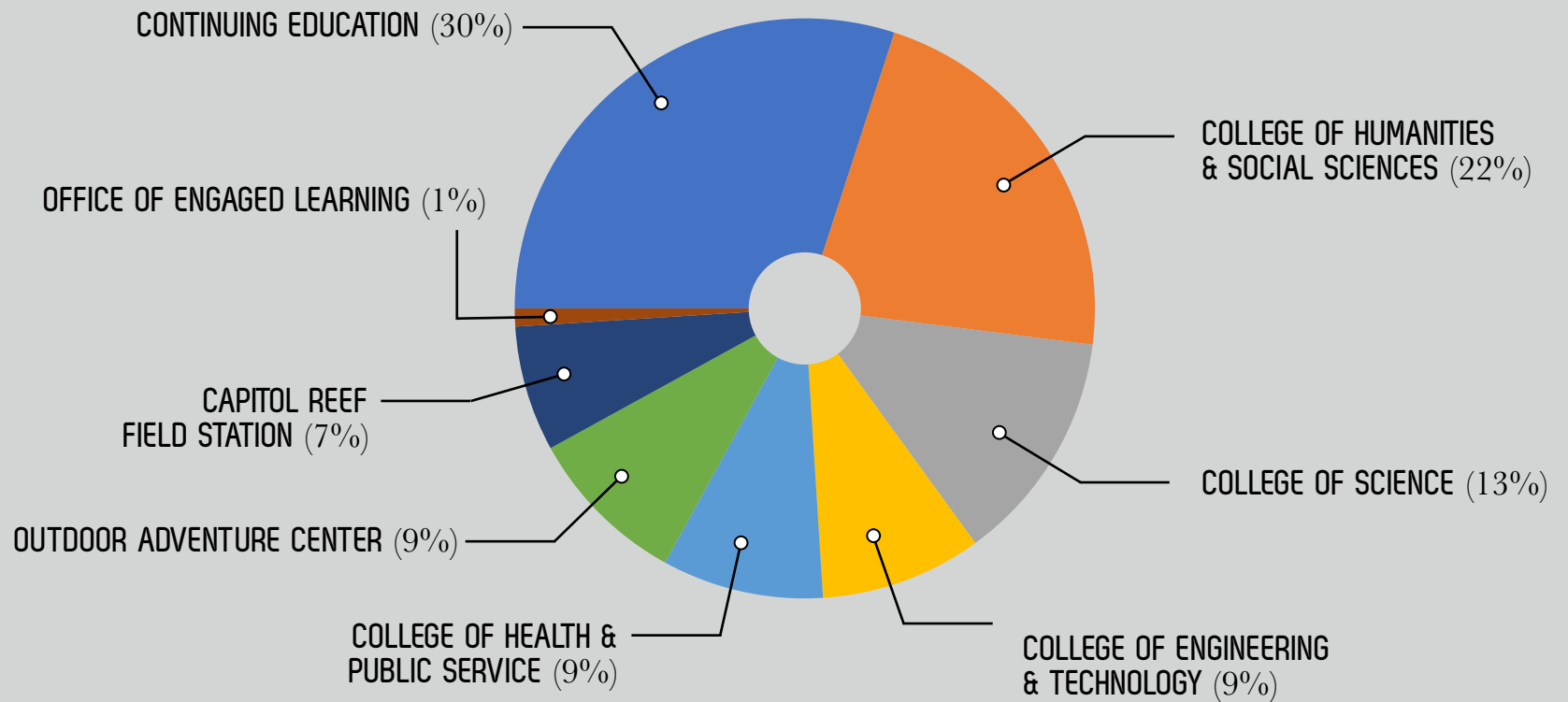




## Visitation Summary

**FIG. 2**

PERCENTAGES OF CRFS USER DAYS FROM UVU'S COLLEGES, SCHOOLS, OR PROGRAMS.







# Visitation Summary

## TABLE 1

### UVU CLASSES WHO VISITED CRFS

COLLEGE	COURSE	TITLE
College of Humanities & Social Sciences	COMM 3115	Communicating in Environments
College of Science	PHYS 489R	Sustainable Energy Independent Study

### UVU GROUPS WHO VISITED CRFS

AFFILIATION	GROUP
College of Health & Public Service	Community Health Outreach Clinics
College of Science	Botany & Beethoven Event
Office of Engaged Learning	UVU and NPS Leadership Meeting
Outdoor Adventure Center	Campus Recreation Wellness Training
Continuing Education	Plein Air Watercolor Workshop
Continuing Education	Writers' Workshop

### CLASSES FROM OTHER UNIVERSITIES WHO VISITED CRFS

UNIVERSITY	CLASS
Brigham Young University	Global Education Allies
University of Kansas	Geology Field Camp

### RESEARCH GROUPS WHO VISITED CRFS

AFFILIATION(S)	PROJECT	FUNDING SOURCE(S)
Capitol Reef Field Station	Small Mammal Populations and Communities	Utah Valley University
College of Engineering & Technology	Sleeping Rainbow Ranch Digital Preservation	National Park Service
College of Humanities & Social Sciences	Social Science Research	Utah Valley University
National Park Service/Utah Valley University	Desert Bighorn Sheep Research	National Park Service/Utah Valley University

### OTHER GROUPS WHO VISITED CRFS

GROUP	EVENT
National Park Service	NPS Interpretation Staff Tour
National Park Service	NPS Volunteer Staff Tour
Utah Art Education Association	Annual Meeting



## ENGAGED LEARNING

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One thing the pandemic has reinforced is the importance of in-person experiences. *The field station excels at providing the kind of in-person, in-nature experiences that are difficult or impossible to replicate elsewhere.* Engaged learning has never felt more important than it does today, and even though we were only open for a short time, *we were still able to provide rich, engaged-learning experiences for the groups who visited.* In fact, 100% of our visitors strongly agreed (97%) or agreed (3%) that their educational experience was enhanced by their field station visit (Fig. 3). Additionally, 100% strongly agreed (98%) or agreed (2%) that *they would encourage other students to visit the field station* (Fig. 4).

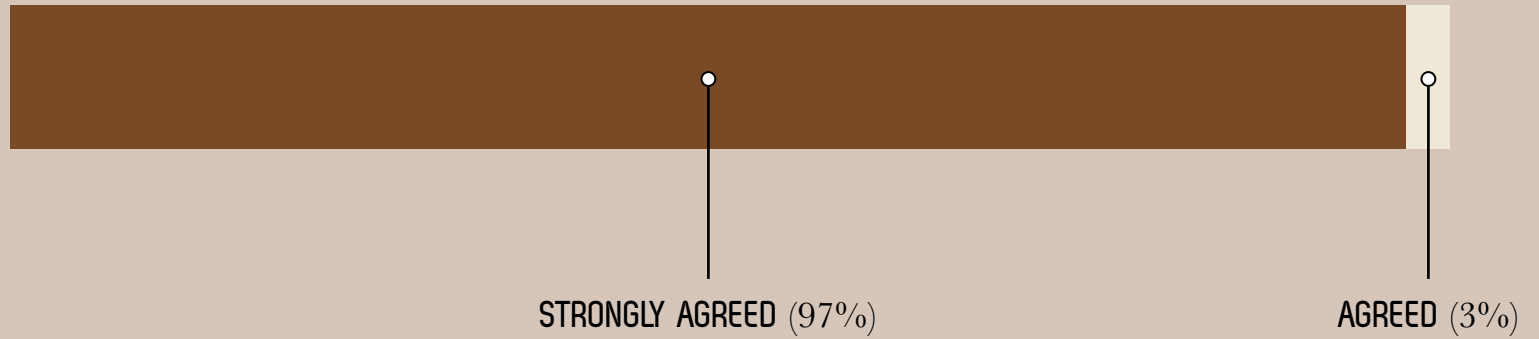




## Engaged Learning

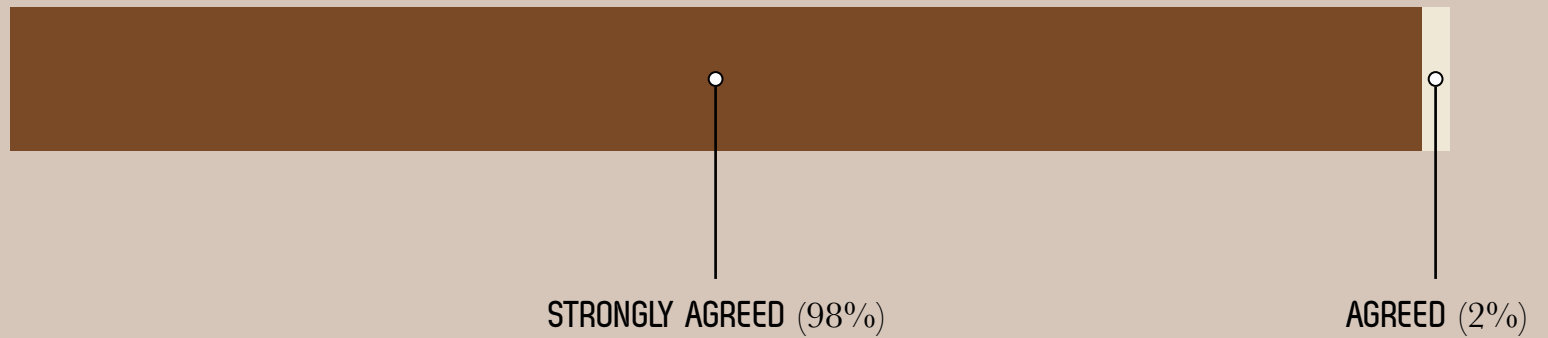
### FIG. 3

Our visitors said that their educational experience was enhanced by their visit to the field station (n = 59).



### FIG. 4

Our visitors said that they would encourage other students to visit the field station (n = 58).





## Engaged Learning

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# UVU

### Communicating in Environments (COMM 3115)

*May 8-11, 2021*

Dr. Meaghan McKasy was able to bring the first for-credit course to the field station in over a year when she brought her COMM 3115 course. Students participated in daily hikes and solitary journaling as well as a graffiti removal service project in Grand Wash and an extended conversation with Lori Rome, then Chief of Interpretation at Capitol Reef National Park. Meaghan relates:

*“CRFS was the perfect setting for this experiential education to take place. ... I believe that being able to teach a course like this during a global pandemic made it so much more meaningful. Many of my students commented that they hadn’t had face-to-face courses in the last year and how great it was to be able to interact with classmates and professors again. I also acknowledge that if this was a regular year, the class size would have more than doubled. Having the smaller class made for an intimate and unforgettable experience. I do not believe I will ever teach a course quite like this again (though one can always dream) and I am greatly appreciative to CRFS for hosting.”*

Photos provided by Doug Larson, a UVU student.







## Engaged Learning

# UNIVERSITY OF KANSAS

## Geology Field Camp

*May 24 - June 6, 2021*

Dr. Diane Kamola, a faculty member at the University of Kansas (KU), takes students on a summer geology field camp throughout the American Southwest. They love to stay at the field station where they are provided an unparalleled experience in place-based learning. As Diane tells it:

*“Surrounded by vistas of red Moenkopi cliffs and resistant towers of earth-toned sandstone, KU geology students learned to map geologic features in the most picturesque sedimentary strata imaginable. Geologists are used to remote locations, which expose rock outcrops, but nothing compares to the expansive exposures at Capitol Reef National Park. With Brunton compasses, topographic maps, and airphotos in hand, geology students spent their days exploring the rocks and learning the skills required to map geologic structures. Being able to stay at the field station made all this possible.*”

*“I’ve said this many times: I can’t think of a better place to stay when teaching the principles of geologic mapping. Students are immersed in geology at the field station, with vertical cliffs of cross-bedded eolian sandstone surrounding the field station and views of both Boulder Mountain and the Henrys. This coupled with the isolation and serenity of the field station allowed the students to be completely absorbed in geology. The total picture promotes a passion for geology and one in which there is no effort to become completely engaged in the learning process. Students were constantly in awe of the vistas and the clarity of exposure of geologic features that previously had been seen only in textbooks. Their visit to Capitol Reef National Park and the field station resulted in an intense personal engagement with their chosen field of study. Thank you for allowing our students this great learning opportunity.”*







## Engaged Learning

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### UVU

#### Design Studio (ART 443R)

Even when closed, the field station can still provide engaged-learning experiences for students! During the spring semester, UVU faculty member Brandon Truscott worked with three students, Bronwyn Hays, Garris Parker, and Dallin Stoeltzing. Each of them created a CRFS brand style guide as part of initial considerations of a full rebrand for the station. Brandon describes the project:

*“We began the development of a potential rebranding campaign for Capitol Reef Field Station by researching the existing brand presence. Successful integrated branding helps organizations clearly communicate their core values. It helps organizations to increase recognition among potential patrons and build loyalty among existing ones. With the ever-growing options of media, the need for compelling and consistent branding is stronger than ever before. The starting point was an identity audit. The students evaluated the current Capitol Reef Field Station identity for consistency, continuity, and positioning. They analyzed the strengths and weaknesses. They assisted in identifying organization identity issues. The students evaluated brand architecture and the visual standards system across all organization materials.*”

*“In the final phase, the graphic design students created style guides for Capitol Reef Field Station that included examples of logos, typefaces, graphics, icons for annual reports, website page mockups, informational materials, stationery, signage, t-shirts, etc. It was a successful partnership between UVU students, faculty, and staff.”*











## ENVIRONMENTAL ETHICS

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*Record-breaking fires, heat, and drought* (among many other effects) from climate change *highlight the importance of conservation and environmental awareness*. At the field station, we teach students the importance of conservation not only during their stay, but also after they return home.

This year, 100% of our visitors strongly agreed (95%) or agreed (5%) that their stay made them *more aware of their environmental impact* (Fig. 5). In addition, 97% strongly agreed (90%) or agreed (7%) that because of their stay at the field station *they place more value on protected public lands* such as Capitol Reef National Park (Fig. 6).



## Environmental Ethics

FIG. 5

Our visitors said that their stay at the field station made them more aware of their environmental impact (n = 59).

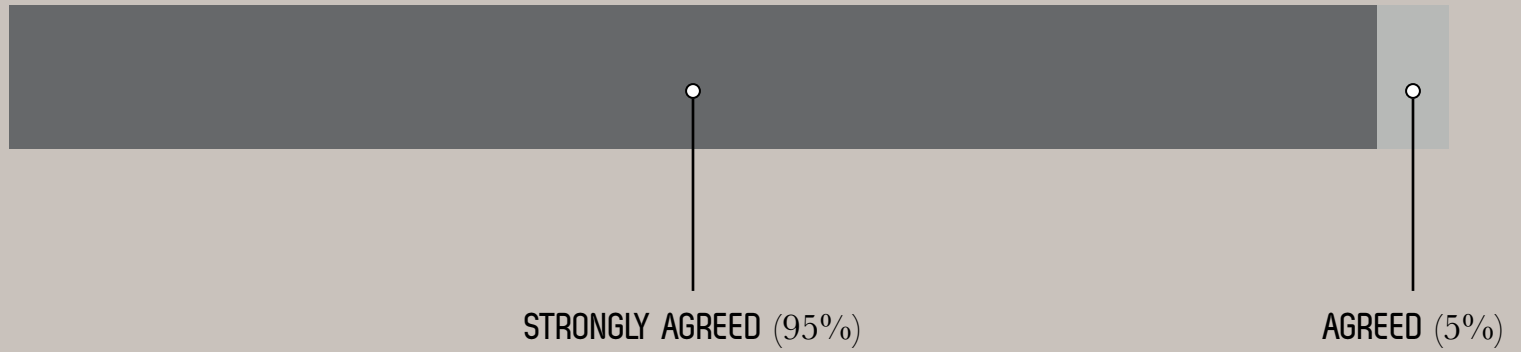
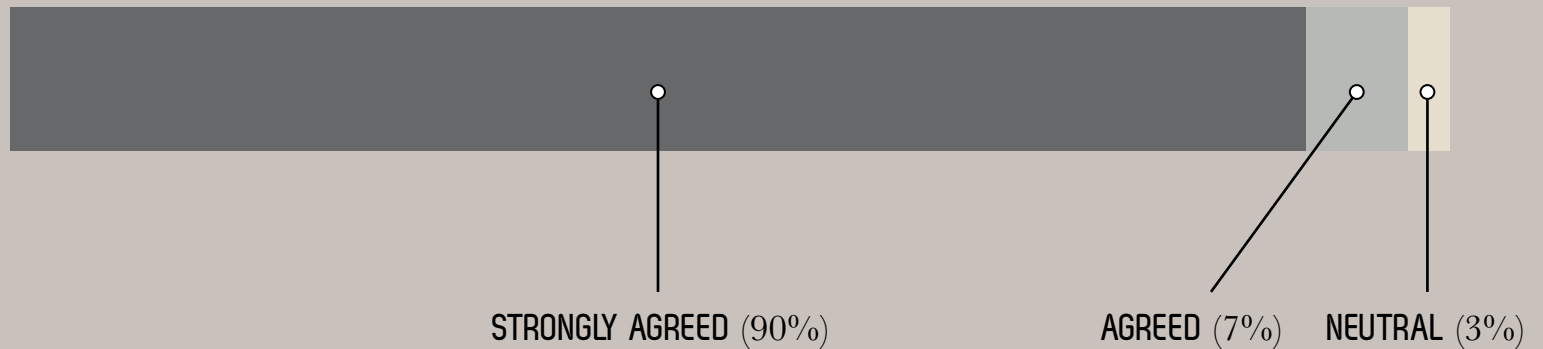


FIG. 6

Our visitors place more value on protected public lands because of their stay at the field station (n = 59).







## RESEARCH &amp; CREATIVE WORK

This was a *banner year* for research and creative work at the field station. When the pandemic prevented us from hosting visitors, our site manager, *Joe Ceradini, very effectively pivoted to conducting research.* He started a study of *desert bighorn sheep* in the park with collaborators from both UVU and the NPS. Additionally, he continued a project exploring the *interactions between small mammals and Mexican spotted owls* and mentored two UVU undergraduates in the process.

Two additional research and creative work projects commenced as well. Dr. Maria Blevins led an *interdisciplinary team* to address the park leadership's interest in *studying park visitors and their experiences* in Capitol Reef. Another team of UVU faculty (Emily Hedrick, Amber Smith-Johnson, and Joel Bradford) obtained a grant from the NPS to *digitally preserve the cultural history of Sleeping Rainbow Ranch.*



## Research & Creative Work

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### Distribution and Habitat Use of Desert Bighorn Sheep in Capitol Reef National Park

Joe Ceradini (CRFS and Biology, UVU), Dr. Eric Domyan (Biology/Biotechnology, UVU), Dr. Justin White (Geosciences, United States Air Force Academy, formerly UVU), William Sloan (Biologist, NPS), Dr. Morgan Wehtje (Biologist, NPS), and Sandy Borthwick (Biologist, NPS, retired) received a CRFS grant, as well as additional NPS funds, to study desert bighorn sheep in Capitol Reef National Park. Joe describes the project:

*“CRFS, UVU, and the NPS are collaborating to better understand desert bighorn sheep (*Ovis canadensis nelsoni*) distribution and habitat use in Capitol Reef National Park, which will inform management of this sensitive species. The research is based on motion-sensor cameras and genetic analysis of scat, which are non-invasive survey techniques that enable us to estimate the probability of sheep being present in different locations and using different habitats in the park. Five UVU students and one U.S. Air Force Academy student are also involved in the project. Dr. Eric Domyan’s students are conducting genetic lab work to identify the species for each scat sample and potentially estimate other genetic metrics such as diversity and relatedness between individuals. Dr. Justin White’s student is helping to manage the vast number of photos (around 1.5 million!) and will be working with Microsoft’s Artificial Intelligence for Earth to categorize images prior to analysis.*”







## Research & Creative Work

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*“Desert bighorn sheep populations declined sharply throughout the West from the late 1800s to mid-1900s mainly due to competition and disease transmission from domestic livestock, habitat loss, and unregulated hunting. Desert bighorn were extirpated (locally extinct) from Capitol Reef National Park by the 1940s, and disappeared from most of their range by the 1960s.*”

*“Desert bighorn were reintroduced to Capitol Reef National Park in the 1980s and 1990s from a persistent source population in Canyonlands National Park. While reintroductions in Capitol Reef and throughout the West have largely been successful, desert bighorn still face many threats, especially disease transmission from domestic livestock, habitat loss from development, and, more recently, disturbance from recreation. Within this complicated and fascinating context, continued research and monitoring are essential for detecting population and distribution changes over time, and for ensuring the persistence of this iconic species.”*

Photos from motion-sensor cameras.







## Research & Creative Work

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### Social Science Research: Who is Going to Capitol Reef National Park and What Are They Doing There?

UVU faculty Dr. Maria Blevins (Communication), Dr. Meaghan McKasy (Communication), Dr. Leandra Hernandez (Communication), Dr. Michael Stevens (Biology), Scott Williams (Exercise Science & Outdoor Recreation), Dr. Betsy Lindley (Exercise Science & Outdoor Recreation), and Dr. Hilary Hungerford (Earth Science) are studying the motivations and demographics of Capitol Reef National Park visitors. Maria describes the research:

*“In 2012, Utah launched the ‘Mighty Five’ tourism campaign in which the state of Utah advertised the wonders of its five national parks. It was a success, park visits increased from 6.3 million visitors in 2014 to 10 million in 2016 (Sundeen, 2020). Capitol Reef has not been immune to this growth. Historically, Capitol Reef has been one of the least-visited national parks of Utah’s ‘Mighty Five,’ but is now dealing with issues related to exponential growth in tourist numbers. The increase in visitor numbers affects how personnel manage trails and other resources as well as the experience visitors have while in the park.*”

*“Employees at Capitol Reef National Park have expressed a need and desire to conduct social science research on the visitors coming to the park. This study aims to understand which factors have produced this astounding increase in visitation, specifically visitor motivations for visiting Capitol Reef National Park, as well as the type of experience they are seeking. A Capitol Reef social science team has been created to collaborate with the park; this team of interdisciplinary researchers represents the fields of Outdoor Recreation Management, Biology, Geography, and Communication. The project has been supported by a Presidential Research Fellowship and a grant from Capitol Reef Field Station.*”

*“With the help of two classes (COMM 3115 and REC 4400), two student research assistants (Madison Anderson and Erin Kratzer), professors, and volunteers, this team has collected data over the course of 11 days during the spring and summer of 2021. A total of 685 short surveys and 145 longer surveys, which were sent in an email two weeks after initial contact, were collected. Additionally, qualitative data in the form of observation and informal interviews were collected. The research team will be meeting throughout the fall to provide a full report to the staff at Capitol Reef. This project is a beautiful example of engaged and applied scholarship.”*

Sundeen M (2020) Utah wanted all the tourists. Then it got them. Outside (January 29) <<https://www.outsideonline.com/2408400/utah-mighty-five-tourism-campaign>>.



## Research & Creative Work

### Sleeping Rainbow Ranch Digital Preservation

UVU faculty Emily Hedrick (Digital Media), Amber Smith-Johnson (English & Literature), and Joel Bradford (Earth Science) received an NPS grant to digitally preserve the cultural history of Sleeping Rainbow Ranch in Pleasant Creek Valley, Capitol Reef National Park. This project included interviewing Chip Ward, a local author, and Park Superintendent Sue Fritzke. Amber describes the context and goals of the project:

*“Capitol Reef National Park provides not only a stunning and dramatic backdrop of the American West; it also offers a unique glimpse into the intersections of cultures, peoples, and land uses that overlap one another in remarkable ways. One particularly rich story is of the Sleeping Rainbow Ranch, nestled between Capitol Reef Field Station and Pleasant Creek. While the hotel and homes associated with the ranch are long gone—the field station actually sits on the footprint where those buildings once were—the fences and outbuildings of the ranch can still be seen along the valley floor. Interestingly, though the ranch remains as a piece of Capitol Reef National Park history, there has been a current lack of educational material dedicated to it. Because of this gap in public knowledge regarding the Sleeping Rainbow Ranch, UVU faculty and students wanted to fill in the underrepresented narrative.*

*“Faculty members Emily Hedrick, Amber Smith-Johnson, and Joel Bradford assembled a team of students from Digital*







## Research & Creative Work

*Media, English, and Earth Science to help bring the Sleeping Rainbow Ranch story to light. The team was awarded the NPS Preservation Technology and Training Grant, which allowed them to create a sort of virtual field trip with immersive tools such as 3-D augmented and virtual reality (VR) and photogrammetry. The team conducted interviews to help create a short documentary piece that will inform the viewers of the ranch's history and its unique place in the national park. They also created a printed pamphlet for the visitor center. The pamphlet will be an attractive addition to the educational materials the park can offer for visitors and will feature fun, interactive elements as well. Included in the pamphlet's historical facts and timelines will be augmented reality (AR) features that guests will be able to scan with their smartphones. Once scanned, guests can access even more information, including 3-D images, fun facts, and ranch history.*

*“Ultimately, however, the UVU team and NPS are hoping to share these videos and images with virtual visitors outside of the park as well. By making these assets available to K-12 and post-secondary education sites throughout Utah, viewers will be able to virtually walk the paths around the site as though they were on the dusty Pleasant Creek Road themselves. Viewers will also be able to virtually enter the buildings that still stand on the property and investigate the old walls of the outbuildings and rough-hewn fences. By using such newly-emerging, engaging technology, UVU and the NPS are hoping that together, a wider range of park visitors will be able to enjoy this piece of the past.”*







## Research & Creative Work

### Small Mammal Populations and Communities within Mexican Spotted Owl Foraging Habitat

Joe Ceradini (CRFS and Biology) received a UVU Engaged Learning grant and a CRFS grant to study small mammals in the park. Joe summarizes the research:

*“In Capitol Reef National Park, and throughout canyon country, the Mexican spotted owl (*Strix occidentalis lucida*) primarily eats herbivorous and granivorous small mammals, such as woodrats (*Neotoma spp.*). So, factors that affect small mammals can also impact Mexican spotted owls. For example, through the alteration of plant communities, livestock trailing has been shown to influence small mammals, in some cases reducing small mammal diversity and abundance, which in turn could influence Mexican spotted owls. It is therefore important to assess the quality of Mexican spotted owl foraging habitat when livestock trailing is present.*”

*“I worked with two UVU biology students, Hayden Kerr and Alisa Baadsgaard, to study small mammals within the Oak Creek and Pleasant Creek valleys in Capitol Reef National Park. The two valleys have similar ecology, hydrology, and geology in many respects, but cattle use is substantially higher in Oak Creek than in Pleasant Creek. This variation enabled a comparison of small mammals within riparian and upland habitats between valleys that differed in cattle use and disturbance. Results will inform park management decisions, such as management of cattle trailing within potential Mexican spotted owl foraging habitat.”*





## Research & Creative Work

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## BIBLIOGRAPHY

Bhatt A, Kendall EA, Frissell NA, Sanchez D (2020) Mid-latitude traveling ionospheric disturbances (TIDs) as observed in airglow and amateur radio data. American Geophysical Union meeting, online.

Ceradini J (2020) Capitol Reef Field Station: education, research, and conservation on the Colorado Plateau. UVU Physics Department Seminar, online.

Ceradini J (2020) Small mammal populations and communities in relation to cattle trailing in Mexican spotted owl foraging habitat. Report for the NPS and UVU's Institutional Animal Care and Use Committees.

Ceradini J (2021) Collaborative bighorn sheep research in Capitol Reef National Park. Organization of Biological Field Stations May newsletter.

Ceradini J, Keinath D, Abernethy I, Andersen M, Wallace Z (2020) Crossing boundaries in conservation: land ownership and habitat influence the occupancy of an at-risk small mammal. Ecological Society of America meeting, online.

Ceradini J, Keinath D, Abernethy I, Andersen M, Wallace Z (2021) Crossing boundaries in conservation: land ownership and habitat influence the occupancy of an at-risk small mammal. *Ecosphere* 12:1-21.

Ceradini J, White J, Domyan E, Sloan B, Borthwick S, Wehtje M (2021) Desert bighorn sheep distribution and habitat use in Capitol Reef National Park. Presentation and progress report for the NPS's Park Conditions Summary Manager-Scientist Meeting, online.

Domyan E, Ceradini J (2021) Extracting and sequencing DNA from desert bighorn sheep fecal pellets. Workshop for Biotechnology 2010 concurrent enrollment instructors, Utah Valley University, Orem, UT.

Wellman K\*, Ceradini J (2020-21) Pleasant Creek watershed project <[www.instagram.com/uvucrfs/](https://www.instagram.com/uvucrfs/)>.

\*denotes a UVU undergraduate



## OUTREACH & SERVICE

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The presence of the field station in Wayne County *facilitates the connection between UVU students, the local community, and the NPS.*

CRFS serves as an important destination not only for university faculty, staff, and students, but also for visitors from the region.





## Outreach & Service

### UVU

#### Beethoven and Botany

*June 25-26, 2021*

UVU's Botany Club and friends were treated to a night of music provided by the Park City Beethoven Chamber Music Ensemble. The event was the result of a collaboration between Leslie Harlow, Founder and Co-Director of the Park City Beethoven Festival and UVU viola instructor, and Erin Riggs, Director-Curator of UVU's Herbarium. The unique location of the field station within picturesque Pleasant Creek Valley proved to be the perfect backdrop for the night. Monsoon winds eventually moved the concert indoors, but a great time was still had by all. The following day, Erin Riggs, Dr. Mike Rotter, and Dr. Michael Stevens (CRFS Director) led the Botany Club members on a guided botany hike along Pleasant Creek. Event co-organizer, Erin Riggs summarized the experience:

*“Beethoven and Botany was a terrific success despite a great monsoon driving everyone from the beautiful patio venue to the common room. The students fully enjoyed the presentation, and for a few it was the first time experiencing chamber music. The musicians are excited to do more music events at the field station.”*





## INTERNSHIPS

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Each year, CRFS funds internships to allow UVU students to gain work experience and receive mentorship from park employees in the natural and social sciences. ***This is the first year we offered a Cultural Resources Internship***, which allowed UVU student Rebecca Robinson to work with Park Archeologist Thann Baker.

Our interns are also eligible for the ***Cordell Roy Scholarship***, which covers their summer tuition for internship credit. Last year we were unable to offer this scholarship because of COVID-19, so this year we awarded the scholarship to two interns: Katherine Davis and Kaija Nielsen. The scholarship honors Cordell Roy, a long-time employee of the NPS. It is funded by a ***generous private endowment from G. Kevin Jones***, who was an attorney in the Office of the Solicitor, U.S. Department of Interior, representing the Utah units of the NPS. Cordell Roy also contributed to the endowment.





## Internships

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# CULTURAL RESOURCES INTERN

## Rebecca (Becca) Robinson

Becca Robinson, a double major at UVU in anthropology and psychology, was our first cultural resources intern in Capitol Reef National Park! Becca worked extensively with the park archeologist on cultural resource documentation and management. Becca conducted trail surveys, new site documentation, site condition monitoring, site mapping with GIS, and graffiti documentation and removal throughout Capitol Reef National Park. Becca was immersed in both the field work and office work that are necessary before and after collecting field data, which gave her a better understanding of what archeology and land management are like in practice. She also helped manage CRFS, where she worked with other UVU students and faculty visiting the park, led guided ecology and archeology hikes, taught students about environmental ethics, and helped monitor the off-grid CRFS facilities. Reflecting on her experience, Becca said:

*“Even with the challenging conditions, I loved working outside and getting to experience the cultural resources in their context and to walk in the same places that other people walked and lived many years before ... I was very grateful for this hands-on experience; it made me love archeology even more.”*







## Internships

# INTERPRETATION INTERN

Katherine (Katie) Davis

Katie Davis, a history and social studies education major at UVU, worked in the interpretation division, which is the public face of Capitol Reef National Park, during her internship. Katie worked side-by-side with park rangers in the visitor center, helping to answer visitors' questions to ensure they had a fun and safe park experience. Although visitors' questions were often repetitive, Katie always stayed positive: *"... despite the repetition, I thoroughly enjoyed talking with visitors and helping them plan how to spend their day in such a beautiful place. I knew that when visitors left the center, they were on their way to a unique and breathtaking experience."* Katie's favorite part of her internship was presenting geology ranger programs to the public. She enjoyed learning about the fascinating geology of Capitol Reef, designing educational programs that connect with the public, and teaching, which gave her skills that will be valuable in her future teaching career. Summarizing her CRFS internship experience, Katie said:

*"I lived in a national park, worked as a park ranger, learned to teach in new ways, developed connections with people from all over the world, discovered the connection between geology and history for myself, and even got to go on a search-and-rescue operation. My experiences in Capitol Reef will impact me for the rest of my life."*





## Internships

# NATURAL RESOURCES INTERN

## Kaija Nielsen

Kaija Nielsen, a botany major at UVU, worked with the Capitol Reef National Park biologist and ecologist as a natural resources intern. Kaija conducted a wide variety of field surveys, including monitoring rare and sensitive species such as endangered cacti, mustards, and peregrine falcons. Kaija also collected native plant seeds to use for restoration projects, maintained motion-sensor cameras used for wildlife and visitor-use surveys, and even had the opportunity to conduct fish surveys in Pleasant Creek. She also gained experience with technologies that are essential for land management and research, such as GPS units, tablet data collection, and ArcGIS software. In addition to natural resources work, she helped manage CRFS and was able to share her knowledge of the park resources with other UVU students and faculty visiting Capitol Reef National Park. Working with UVU classes at CRFS also gave her an opportunity to practice and improve her public speaking, which had been a challenge for her in the past; she ended her internship as a confident and engaging public speaker! Thinking about how her internship contributed to Capitol Reef National Park, Kaija said:

*“The National Park Service mission is one I personally stand behind and respect: to protect and preserve the resources of the nation while still providing an environment conducive to learning and recreation. As a natural resources intern, I was able to uphold and contribute to the park’s mission by protecting and surveying many resources, both biotic and abiotic.”*







## FINANCIAL REPORT

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This year, the operating funds at CRFS came from three sources: 1) ***institutional support from UVU*** (\$218,049), 2) ***private donations*** (\$17,163.00), and 3) ***user fees and product sales*** (\$5,710.21) (Fig. 7). This funding supported the salaries and benefits of the staff (\$195,389), student internships (\$17,390), research and creative work (\$15,073), operations and maintenance (\$6,978), and marketing and outreach (\$2,700) (Fig. 8). ***While UVU generously supports the station, CRFS relies on private donations*** to pay for new building projects and important programs such as ***student internships and research and creative work***. This year, we are seeking donations to ***remodel the existing site manager's quarters*** to allow for a scientist-in-residence or artist-in-residence to stay at the field station long term. ***If you value our mission, please make a donation at:*** <[www.uvu.edu/crfs/support.html](http://www.uvu.edu/crfs/support.html)>. Contact Dan Dimond at [ddimond@uvu.edu](mailto:ddimond@uvu.edu) or (801) 863-5112 with questions about making a donation.

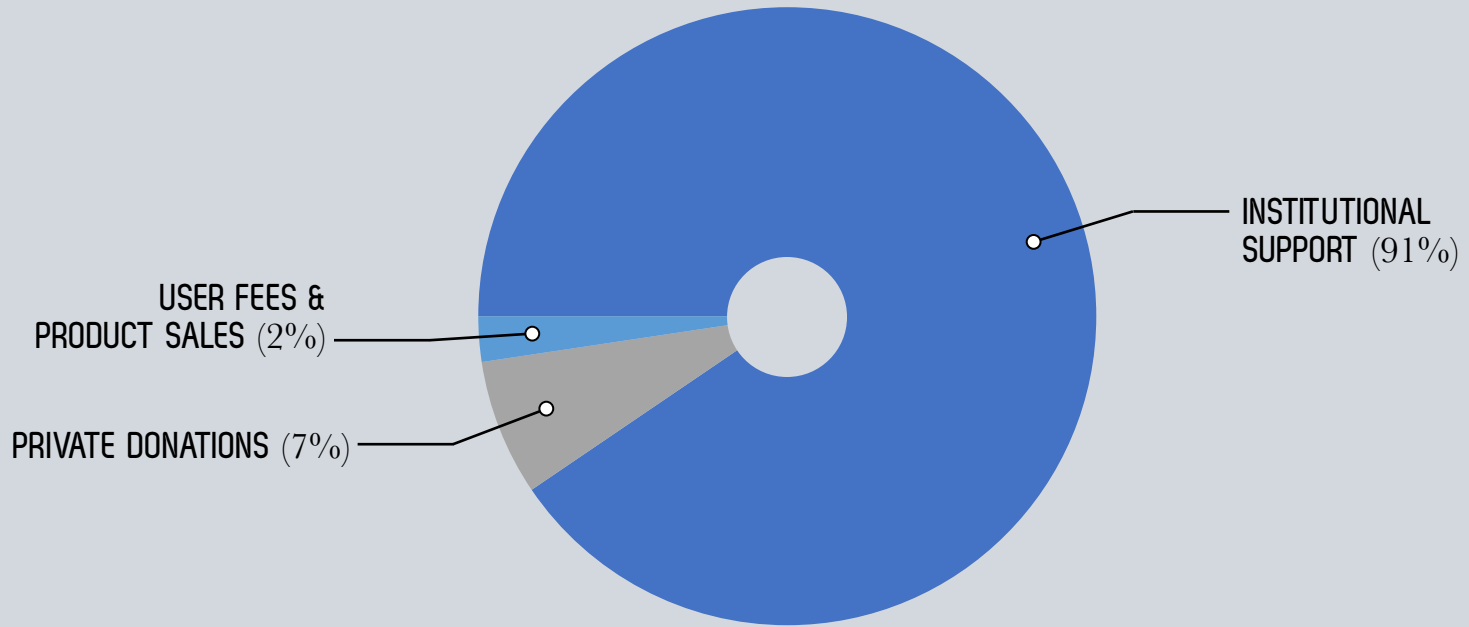


Financial Report



FIG. 7

FUNDING FOR CRFS BY SOURCE.



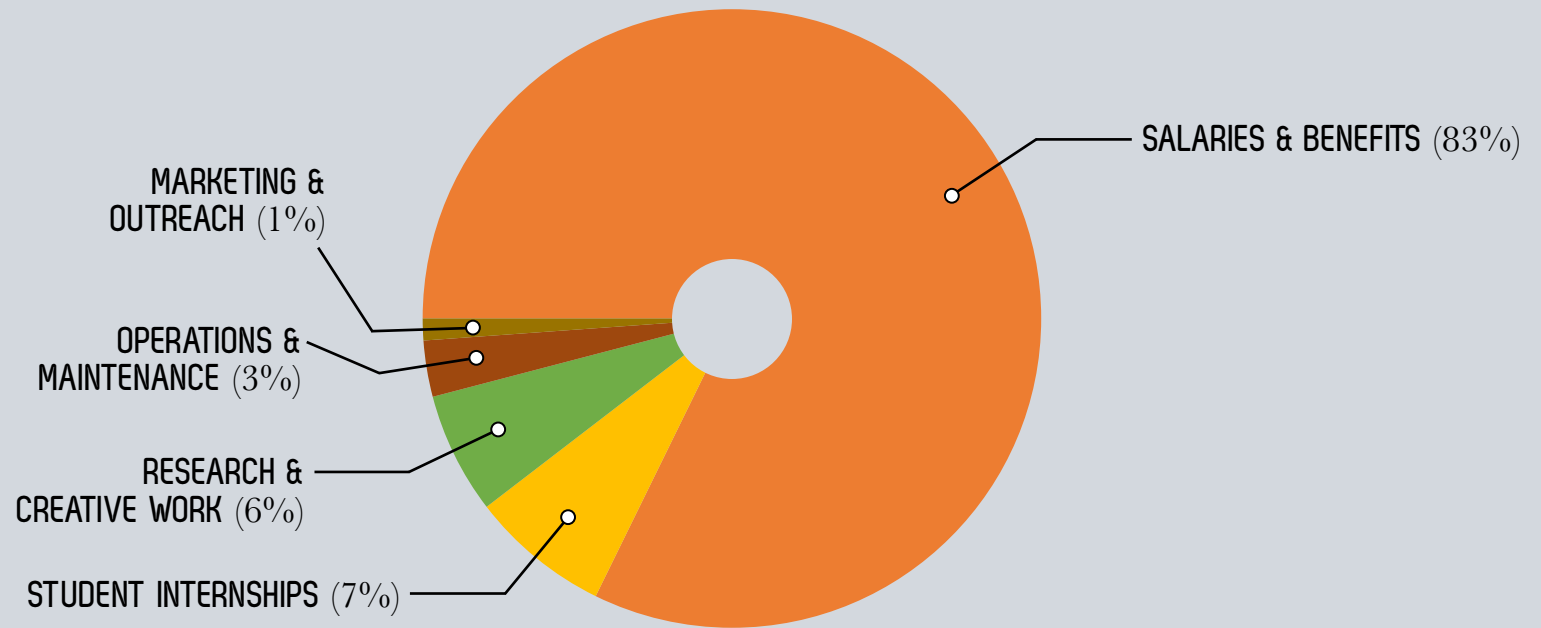




Financial Report

FIG. 8

CRFS OUTLAYS BY CATEGORY.





# STRATEGIC PLAN

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Strategic planning guides field-station operations even during a pandemic. We have *five objectives* that direct our decision-making. Please read about these objectives and their related activities:

## **1. *Promote CRFS as a venue for engaged learning utilized by a variety of disciplines and multiple institutions.***

Even though we were only open for two months, we were still able to attract visitors from four of UVU's colleges, four of UVU's organizations, and four external universities/organizations. In addition, we began work on a Canvas course highlighting various aspects of the field station and the Colorado Plateau that will be placed in Canvas Commons and made widely available to visitors and potential visitors.

## **2. *Develop environmental awareness and engage visitors in sustainable practices to be applied at home.***

At the field station, we teach our visitors about environmental ethics. Many report that they continue to conserve water and reduce waste after returning home. This year, 89% of our visitors (n = 57) reported learning new methods to reduce their environmental impact.

## **3. *Foster research and creative work that utilize CRFS as a venue from which to explore the Colorado Plateau.***

Even as the pandemic raged, CRFS had an active year with several ongoing research projects, including desert bighorn sheep distribution and habitat usage, social science research with park visitors, Sleeping Rainbow Ranch digital preservation, and small mammal populations and communities in Mexican spotted owl habitat. You can read more about these exciting projects in our Research & Creative Work section.

## **4. *Continue to collaborate with our NPS field-station partners and build relationships with other relevant organizations.***

Even though COVID-19 limited opportunities for in-person visits this year, CRFS Director Dr. Michael Stevens was still able to visit in-person with Superintendent Sue Fritzke, Chief of Resource Management & Science Dr. Jim Roche, and Park Guide Ann Huston along with Interim Associate Vice Provost for Engaged Learning Dr. Janet Colvin on April 23, 2021.

## **5. *Ensure that CRFS facilities, staffing, and services meet visitor needs.***

In 2021, 98% of our visitors strongly agreed (91%) or agreed (7%) that the field-station orientation was beneficial (n = 55). Additionally, 100% strongly agreed that the field-station staff was helpful, competent, and professional.





## SUPPORT CRFS

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### CAPITOL REEF FIELD STATION MAKES A DIFFERENCE. SO CAN YOU!

Our future plans include ***building an observatory*** that will allow us to capitalize on the internationally-recognized dark sky above the park. Additionally, we plan to ***construct a residence facility*** for our site manager and ***remodel the existing site manager's quarters*** to serve as housing for a scientist-in-residence or artist-in-residence. These facility expansions and modifications will enhance the field-station experience for all visitors and ***increase the field station's ability to fulfill its mission*** of engaged learning, environmental ethics, and research and creative work in the context of the Colorado Plateau.

***Please visit <[www.uvu.edu/crfs/support.html](http://www.uvu.edu/crfs/support.html)> to contribute.*** Donations are tax-deductible to the extent allowed by law and we will ***honor your contribution by listing your name*** in our annual report. Contact Dan Dimond at [ddimond@uvu.edu](mailto:ddimond@uvu.edu) or (801) 863-5112 with questions about making a donation.



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