

CAPITOL  
REEF  
FIELD  
STATION

ANNUAL  
REPORT

JULY 2010 - JUNE 2011



Consider the vastness and

*Cathedral Valley, M. Teemant*

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## CRFS Staff

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**Director:** Renee Van Buren, Professor, Department of Biology

**Site Manager:** Hau Truong, August 2008-April 2011

**Interim Site Managers:** Aaron and Ally Searle April-August 2011

**Site Manager:** Jane Dell, August 2011-present

**Administrative Assistant:** Sharon Richardson, August 2008-October 2011

**Custodial and Maintenance:** Lesa Dean, June 2011-present

intricacy of our classroom.



## Advisory Committee

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**Karl Haisch:** Physics faculty

**Scott Hatch:** English and Literature faculty

**Louise Illes:** Assistant Dean, College of Health and Science

**Phil Matheson:** Physics faculty

**Alexis Palmer:** Director, Volunteer Services

**Kim Reynolds:** Director, Outdoor Adventure Center

**Catherine Stephen:** Biology faculty

**Dan Stephen:** Earth Sciences faculty

**Scott Williams:** Physical Education and Recreation Management faculty

**Ray Walker:** Information Technology, Associate VP

### **SPECIAL THANKS TO:**

Renee Kalaniuvalu, Scott Hatch and Paul Fenske for report design and content



*Pleasant Creek, R. Van Buren*



## Director's Introduction

When I was a child my parents drove our family to Four Corners, a spot that marks the intersection of four state boundaries. In my mind's eye I can picture my childhood-self who, after suffering through a long ride with siblings, finally escapes the confines of the car and is now sprawling her small tan body across the borders of New Mexico, Utah, Colorado, and Arizona—the heart of the Colorado Plateau. Wearing a wide-faced grin, she revels in the fact that at summer's end she can brag to her third-grade class that she accomplished a nearly impossible feat—being in four places at one time.

Similarly, visitors to our field station have the rare opportunity to stand in a place where worlds intersect: here, our modern, solar-powered facility salutes and sublimates ancient sandstone cliffs that were hundreds of thousands of years in the making; here, academic disciplines hybridize—a writing student learns to identify Chinle soil, a photography student practices water conservation, a math student discovers how the shape of a parabola and the desert sun can work together to cook dinner; and here, students and teachers engage in intellectual discussions that would never have happened within the constructs of the traditional classroom.

This annual report tells the story of our year at Capitol Reef. As you read it, we hope you sense how excited we are to be a part of an organization that brings meaningful educational experiences to our students and that you are left imagining the rare educational opportunities that remain to be tapped. If you have not had the chance to experience the Field Station first-hand, we invite you to come and stretch your arms and legs across the boundaries of the worlds that intersect in this small corner of the universe. We promise it will be worth the trip.

—Renee Van Buren



*Pleasant Creek, R. Van Buren*

## The CRFS Mission

The Capitol Reef Field Station (CRFS), in partnership with Capitol Reef National Park, promotes and supports engaged learning, field-based scientific research, and exceptional environmental ethics through the exploration of the Colorado Plateau ecosystem.

### OUR VISION

Our vision is for every Field Station visitor to connect with Capitol Reef on a level beyond mere acquaintanceship—to come to know the layers, elements, and organisms of this region as one knows a dear friend. We hope that this elevated appreciation of place will lead those who come here to invest in the long-term well being of Capitol Reef and the greater environment. To accomplish our vision we have focused on bridging the distance between our guests and the natural world through education.

### OUR PARTNERSHIP WITH CAPITOL REEF NATIONAL PARK

Our partnership with Capitol Reef National Park is vital to the success of this mission. A unique agreement between Utah Valley University (UVU) and Capitol Reef National Park allows Capitol Reef Field Station to provide its visitors with educational experiences that are as remarkable as the landscape they occur in. We are grateful for the opportunities afforded our students through this partnership.

The Capitol Reef Field Station, property of the National Park System, operates under the direction of UVU in partnership with Capitol Reef National Park and in accordance with agreement number G135009001 between the U.S. Department of Interior and Utah Valley University. This agreement has been in effect since May 2009 and defines the conditions of the lease.

## OUR PLACE

Nestled on a mesa top in the Pleasant Creek Valley of Capitol Reef National Park, the Capitol Reef Field Station provides an amazing opportunity for place-based learning. A mere 3.5 hours from the UVU campus, CRFS welcomes students, faculty, and staff into the unique region of the Colorado Plateau.

## OUR HISTORY

The land around CRFS has a long history of human settlement. Over millennia, it was used by late Paleo-indian, Desert Archaic, Fremont, and Numic-speaking (Ute and Paiute) peoples. Modern settlement began with Ephraim Hanks, a Mormon pioneer, in 1882. Hanks established a ranch and diverted water from the nearby Pleasant Creek to irrigate pasture and orchards.

Lurt and Margaret Knee purchased the Hanks' ranch in 1940 and converted it to Sleeping Rainbow Ranch: a tourist spot that was frequented regularly by writers, artists and photographers. In 1978, Lurt and his second wife Alice passed the Ranch to the National Park in a deal that included life tenancy for them. In 1995, Lurt died, and Alice quitclaimed her remaining property rights.

The property remained unoccupied for several years before UVU approached the Park with the idea of a field station. It was decided that a field station supported the missions of both organizations well, and after years of close collaboration on the project the idea became a reality. Capitol Reef Field Station opened for operation in 2008.



# Engaged Learning at CRFS

Have you ever come across an unusual tool that you weren't sure how to use?—maybe you shelved it until you could figure it out. To some, Capitol Reef Field Station might seem like an unusual tool—a perception that may stem from confusion about the Field Station's intended use; there are significant ways in which we depart from a traditional field station.

CRFS is both a biological field station with a traditional research mission and a center for interdisciplinary learning. Both functions compatibly support UVU's mission to provide engaged, experiential learning opportunities for its students. It also means that CRFS use is driven largely by the creativity of our faculty and students. As a result, innovation makes frequent visits to the Field Station.

Since CRFS does not come with a “how-to” manual, perhaps the easiest way to teach someone how to use the Field Station is to show them how others have used it. Here is a look at how the Field Station has been utilized as a tool for engaged-learning in the last year:



*Flower, Butron*

## ENGLISH COMPOSITION

Inclement weather did not stop Linda Shelton and her English students from riding into the Field Station on a snow sled with their luggage in tow. Surprisingly, Linda was once hesitant to take a class to the Field Station:

“When I first heard of CRFS, I thought, ‘That has nothing to do with me—I teach English composition.’ Fortunately, I visited the site and saw how instructors in different disciplines can creatively teach students in a national park setting. My source-based writing students research the history, land use, wildlife, plants, geology, recreation, and environmental issues of the area; then we visit for a hands-on experience with their topic. Research need not be done in a dusty library basement. My nature-writing students explore writers such as Wallace Stegner, Ed Abbey, Craig Childs, and Chip Ward. Then we hike into the canyons and pull out a notebook to write what we observe. As a priceless byproduct, students learn to appreciate and protect the riches in a national park. Their field station experience encourages them to also conserve resources here at home and change wasteful behavior. Trips to the Field Station have energized my teaching, and my students have loved the trips” (Linda Shelton, UVU English Department).



## UNEXPECTED ALGEBRAIC ENCOUNTERS

Keith White (Developmental Math) teaches his algebra students to build a parabolic oven and use GPS technology to calculate hiking rates during their field trip to CRFS—an experience that takes them miles away from their textbooks and straight to the heart of practical application. Keith says,

“CRFS is a great engaged learning tool for my Intermediate Algebra students. I take students there for several reasons, including:

- It allows me to introduce real-world applications of algebra—such as water usage in a desert—in context, rather than as semi-meaningless (to them) word problems in a textbook.
- It provides far more time for student exploration and discovery. Students can dig, probe, discuss, and discover solutions on their own. At CRFS, they become their own teachers much more so than on campus.
- It gives students a greater appreciation for mathematics and helps them encounter math in ways they otherwise would not.
- Students love it. Experiences like an overnight algebra field trip to a national park are part of what makes a college education unique and valuable.”



## GREEN DANCING

Connecting community to the environment through dance was the reason “Lacuna” project director, Angela Banchemo-Kelleher, brought a team of student dancers, set designers, and choreographers for a workshop at Capitol Reef. The desert background of the Field Station underscored the raw reality of human reliance on water and inspired these artists to develop a choreographic vocabulary to convey this theme.

The resulting piece became part of a dance concert entitled “Lacuna,” the culmination of a much larger multi-phased Green Map Project—an educational outreach program that teaches elementary students regional geography through dance. “Lacuna” was supported by a UVU Center for Engaged Learning grant and the Dean’s office of the School of Art.



## DESERT NATURAL HISTORY

"I think every class should be outside," said one Desert Natural History student. This summer class is taught primarily at the Field Station for upper-division credit in Biology or Geology and is the first course developed and taught by CRFS Advisory Committee members.

Guided by an interdisciplinary team of faculty experts, students identified geologic structures and processes, determined characteristics of plant communities, and explored how diverse plants and animals adapt to desert environments. The class is a rich, cross-disciplinary, hands-on learning experience. The Desert Natural History course is the collaborative effort of four UVU faculty members: Catherine Stephen, Dan Stephen, Heath Ogden, and Renee Van Buren. We look forward to providing this course in years to come.

*(Specimen collection at CRFS is only allowed when proper permits have been obtained from Capitol Reef National Park)*



## WRITING THE STORY OF THE NATURAL WORLD

The UVU Department of English and Literature continued the tradition of holding the Sleeping Rainbow Writers' Workshop at the Field Station. Students are invited by faculty to take part in the 4-day event where faculty, authors, and students explore the craft and art of writing under the skies of the Colorado Plateau.

Readings, lectures, writing workshops, and field excursions give our students a superlative formative experience in their writing lives. In a post-workshop survey, students often said that the workshop was life-changing—the most important single event in their development as writers to that point. They also frequently noted that their immersion in Capitol Reef's wilderness opened their sense of writing subject matter toward the frailty of their world and the need for responsible stewardship.

Young writers who stand in front of the ancient pictographic panels of Capitol Reef and imagine the stories those panels contain come away forever-changed in their sense of the storytellers' place in society. We hope that these ongoing workshops will become known for nurturing the next generation of great writers of our natural world.

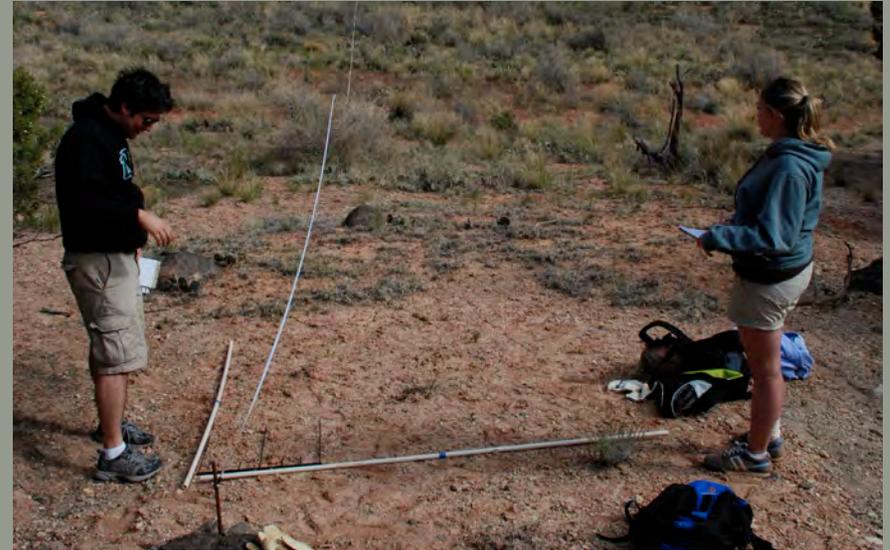


*Legendary naturalist and writer Ed Lueders  
at the 2010 Sleeping Rainbow Writers' Workshop.*

# Research at CRFS

CFRS provides UVU unprecedented access to a remote area of Capitol Reef National Park. We realize that this rare opportunity to research and explore must be done in a way that protects this rich outdoor classroom. For this reason, UVU field research efforts are first approved by Capitol Reef National Park and thoughtfully executed by our research teams. This year we initiated research that will help us measure the impact of our presence here, conserve energy and natural resources, and collect data on selected plant and animal populations.

UVU students who have the chance to participate in undergraduate research learn what is required to obtain accurate and replicable results. They hone their critical thinking skills and methodology under the supervision of competent faculty experts. This gives them a competitive advantage as they enter the workforce or apply for graduate school.



“The experience I have gained from doing research at Capitol Reef Field Station has been an indispensable part of my education. The research has added depth to the skills and concepts learned in the classroom. Also, it has been exciting to apply those skills to real world situation to help benefit Capitol Reef National Park and UVU.” (Jennifer Summers, Biology major)

## **BASELINE VEGETATIVE STUDIES**

This year UVU undergraduate student-researcher Jennifer Summers spent several days identifying characteristics of four native plant communities near the Field Station. Transect data that she and her research partner Nick Alvarado collected establish a baseline measure that will be used to monitor disturbances among these plant communities and to inform future land management decisions.

After several research trips to CRFS, Nick and Jennifer continue to work closely with Biology professor Renee Van Buren to ensure that the findings are presented clearly and accurately. Jennifer and Nick will present their findings at the National Conference of Undergraduate Research, Spring 2012.

## INSECT STUDY

An entomological survey led by Biology faculty member Heath Ogden is adding significantly to our knowledge base of insects in this ecoregion. Dr. Ogden describes the significance of this work:

“Insects are an important feature of the arid Colorado Plateau. However, previous descriptions of the insects of the Colorado Plateau, and more specifically Capitol Reef National Park, have been cursory at best. Our research increases understanding of the diversity, abundance, and ranges of insects of the Colorado Plateau. Additionally, this project has given more than 20 undergraduate students experience in hands-on field research and museum collection curation, leading to multiple presentations at local and national scientific meetings.” The findings of this survey will be published in an insect field guide that will be used as a teaching aid at CRFS and beyond.



## ENVIRONMENTAL MONITORING

Bonnie Andersen and Phil Matheson, UVU Physics faculty members, and their students installed an energy and temperature monitoring system at the Field Station. The monitoring system and its collected data will be used in the future for student research on energy consumption, to manage the facility, and to help visitors measure their own consumption habits.

## SUPPORT OF REGIONAL STUDY

We support other educational institutions in their study and exploration of the Colorado Plateau. Below is a list of organizations that visited the Field Station this past year:

### NON-UVU Organizations

BYU

Intro to Recreational Mgt.

University of Utah

Energy and Geo Science Institute  
Animal Care and Use Dept.  
Rio Mesa Center

Capitol Reef Natural History  
Association

Peaks, Plateaus and Canyon Association

# Conservation at the Field Station

We want visitors who come to the Field Station to gain an appreciation for the Capitol Reef landscape and to develop a sense of stewardship over it. When groups arrive, we teach them about the diverse and unique features of the Capitol Reef landscape, taking care to describe how human behavior impacts the balance of this delicate environment. Then comes the exciting part—teaching them how to practice conservation.

As an interdisciplinary learning center we host students from a broad range of academic backgrounds. For many of them, a field trip to CRFS is their first foray into the realm of environmental science; often it is the first time students have practiced water conservation, reduced impacts, lodged in an solar-powered facility, or even heard of noise and light pollution. In exit surveys, students often comment that learning about conservation was a highlight of their trip.

Here are some of the things that were done this year to accomplish our mission to promote and practice environmental ethics:

## WE HIRED A CONSERVATION EXPERT

This year we hired conservation expert Jane Dell as the CRFS site manager. Jane not only manages the day-to-day operations of the Field Station, but she also develops our on-site conservation curriculum, provides instruction to visiting groups, acts as a field guide, and is our liaison between UVU and Capitol Reef National Park.

Jane received a master's degree in Ecosystem Management from the University of Northern Iowa. In recent years she has worked at numerous field stations in Antarctica, performed research in the Pacific Northwest, and taught fire and restoration ecology in Iowa. Her knowledge and insight contribute significantly to the success of CRFS.



*Jane Dell, CRFS Site Manager*

## CONSERVED WATER

Scarcity of water in a desert climate requires us to vigilantly guard this resource. This year we installed water meters to measure our water consumption and more effectively monitor equipment function. The meters provide an added educational benefit as they allow us to give guests immediate feedback on their water usage habits during their stay.

According to the American Water Works Association, the average American uses 45.2 gallons of water per day. Because this average includes laundry and landscaping (usages which do not occur at CRFS), we use an adjusted daily average of 30 gallons per person for more accurate comparison. CRFS is pleased to report that on average visiting groups consume about half that amount—roughly 16 gallons per person per day.

## MINIMIZED WASTE

According to the U.S. EPA, the average American produces 4.4 pounds of trash per day. Our groups average a fraction of that amount, producing just 0.4 pounds of trash per person per day. This is accomplished through teaching Field Station visitors to prepare for their visits by removing excess packaging, minimizing food waste, and recycling.

## HIRED ENERGY CONSULTANTS

It is our goal that the Field Station be a model of an up-to-date, green facility. This year we hired energy consultants to analyze the effectiveness of CRFS energy usage. The report of this energy study is being used to target facility improvements that optimize efficiency; the facility is being upgraded as funds allow.

In addition, the energy and temperature monitoring system installed at the Field Station by UVU Physics faculty members Bonnie Andersen and Phil Matheson and their students will be used in the future to help visitors measure their own consumption habits. This technology gives us the capacity to read and record building temperatures at designated times throughout the day; this information is used to more efficiently utilize our heating and cooling systems.



## Please don't step on the Cryptobiotic soil crusts

We bring cryptobiotic soil crust to your attention for two reasons: (1) because it plays a key role in the desert habitat and needs to be protected from human disturbance and (2) to give you a sampling of our orientation curriculum. We hope you enjoy this mini-lesson on cryptobiotic soil crusts.

To the untrained eye cryptobiotic soil crusts (crypto) look somewhat like everyday soil. But under a magnifying glass, you can see the inner workings of a living miniature world, full of organisms working together to perform significant macro functions. In arid climates where vegetation is scarce, crypto stabilizes soil, reduces erosion and converts atmospheric nitrogen into a form that can be used by nearby plants and organisms.

Rather than a single living entity, cryptobiotic crusts are a symbiotic community of cyanobacteria, mosses, and lichens; they are easily damaged by foot traffic, off-road vehicles, and grazing. Full recovery after such disturbance may take several decades. For this reason we teach visitors to recognize crypto and expect them to protect this delicate and essential part of our environment.





# Internships

CRFS has a tradition of bringing quality interns to work summers at Capitol Reef. This year was no exception. Dylan Dastrup, Chloe Brent, and Emily Gillespie were awarded our 2011 internships. They did outstanding work.

Dylan and Chloe, our CRFS interns, lived on-site at the Field Station for nine weeks and were directly supervised by CRFS staff.

Emily Gillespie was awarded the 14-week Cordell Roy Ripple Rock Nature Center internship and worked under the direction of the Park Service.

## THE CORDELL ROY INTERNSHIP

*The Cordell Roy internship is funded by a generous private endowment from Kevin Jones who wished to honor the accomplishments of Cordell Roy, a long time employee of the National Park System. Cordell Roy interns work directly with park staff at Capitol Reef National Park during the summer season. The intern lives in residential housing with other park staff and has primary responsibility for the Ripple Rock Nature Center—an informational hub frequented by park visitors.*



## HEY EMILY, WILL THIS KILL ME?

If you ever find yourself foraging for food in the Utah desert, Emily Gillespie is someone you would wish to have around. This summer she developed and presented “Will This Kill Me?” an interactive program on the historic and prehistoric uses of common, native plants to Park visitors at the Ripple Rock Nature Center. During her three-month stint as the Cordell Roy intern, Emily worked 77 hours at the information desk and presented 41 programs (35 of which were to children attending the Junior Geology program) to an estimated total of 550 Park visitors.



## DYLAN DASTRUP, JACK OF ALL BACKCOUNTRY TRADES

*“Through my time as an intern I have met amazing people, learned about things I’d never thought about, and grown in ways I never would have imagined”*

An interest in a Park Service career prompted Dylan Dastrup to apply for a CRFS internship. “I was excited to learn how different entities like UVU and the National Park Service could work hand-in-hand.” This is exactly what Dylan got to experience first-hand. Dylan headed a collaborative effort between CRFS and the Park to protect an ancient Fremont pictograph panel from the elements. Together, he and Park staff completed the initial phase of a fence construction project.

Dylan’s diverse skill set made him a valuable asset to our team. He took on the responsibility of revising the website, acted as the onsite contact for the weather monitoring station, and helped prepare the Field Station water treatment system for state certification.



## CHLOE THE STAR GAZER

*“I am fascinated by the stories that cultures across the world have told about the sky and the direct relationship cosmological objects have with the cyclical patterns of the passing years” .*

Chloe’s interest in astronomy drove her headlong into what she called the “astro-project.” She studied the night sky, recorded sunset times, and ordered books and charts that could be used by visitors for self-directed constellation study. As a result, Chloe fell naturally into the role of sky program presenter and when Park employees asked her to pinch-hit as night sky guide for a visiting Paiute group, Chloe was ready to go. The event was one of the highlights of her internship.

Chloe’s crowning accomplishment was building a 12-foot diameter sundial of native stone. She built the sundial with Park approval, proper permits, and a team of helpers. This new addition to the Field Station prompts visitors to wonder at how former inhabitants of Capitol Reef’s canyons and hollows reckoned time.



## Where CRFS Is Headed

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The CRFS staff attended the Organization of Biological Field Stations Annual Conference where we mingled with professionals from close to 200 field stations. The range of representation was impressive. Attending the event were research powerhouses with multimillion-dollar operating budgets, moderately sized university-affiliated programs, and field stations that were a one or two man show. We left the experience with the realization that CRFS is in an enviable position. While we will never be a large physical operation, our educational focus, our research mission, and our affiliation with the national parks, put us in a position to be widely influential. Despite our smallness, we are well-situated to broadly impact the scientific, educational, and regional communities with whom we associate—a prospect we find very exciting.

As we head into the coming year, we are simultaneously sharpening our focus and widening our net. We are concentrating on improving the quality of visitor experience, expanding our capacity to research and teach, and seeking partnerships on and off campus that will help us to more effectively accomplish our organizational mission.

Specifically, we are working on the following goals:

**Informational campaign.** With the scope and scale of research and education possible at CRFS, it is our goal to make it a destination for more students and faculty. We have strategies in place to reach faculty from many disciplines and show them the possibilities that await them at CRFS. We will also begin marketing to other universities and make them aware of the opportunities.

**CRFS-sponsored courses.** CRFS will be the campus for two courses offered by UVU this summer. We will offer Desert Natural History and a course for secondary education teachers across the state seeking endorsement credit.

**Development board.** This year we will organize a development board for CRFS and make extensive efforts to seek private funding for programs that include our internships, grants, and teacher education.

**Staff increase.** We will seek funding from the University via the Planning, Budget, and Accountability process for increased staff needs at CRFS. We propose funding for an Associate Director and an increase in the hourly budget for the administrative assistant.

**Facility improvement.** We will start the following four projects to improve the facilities during the coming year:

- Improve the efficiency and “green” value of the field station to become a more impressive example of environmentally conservative living.
- Construct an observatory at the Field Station where visitors and researchers can take better advantage of the amazing night skies at CRFS. This will include a remodel of an existing building.
- Begin planning and fundraising for a classroom building at the station. This building will provide a laboratory for research, increased educational space, living quarters for staff and visiting professors, and public restrooms.
- Improve the technology at the station to increase our ability to deliver educational programs and to network our data.



*M. Ririe*



*Two 12-person dorms, a multi-purpose classroom, and dining facilities with a beautiful kitchen await groups that visit CRFS. In addition, CRFS serves as a model of sustainability with 100-percent solar electricity, water supplied from a nearby well, passive heating and cooling architecture, and an unrivaled opportunity for all visitors to learn and practice reduced environmental impacts*

# Financial report

CRFS is supported financially by three main sources of revenue: (1) institutional support from Utah Valley University; (2) private donations from the Pope Family Endowment and “supporters of the Capitol Reef Field Station”; and (3) monies generated by fees and fund-raising product sales. This funding supports the salaries and benefits of the staff, operating costs, educational programs, and grants for research.

The University budget covers personnel and operating costs but only in part. Private donations make up the difference in addition to supporting the programs, internships, and grants.

## BUDGET SUMMARIES

### Expenses

Category	Expenditure	Percent
Salaries & Benefits	\$115,229.00	87%
Programs, Internships, Grants	\$ 16,375.00	13%
Total	\$131,604.00	

### Revenue

Category	Expenditure	Percent
Institutional Support	\$110,298.00	73%
Private Donations	\$21,833.00	15%
Fees & Sales	\$18,281.00	12%
Total	\$131,412.00	

## Projected Additional Budget Needs for 2012

CRFS is actively seeking funding for an observatory and classroom to increase our research and teaching capabilities and for additional staff support needed to meet our organizational goals.

### Structural Additions

Observatory	\$100,000
Classroom Building	\$1,500,000

### Additional Staff Support

Associate Director	\$15,000
Administrative Assistant	\$10,000



Kitchen



Dorm Room



Multipurpose Room

## 2010-11 Visitation Summary

Visitation continues to increase since opening in 2008; however, our numbers are somewhat lower than expected due to road construction on the scenic drive within the Park. Groups scheduled for six weeks in the Spring (March-April) were either rescheduled or cancelled because Field Station access was interrupted. The road construction schedule was unfortunate since one of our busiest times for visitation is during the Spring. ut the newly completed road improvements are great! Here is a summary of our visits this year:

- Nearly 30 groups visited CRFS during 2010-11. These groups included classes and organizations from UVU (84.5%), BYU (11.1%), and the U of U (4.4%).
- In addition, Capitol Reef National Park sponsored an NPS inventory and monitoring conference in March 2011.
- The total number of day use persons was 1089, the total number of overnight persons was 793.
- The average visiting group size at the Field Station was 12 persons.
- The average overnight stay per group was 2.6 nights.
- Juniors and seniors made up the majority of students visiting the Station.
- The male to female ratio of visitors was nearly equal.

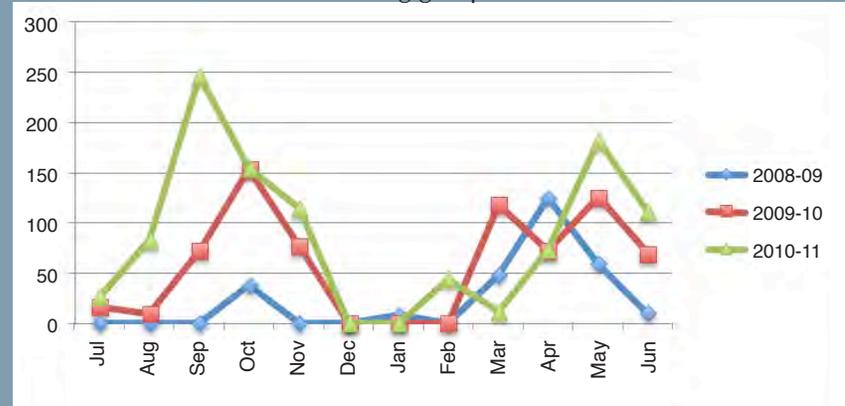
### UVU CLASSES

Department	Course	Title
Art and Visual Communication	219R 300R	Primitive Pottery Technique Landscape Photography
Biology	BOT 2050 BOT 4300 BIO 489R BIO 495R ZOO 3300	Field Botany Wildland Shrubs Entomological Research Vegetative Research Herpetology
Devel. Math	MAT 1010	Intermediate Algebra
Education	EDEL 4520	Elementary Science Methods Class
Exercise Science and Outdoor Rec	REC 3700 REC 4400	Resource Interpretation Park and Protected Area Mgt.

### CRFS VISITATION (2008-2011)

Since CRFS opened in 2008 our visitor numbers have steadily increased. This year was no exception. Visitation was up despite the six-week road closure during March and April.

Additional information about visiting groups is listed below:



### UVU INTERDISCIPLINARY COURSES

Department	Course	Title
English and Lit.	ENG 2010	English Composition
Behavioral Science	ENST 3000	Intro to Enviro. Studies
Biology	BIO 204R	
Geology	GEO 490R	Desert Natural History
Honors	HON 100A	Honors Colloquium

### UVU AFFILIATED GROUPS

Academic Tutoring Center	Academic Tutoring Retreat
Community and Continuing Education	Intro to Nat. Science Photography Workshop Colorado Plateau Study Lacuna Dance Workshop
Dance Department	
English & Literature	Sleeping Rainbow Writer's Workshop
Office of International Affairs and Diplomacy	Astronomy Workshop





*Harriman's Yucca*



## CRFS makes a difference—so can you!

Capitol Reef Field Station succeeds because of donor support. Donor contributions afforded nearly 1100 visitors the chance to explore the scientific, historic and cultural significance of the Capitol Reef region, to engage in research and interdisciplinary learning, to acquire job skills, to learn sustainable living practices, and to appreciate and enjoy the unique beauty of the desert.

We would like to acknowledge the generosity of our supporters:

**Major Donors.** Bill and Margaret Pope, whose vision and generosity made the idea of a field station in Capitol Reef become a reality. The Pope Family Endowment is the primary funding source for CRFS.

**Corporate Sponsors.** US Synthetics.

**Private Donors.** Kevin Jones, Kimberly Reynolds, Carolyn Rasmus.

### Support CRFS

Your financial support is needed. Please visit our website at [www.uvu.edu/crfs](http://www.uvu.edu/crfs), and select the link “support CRFS”. At the UVU Foundation website, you can select “supporters of Capitol Reef Field Station”.

Please make your donation today...and make a difference!





## Above Goosenecks

Capitol Reef

September 2010

Scott Hatch

CRFS Advisory Committee

Consider our first frame of being—the geologic journal spreading north and south along the eastern horizon. See how that whole plate of land folds and tilts up to us. How this flake of stone we stand on lifted two miles, and that valley beyond the reef stayed put. Between, land bent like taffy, weather-ground down two miles to reef.

Start youngest, two million centuries old, Jurassic reef skyline of almond domes and fluted pyramids. Journal of Saharan fossil-dune seas, cross-bedded erg land. Imagine just twenty centuries ago, Jesus on that horizon. Now, Lazarus still puzzling it out, making his eternal miles. but hardly time for the reef's heart chambers to blink at us.

Look deeper along those scrambly-ledgy shelves that lead us to dinosaur mudprints, wet eons entombed in deep reef, spreading along ripple-bedded, mudstone-cracked miles. Then the sheer-plunging rust and jasper-varnished journal—lean out. Read down there, before dinosaurs filled the horizon. Sulphur Creek carving into brachiopod beds, crinoids. Alien land.

Let the seraphim winds frame this altar of high table land, this second frame. Crouch here, a bit of sage to shade us. Here, spindly Mormon tea and sego. Their close horizon. Buffalo berry, its blood-red fruit. All life on this reef knows the berry's frost-sweetened time. Breathe the journal of a juniper branch, crush it, breathe its flowering miles.

Drought-wrought piñon, black-scarred trunks, miles of range burn, this decade, that century, sweeping land. Scrape this piñon scar, soot-fragrant fingers—journal for your lips to taste. The first language of fire in us. Centuries of juniper and piñon, sentinels of the reef, feeding and sheltering our tribes, watching the horizon.

Our tribes, your last reference frame. No good horizon for navigating here. In that cleft of desolate twisting miles, do you see a green blink of life like the heart of the reef? Paiute farms. Seven centuries later our kin farmed that land and moved on, the same ridgeline junipers watching over us. Hard to frame those tribes' passing in this stone-tabled journal.

So look beyond the reef, three basalt columns on the amethyst horizon: first, the Mountain whom the journal gives no name, then a hundred miles of broken land, the Salt Mountain, the Blue. They sing, we witness. See us.



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*Willows above Pleasant Creek at the Field Station, Van Buren*