

# James San Jacinto Mountains and Oasis de los Osos Reserves

Report period: July 1, 2014 – June 30, 2015

## OVERVIEW

During the 2014-15 fiscal year, there were 492 unique visits to the James Reserve representing 1,169 visitor days. These figures represented increases over the last fiscal year. Research use of the James Reserve remained consistent to last year however, class and public use of the James were the highest in the last 4 years (Fig. 1). Research consisted of 12.6% of total use while teaching was the majority of the use at 53.4%. Public use represented 34.0% of total use of the Reserve. For Oasis de los Osos, there were 32 unique visits to the Reserve, representing 34 user days. This represents a significant increase in use and user days for Los Osos from previous years.

## RESEARCH:

There were 17 different research projects that were supported by use of the James Reserve in fiscal year 2014-15. Eleven of these projects were new, reflecting the efforts of the staff at the James to attract new research to the Reserve. The new research projects include 1) setting up permanent sample plots to monitor forest changes (Claremont College), 2) Investigation of the geology of the Garnet Hill Fault (CSU Northridge), 3) habitat measurements related to the centennial resurvey effort (SD Natural History Museum), 4) investigating hybridization among quail species (University of Colorado), 5) investigation of fire adaptation in plants (UCD), 6) a study of soil microbe interactions (UCR), 7) another study of soil microbial relationships with medicago plants (UCR), 8) re-initiation of a spotted owl survey (US Forest Service), 9) energy audit of university centers (UCI), 10) investigation of the invasive plantago plant (UCI), and 11) a multi-reserve project on climate change (UCSC).

The ongoing projects at the James Reserve include 1) California acorn survey (Cornell University), 2) Mountain yellow-legged frog recovery (USGS), 3) climate change on microbial communities (UCI), 4) center for embedded network sensing (CENS) (UCI), 5) monitoring of bird diversity and abundance (Santa Monica College, and 6) Oracle Oak Project (UCR).

The research was conducted by personnel from 13 different institutions, including three University of California campuses, three campuses from other university systems in California, two out of state universities and 4 government entities.

Of the 17 applications for research, reported some level of grant funding. The total amount of funding for these projects was \$3.7 million, with an average of \$333,000 per project. These num-

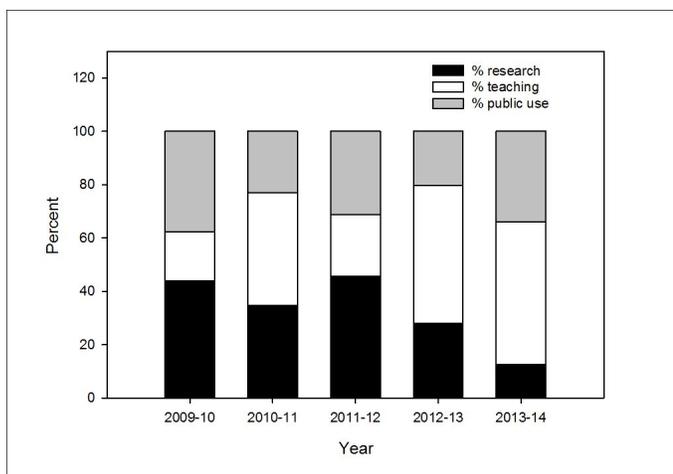


Figure 1. Five year trends in percent of use type at the James Reserve.

bers however were affected by three projects reporting over \$400,000 of support each. Of the projects related to the James Reserve, the largest is a new project focused on understanding how California ecosystems will be affected by climate change (\$1.9 million). This project was funded by the University of California President's Initiative Award. It will involve research at several of the Natural Reserves, including the James in an effort to develop a model on how climate change will affect California ecosystems. Instrumental initial planning for the project occurred at a three-day workshop held at the James and this multi-year project that will appropriately add to the annual usage of the James facilities.

At Oasis de los Osos, continuing projects include 1) the National Earthquake and hazard reduction program (CSU Northridge), 2) study of arthropods as the missing link to understanding ecological impacts of invasive plants- UCR and 3) stream bioassessment sampling of benthic macroinvertebrates and algae-USFW. Among the new activities at los Osos this fiscal year, a UCR student helped to conduct a survey of the flora. Specimens from the los Osos survey will be archived in the James Reserve teaching collection.

## **UNIVERSITY INSTRUCTION**

One of the most popular uses of the James Reserve is as an outdoor classroom for university level instruction. Amount of university teaching remained constant with last fiscal year at around 54%. There were 23 classes that visited the James, a slight increase over last fiscal year. The number of students (263) was much higher but student user days was similar to last fiscal year. This suggests that the increase in student use was primarily due to an increase in day-use class visits from nearby institutions; 8 of which were from UC Riverside. These data underscore the regional educational value of the James to not only our parent institution, UCR, but other regional institutions.

Besides the UCR campus (8 classes), classes were from other UC campuses (3), California State University campuses (5) California community colleges (2) and other institutions including Pepperdine University, University of Redlands, Claremont College, and Harvey Mudd College (5). All the classes were science classes including biology, botany, ornithology, mammalogy, ecology, and entomology.

One class from UCR, population ecology, of 20 students visited Oasis de los Osos during this fiscal year.

## **PUBLIC OUTREACH**

Public service is part of the mission of the University of California Natural Reserve System (<http://nrs.ucop.edu/mission.htm>). Our outreach efforts includes offering the facilities at the James for k-12 education and meetings of various university and public groups. Outreach efforts occur both at the Reserve and offsite. Offsite visits and activities are aimed at increasing the public's awareness of the activities at the James Reserve as well as the scientific knowledge generated by research efforts at the James. Regarding onsite outreach efforts, the James Reserve hosted 6 public groups including three UC affiliated meetings and three organizations unaffiliated with UC. These meetings included a faculty retreat for the faculty of the UCR Biology Department, the UCI graduate student association meeting and workshop, the Idyllwild Rotary Club, the Idyllwild Garden Club, and the Trailfinders organization established by the donor of the James

Reserve, Mr. Harry James. In addition to the formal group meetings, staff at the James held 2 informal meetings with personnel from the Boojum Institute to discuss possible use of the James for Boojum-sponsored field classes for children (8-12 years old). Personnel also have met several times with individuals from Idyllwild regarding possible reestablishment of a Trailfinders program at the James. Additional informal outreach meetings included a tour of the James facilities by a local retired fire captain and discussion of emergency fire preparedness with emergency first responders at their monthly meetings.

Offsite outreach activities included 7 formal presentations in the following venues: Idyllwild Community Center Speaker Series, Natural History of the Sonoran Desert Symposium, Career Week for the Idyllwild afterschool program, Idyllwild Garden Club, Idyllwild Public Library, and the California State Teachers Conference.

Besides oral presentations, the Director and Assistant Director at the James have initiated a monthly column in the local newspaper. They have contributed 9 articles to date ranging on topics including the history of James Reserve and various articles on natural history of plants and animals. The Director was also featured in the Palms to Pine Magazine (<http://palmstopinemagazine.com/dog-tales-jennifer-and-dexter-gee/>). Both the Director and Assistant Director are also regularly featured in the local newspaper. In addition to the monthly columns, James personnel have initiated a trail camera project involving the placement of 10 automatic motion sensitive trail cameras in various private properties across Idyllwild. The objective of this outreach activity is to increase the awareness of the citizens of Idyllwild of the wildlife resources they have in their area as well as increase their awareness of the James Reserve.

## STEWARDSHIP AND FACILITIES

In fiscal year 2014-15 there were major improvements made to the stewardship and facilities at the James. Although a new bank of batteries had been installed in our solar system last fiscal year, the first few months of this fiscal year was spent fine-tuning sporadic issues that arose. With continued persistence by Reserve staff and Ross Power Associates, these issues were resolved. As of early this calendar year, power problems have been at a minimum and the system appears to be operating smoothly. However, we are still operating with only half of our normal battery storage, which we hope to address this coming fiscal year.

In an effort to increase our understanding of energy usage patterns, we installed a monitoring system that allows us to quantify daily, monthly, and annual electric use. This system has helped us quantify and monitor the exact load on the system under different conditions, e.g. when users are present.

Regarding our maintenance of the Reserve grounds, a major improvement was the purchase of a new used four-wheel drive tractor, which has enabled us to better maintain the road to the facilities as well as in general maintenance activities. A new snow plow was also added to the

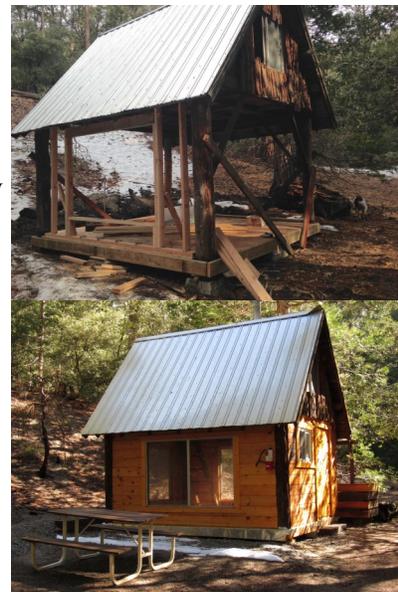


Figure 2. Before and after of the renovation of the old cook shack.

maintenance equipment and has improved our capability of keeping the Reserve road open in the winter.

Major improvements to the facilities included the installation of a new drain field for the septic system of Lolomi Lodge, a maintenance project that had been deferred in the two previous fiscal years. However, major renovations of Lolomi are still needed and are among our top priorities for the coming fiscal year. Other improvements included a major renovation of the cook shack in the campground area of the Reserve (Fig. 2). The cook shack was originally used by Harry James for his outdoor boys' school and camp, the Trailfinders. The shack remained an attraction to child visitors but it had fallen into disrepair over the years and was unsafe. We intend to use the renovated cook shack as an interpretive center as well as a blind for a new watering hole, installed across from it. The campground surrounding the cook shack was enhanced with the addition of a fully enclosed fire ring, split log benches, and picnic tables (Fig. 3). We hope that this area, away from the main lodge and surrounding woods will become the focal area for social events at the James. In addition to the watering hole by the campground, a watering hole was installed in an exposed patch of chaparral near the solar panels. The watering holes provide ideal venues to observe wildlife. With the trail cameras, in the last year we have observed a variety of bird species, including acorn woodpeckers and mountain quail, and various mammal species, including gray fox and mountain lions.



Figure 3. Complete campground renovations near the old cook shed.

Other improvements include the building of a fire escape for Trailfinders Lodge from the main upstairs dorm area, an outdoor sink and work area - part of the plan to increase the use and function of the classroom building by extending its use as a wet lab, reinforcing the substructure of the chalet (now the Blair house), and a stone pathway between the dormitory cabins.

## SUMMARY

During this fiscal year, there have been major efforts at the James regarding its support of research, teaching, and public outreach activities. These efforts have resulted in not only maintaining the level of these activities but in many cases, increases over the previous fiscal year. Of importance is the increasing role in meeting regional needs of UCR and other universities and colleges for field class instruction. There has also been major infrastructure enhancements that have contributed significantly to support of research, teaching, and public outreach activities. In addition to increased support for traditional uses, Reserve personnel have also steered the James in new directions, especially in outreach efforts. One important effort is the discussions with local parties about establishing a modern day "Trailfinders" program, aimed at outdoor education of 10-12 year old children. Increases in public presentations and contributions to local media have demonstrated the commitment of the personnel at the James to expanding the public outreach of the Reserve. These efforts will continue and be expanded in this coming fiscal year.