

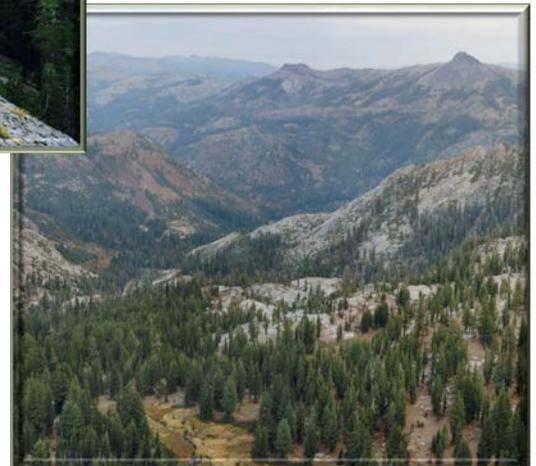
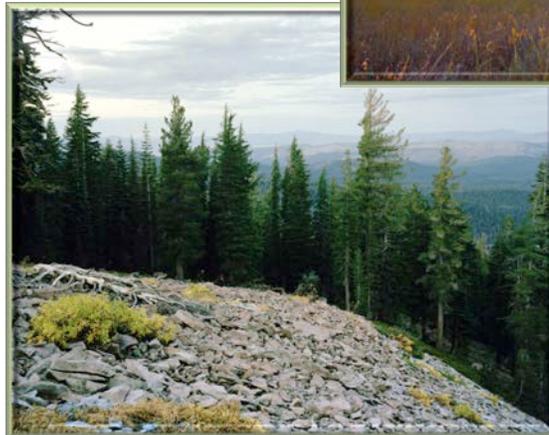
# University of California

## Berkeley NRS Reserves Review 2014-15



Angelo Coast Range Reserve \* Jenny Pygmy Forest Reserve \* Hastings Natural History Reservation \* Sagehen Creek Field Station \* Chickering American River Reserve

28 August 2015



**NATURAL RESERVE SYSTEM  
UNIVERSITY OF CALIFORNIA, BERKELEY:  
10-YEAR REVIEW**

**Chickering American River Reserve**

September 2014

**Review Committee**

Peter Moyle – Co-Chair, *UC Davis*  
Michael Kisgen – Co-Chair, *UC Office of the President*  
Heather Henter – *UC San Diego*  
Patrick Robinson – *UC Santa Cruz*  
Joshua Viers – *UC Merced*<sup>2</sup>  
Todd Dawson – *UC Berkeley, ex officio*

**Chickering Staff**

Jeff Brown – *Station Manager*  
Faerthen Felix – *Assistant Station Manager*  
Rauri Bowie – *UC Berkeley, Faculty Director*  
James W. Kirchner – *Faculty Director Emeritus*

**Executive Summary**

In 1975, the Chickering family placed a long-term conservation easement for the benefit of the NRS. The impressive resources at Chickering include some of the last old growth forest in the Sierras outside of a national park and an impressive collection of pictographs. However, there are serious constraints to use; the combination of limited access and lack of infrastructure means that potential users are faced with either setting up their own camp or driving in/out on a daily basis. This has resulted in limited use of the reserve. The UC is neither expending many resources nor deriving much benefit from Chickering Reserve, at present. Despite the current lack of use, the Committee believes that at a minimum there is extreme value to retaining the pristine forest as a baseline for climate change studies, as well as to preserve the extensive collection of Native American pictographs.

**Background**

Located in the headwaters basin of the North Fork of the American River, the Chickering American River Reserve (“Chickering Reserve” or “Reserve”) is the only Natural Reserve System (“NRS”) site set on the windward western slopes of the Sierra Nevada. This rugged site has thin soils and a variety of mountain habitats, including black oak woodlands, montane and subalpine coniferous forests, aspen groves, willow thickets, mixed riparian woodland, wet and dry subalpine meadows, montane chaparral, alpine lake margins, and fell fields. The basin also

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<sup>2</sup> Professor Viers was unable to attend to the reserve review due to medical reasons.

has scattered soda water springs, which contain a variety of minerals, primarily calcium bicarbonate.

### **A. Scientific Criteria**

1. *Does the reserve contain significant or unique species (including listed/threatened species), habitats, or physical, archaeological or cultural resources? Are these resources unique to this reserve or are they available at other NRS sites?*

Rich in flora and fauna, Chickering Reserve harbors at least 1,000 plant species. (Fiedler, Rumsey and Wong, 2013. *The Environmental Legacy of the UC Natural Reserve System*. UC Press). It also lies within the habitat ranges of high-elevation mammals such as the American pika (*Ochotona princeps*), yellow-bellied marmot (*Marmota flaviventris*), American marten (*Martes americana*), and fisher (*Martes pennanti*). The 100 documented bird species include northern goshawks (*Accipiter gentilis*) and California spotted owls (*Strix occidentalis occidentalis*), and the 15 reptile and amphibian species include the foothill yellow-legged frog (*Rana boylei*), a declining species that has persisted primarily in California's least polluted streams.

In addition to great natural diversity, the Chickering Reserve preserves reminders of an earlier era in California history. These include petroglyphs carved into granite and basalt that probably date to 5,000 years before the present. These petroglyphs are attributed to the Martis people who summered in the area. In more recent times, the area attracted visitors to Soda Springs Hotel, an early "destination resort" and an important stopping point for Sierra Nevada travelers from the 1870s to the 1890s. The resort hotel burned down in 1892, was rebuilt, and then burned once again in 1925. This unusual mountain parcel was made available to the NRS by the reserve's namesake the Chickering family, a family of conservation-minded pioneers.

### **B. Management Issues**

1. Are the reserve's resources viable in the long term? Are there management actions that should be taken to ensure their viability?

The Reserve's natural resources are quite impressive and include old-growth forest, but accessibility is a key concern. This is a perennial problem for potential users, but the resource itself is viable in the long term. The one exception is perhaps the petroglyphs that have been vandalized. A greater effort should be made to attract researchers to this reserve to warrant its continued status as a Natural Reserve.

2. Is there a reserve management plan? Are appropriate measures being taken to implement this plan?

The Reserve is managed by Jeff Brown, who is also the Sagehen Creek Field Station manager. Due to the very limited use of this reserve (combined with difficult access), management does not require much effort. There is no management plan in place for this reserve. A management plan would be beneficial to help solidify a path forward with respect to both increasing research usage and maintaining a strong relationship with the Chickering family and neighboring property owners.

3. Is there legal, appropriate access to the reserve? Discuss problems, if any.

Access to the reserve is perhaps the largest issue. During most, if not all, of the year access is available only via a rather long/steep/windy road that requires four-wheel drive. This in combination with the lack of infrastructure means that potential users are faced with either setting up their own camp or driving in/out on a daily basis, which is extremely time-consuming. This has resulted in extremely limited use of the reserve for teaching or research.

4. Is public use, if any, of the reserve appropriate and controllable? What means of controlling trespass should or can be undertaken?

The Chickering family predominantly uses the land as a vacation property. While there are a few houses in the area, most are summer homes for the extended Chickering family. The difficult access means public access and trespass is not a major concern.

5. Are present, planned, or potential land use activities adjacent to the reserve likely to significantly and adversely affect the reserve? Could these impacts feasibly be mitigated?

There are no known land activities that would significantly or adversely impact the Reserve.

6. Is the University's management and use of the reserve supported by the local community? Do adjacent landowners have concerns that need to be addressed?

The Reserve's staff appears to maintain good relationships with the local community, including the North Fork Association.

### **C. Legal/Ethical Issues**

1. *Is the administering campus complying with legal or ethical restrictions associated with the original conveyance, funding used to acquire the reserve, or any other terms of an applicable agreement (e.g., use agreement, license, conservation easement)?*

The National Science Foundation (NSF) awarded a grant to the UC and the University of Nevada, Desert Research Institute (DRI), for the installation of a network of weather monitoring stations on multiple NRS reserves, including the Chickering Reserve. The original location for the monitoring station ("Tower") on the Reserve was determined to be suboptimal for the functioning of the equipment. The Reserve manager found a relocation site for the Tower on an adjacent property approximately two miles away from the Reserve. The private landowner orally agreed to allow the University to use a small area, approximately 2500 square feet, on his undeveloped property to install the Tower at no fee.

Prior to installation, the Reserve manager was advised that the placement of the Tower required a written agreement with the landowner in order to protect the University's interest in the Tower, as well as limiting potential liability. A draft license agreement was prepared for the landowner.

Additionally, an Environmental Impact Classification (EIC) was created to internally document the UC's determination that the Tower project was "categorically exemption" under the California Environmental Quality Act (CEQA).

Ultimately, the Reserve manager informed the NRS Systemwide office, at the time, and the Committee, at present, that the private landowner was unwilling to execute a written agreement. The Reserve manager proceeded with to erect the Tower without a signed agreement between UC and the landowner. The Committee strongly advises the Reserve manager to reengage the landowner and to obtain a license agreement.

#### **D. Academic Criteria**

The Reserve has experienced very little use for quite a while. The Reserve manager estimates approximately 1-3 requests per year on average. It is this Committee's opinion that this site could potentially be attracting and sustaining more research use in areas such as anthropology, hydrology, biodiversity of unique habitats, vegetation classification, soils, geology, earth systems science, climate change effects, entomology, and endemic species.

This Reserve does not have facilities available, so at a minimum there is need for a camping area and discreet access for approved users. Baseline information, aside from the scholarly work mentioned above, is limited to an amateur survey; there is definitely a need to expand the survey.

#### **E. Reserve Administration**

As described in other reserve reviews for the Berkeley campus, an organizational chart was provided for the UCB NRS reserves. This chart provides for all of the necessary (and more) administrative structure and advisory committees for both the collected set of the Berkeley reserves and for each individual reserve. Unfortunately, this organizational plan appears to have fallen by the wayside and virtually all of the positions are blank. The Review Committee was unable to discern if the positions and committees identified in the organizational structure (mostly reserve advisory committees) were unfilled or unknown. It would be helpful to establish these groups, if none exist. The current campus based NRS director *appears* to be the UCB Vice Chancellor for Research. The Review Committee finds this to be inappropriate as the VCR is the individual to whom a campus NRS director should be reporting. Indeed, we could find no evidence that UCB has a faculty member (notwithstanding the Faculty Directors of individual reserves) who serves as the Berkeley NRS Campus Director. Similarly, there appears to be no active overall campus-based NRS governance or advisory committee.

#### **F. Recommendations**

There are serious constraints to use of the Reserve. The long, rough dirt road to enter the reserve rises to 7200 feet and is not passable until rather late in the season. Heavy snow during winter months generally restricts the research season to June through October. The property owners grant limited access and there are no overnight accommodations. The combination of limited access and lack of infrastructure means that potential users are faced with either setting up their own camp or driving in/out on a daily basis. This has resulted in limited use of the reserve.

Allen Fish – Chickering family representative – expressed that there is interest in increasing the NRS mission of research, teaching and education at the property. The generation of family members that initially made the agreement with UC are no longer active in the property, and most current family members view the Reserve simply as a family vacation site.

At present, the Jeff Brown is negotiating a large-scale fire management plan with the Chickering representatives, and the adjacent land managed by the North Folk Association. The fire management plan would also have direct benefit for Sagehen. Moreover, the results of the fire-management negotiations may improve the family’s willingness to accommodate more research.

In sum, UC is neither expending many resources nor deriving much benefit from Chickering Reserve at present. Despite the current lack of use, the Committee believes that at a minimum there is extreme value to retaining the pristine forest as a baseline for climate change studies, as well as to preserve the extensive collection of Native American pictographs.

### Specific Recommendations

#### A. Research, teaching, and public service use

- a. This reserve has had little use over its history in the NRS. The Committee recommends that the Reserve manager concerted effort be made to consult with the Chickering representatives to expand research, teaching and education.
- b. The Reserve manager should continue efforts to create a fire management plan and maintain positive relations with the adjacent North Folk Association.
- c. The Committee further recommends that UCB NRS should reevaluate the Chickering Reserve at least one year after this review to assess whether research, education, and/or outreach has increased respective to the Reserve’s unique capacity.

#### B. Legal

- a. It is strongly recommended that the Reserve manager obtain a written agreement for the University’s long-term use of site for the NSF funded-weather monitoring tower. The purpose of the agreement is to protect the University’s property interests in the Tower and to limit potential liability, while operating on a private landowner’s property.

- b. *Transfer management of the reserve to another UC* so they can provide an active and committed faculty director.
3. *Create a current management plan.* This could be accomplished by updating an old management plan that is rumored to exist. We suggest taking advantage of the local experts on this habitat in this process.
4. *Address access issues.* The first step is to conduct an official survey of the property to determine boundaries and whether there are encroachment issues, and where the most appropriate access will be. Care needs to be taken to provide for approved access (parking and access trail) in a subtle way so as not to encourage inappropriate and potentially damaging activities on the site (hikers, marijuana growers, etc.).
5. *Promote the site for research use.* This site could attract research from a variety of topics such as hydrology, geochemistry, geology, earth systems science, endemic species, and more. We recommend a more comprehensive website be developed and promoted to relevant faculty across the UC system and beyond.

#### **CONCLUDING REMARKS**

Jenny Pygmy Forest Reserve is a research asset. It boasts a unique and rare climax pygmy forest in pristine condition, an ecosystem type that none of the other NRS sites have. This site is in need of a relatively small amount of resources and attention to oversee the property, discourage and prevent inappropriate use of the site, and to facilitate and promote appropriate, low-impact research use.





OFFICE OF THE PROVOST AND EXECUTIVE VICE PRESIDENT  
NATURAL RESERVE SYSTEM

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August 13, 2014

**Committee for the 10-year Review of the UC Berkeley NRS Reserves: Chickering American River Reserve and Sagehen Creek Field Station**

**Michael Kisgen**, Co-Chair, UC NRS Office of the President

**Peter Moyle**, Co-Chair, UC Davis NRS

Heather Henter, UC San Diego NRS

Patrick Robinson, Manager, Año Nuevo Island Reserve, UC Santa Cruz

Josh Viers, UC Merced NRS

Todd Dawson, UC Berkeley, *ex officio*

***Subject:*** Committee Charge & Background Information

Dear Colleagues:

Natural Reserve System requires that NRS reserves, field stations, marine laboratories and research centers are to be reviewed at least every ten years to determine whether each site continues to fulfill the NRS mission of university-level research, education and public service. Specifically, as outlined in the NRS Administrative Handbook, Chapter 16 entitled "10-Year Reserve Reviews" states:

Physical, ecological, management, programmatic and administrative considerations may change over time, often because of factors beyond the University's control. Thus, a period review is needed to assess whether the values represented by a given reserve continue to or have the potential to be of sufficient importance to research teaching and public outreach mission of the NRS. It is also useful for an independent committee to recommend new management and administrative strategies to improve further the management, use and administration of each reserve. (Chpt. 16, p. 1)

Recently, the NRS systemwide office examined the list of reserve reviews conducted throughout the system. Three of Berkeley's reserves (Angelo Coast Range, Sagehen Creek, and Blue Oak Ranch) have never been reviewed, and three have not been reviewed since the early to mid- 1980's (Hastings Natural History Reservation, Jenny Pygmy Forest, and Chickering American River). Therefore, it is appropriate and timely to initiate a review of Berkeley's six NRS sites during the Academic year 2014-15.

We believe a review of all six sites is too much to ask of any one committee, so we have decided to assemble three committees to review two sites. Each committee will be composed of three faculty from separate UC campuses, one reserve manager, and one member from the NRS representative from the Systemwide office who will serve as co-chair of each committee. The Universitywide NRS Advisory Committee faculty representative, Professor Todd Dawson, will serve as the *ex officio* member of each committee. The Berkeley NRS sites are grouped as follows: Chickering American River Reserve and Sagehen Creek Field Station; Blue Oak Ranch Reserve and Hastings Natural History Reservation; and Angelo North Coast Range and Jenny Pygmy Forest reserves. However, to coordinate the reviews so as not to ask too much of Berkeley's NRS faculty and staff, we expect to stagger the three reviews over this academic year. Due to the practical concerns of winter weather, we have asked this committee to schedule their review of Chickering and Sagehen Creek as soon as possible to avoid later inaccessibility due to snowfall.

The NRS Systemwide office will provide a set of documents for your review via the *Dropbox* website (if you need assistance to access these documents, please contact the committee co-chair, Mike Kisgen, at [michael.kisgen@ucop.edu](mailto:michael.kisgen@ucop.edu)). Documents provided will include historic records, background materials, Regents' items, maps, use statistics, and key publications that have resulted from research at these reserves. The documents will also include several chapters from the *NRS Administrative Handbook* that provide guidance relating to our guiding principles on selection, operation and use of NRS sites (Chapter 6), and 10-Year Reserve Reviews (Chapter 16). If you find materials that are not included but should be, please provide them and we'll work to get them disseminated as quickly as possible.

*NRS Administrative Handbook* Chapter 16, Appendix A, outlines five categories of review criteria and issues to be addressed, which are followed by a final "recommendation" category. Chapter 16 should form the basis for the Committee's final report. With respect to a completion of the final report, I kindly request that a draft form be included as a short agenda item in the October 27, 2014 Universitywide NRS Advisory Committee meeting, with a full and final report on Berkeley's reserves at the April 2015 Universitywide NRS Advisory Committee meeting.

At your earliest convenience, please consider, and if necessary, request whether:

1. UCOP NRS should identify and provide in advance a list of the additional participants that should be invited to join the Review Committee during the site visit, and
2. Staff and/or research scientists from the Chickering-Sagehen community, or the local Truckee community whose input would be valuable should be invited and made available during the site visit.

Again, thank you very much for your willingness to contribute your time and insights to this process. Should you wish to speak to me personally about any aspect of this review, or about the NRS in general, please do not hesitate to contact me via email ([peggy.fiedler@ucop.edu](mailto:peggy.fiedler@ucop.edu)) or phone (510-987-0143).

Kind regards,

A handwritten signature in black ink, appearing to read "Peggy L. Fiedler". The signature is stylized and cursive.

Peggy L. Fiedler  
Director  
Natural Reserve System