GRASSLANDS-VERNAL POOL
NATURAL RESERVE

CAMPUS EVALUATION

University of California, Merced
2012

WORKING DRAFT
CONTENTS
I. PROPOSED NAME 6
II. REGIONAL SETTING 8
III. LOCATION, SIZE AND OWNERSHIP 10
IV. SITE EVALUATION 12
V. CAMPUS COMMITMENT 24
VI. RECOMMENDATION 26
PROPOSED NAME:
GRASSLANDS-VERNAL POOL
NATURAL RESERVE

In 1965, the University of California Natural Reserve System (NRS) began to assemble a system of protected sites for scientific study that would broadly represent California's rich ecological diversity. By creating this system of “outdoor classrooms” and laboratories and making it available specifically for long-term study, the NRS supports a variety of disciplines that require fieldwork in wildland ecosystems.

Natural Reserve System Today: Largest University Natural Reserve System in the World

Today, the NRS network includes 38 sites encompassing more than 750,000 acres across twelve ecological regions in one of the most physiographically diverse regions in the United States.

The reserves vary in size, remoteness, degree of human impact, and ability to support use. Fourteen of the sites currently are, or are envisioned as, full-facility reserves, possessing the facilities, equipment, and professional staff necessary to support long-term research projects and multi-week field courses remote from campus services. Nine sites have or will have partial facilities and professional staff. The remaining sites lack improvements and typically share the facilities of a nearby campus or full-service reserve.

The NRS makes relatively undisturbed samples of the state’s natural ecosystems and the facilities needed to support teaching and research available not only to students, teachers, and researchers from the University of California, but to any qualified user from any institution, public or private, throughout the world.

While other colleges and universities may have one or more sites for fieldwork, none can match the size, scope, and ecological diversity of the NRS. The NRS is the largest university-operated system of natural reserves in the world.

Proposed Name: Grasslands-Vernal Pool Natural Reserve

This proposal envisions the establishment of the “Grasslands-Vernal Pool Natural Reserve” affiliated with the University of California, Merced as the 39th reserve site in the system.
University of California Natural Reserve System (Fall 2012)

Proposed
Grasslands-Vernal Pool Natural Reserve

Listed by Administering Campus

Berkeley
1 Angelo Coast Range Reserve
2 Blue Oak Ranch Reserve
3 Chickering American River Reserve
4 Jenny Pygmy Forest Reserve
5 Hastings Natural History Reservation
6 Sagehen Creek Field Station

Davis
7 Bodega Marine Reserve
8 Jepson Prairie Reserve
9 McLaughlin Natural Reserve
10 Quail Ridge Reserve
11 Stebbins Cold Canyon Reserve

Irvine
12 Burns Piñon Ridge Reserve
13 San Joaquin Marsh Reserve
14 Steele/Burnand Anza-Borrego Desert Research Center

Los Angeles
15 Stunt Ranch Santa Monica Mountains Reserve
16 White Mountain Research Center

Merced
17 Sierra Nevada Research Station: Yosemite Field Station

Riverside
18 Box Springs Reserve
19 Boyd Deep Canyon Desert Research Center
20 Emerson Oaks Reserve
21 James San Jacinto Mountains Reserve
22 Motte Rimrock Reserve
23 Sweeney Granite Mountains Desert Research Center

San Diego
24 Dawson Los Monos Canyon Reserve
25 Elliott Chaparral Reserve
26 Kendall-Frost Mission Bay Marsh Reserve
27 Scripps Coastal Reserve

Santa Barbara
28 Carpinteria Salt Marsh Reserve
29 Coal Oil Point Natural Reserve
30 Kenneth S. Norris Rancho Marino Reserve
31 Santa Cruz Island Reserve
32 Sedgwick Reserve
Valentine Eastern Sierra Reserves:
33 Sierra Nevada Aquatic Research Laboratory
34 Valentine Camp

Santa Cruz
35 Año Nuevo Island Reserve
36 Fort Ord Natural Reserve
37 Landels-Hill Big Creek Reserve
38 Younger Lagoon Reserve

Source: UCNRS
The proposed reserve is located in California’s rapidly growing San Joaquin Valley.

Bordered on the east by the Sierra Nevada and separated from the Pacific Ocean by the Coast Ranges, the San Joaquin Valley is one of the most distinctive aspects of California’s topography. Two hundred fifty miles long and 50 miles wide, the Valley’s flat, open landscape includes parts of eight counties.

The San Joaquin River, the Valley’s namesake, runs the length of the region north from the Tulare Lake Basin. This waterway is fed by the Merced, Tuolumne, Stanislaus, Mokelumne and Cosumnes Rivers. Agricultural irrigation has dramatically changed the flow of the San Joaquin River and its tributaries.

As of 2011, 3.9 million people and more than 100 ethnic groups live in the San Joaquin Valley. The San Joaquin Valley’s population is also 5% younger than the state average. According to the California Department of Finance, the population will increase 131% by 2050, the fastest increase in the state.

Much of the Valley’s population is clustered in the region’s major cities, many sited in the late 1800s by the Central Pacific Railroad. Those communities—Stockton, Modesto, Merced, Fresno, and Bakersfield—are part of a string of urbanization along Highway 99, the region’s major intercity corridor. The reserve site is located on the edge of urbanization within Merced County and 5 miles from Downtown Merced.

UC Natural Reserve Acquisition Process

1. **Screening Phase**
   - UCNRS Staff and designated campus conduct preliminary investigation

2. **Evaluation Phase**
   - Campus Advisory Committee, Three-Campus Committee and Universitywide Committee evaluate potential site and make recommendation to UC NRS Director.

3. **Approval Phase**
   - UC NRS Director prepares recommendation to the UC Board of Regents

4. **Reserve Established**
   - Real Estate and legal Documents finalized by UCOP staff and campus

A mountain-walled prairie: The proposed reserve and the UC Merced campus are located in the heart of California’s San Joaquin Valley, the flat, open, agriculturally rich region stretching 250 miles north to south from the San Francisco Bay Delta above of Stockton to the Tehachapi Mountains below Bakersfield.

The Valley is currently home to 3.9 million people. By 2050, state demographers project more than 9.4 million people will live here – making it one of California’s fastest-growing regions. (Photo: NASA)
Collectively, the Grasslands-Vernal Pool Reserve ("Grasslands") comprise 6,428 acres on the western foothills of California's Sierra Nevada Mountain Range in Eastern Merced County. The Grasslands lie on the eastern edge of the San Joaquin Valley and adjoin on its western border the University of California, Merced, California’s newest UC campus. Since the mid-1800’s the Grasslands have been actively grazed providing pasture land for sheep and cattle for over 100 years.

Eastern Merced County is an area of hardscrabble soils and meager water supply. These facts have conspired against agricultural and urban development, allowing a largely intact landscape to persist as grazing land to the present day. The entire area encompasses the one of the largest, least fragmented example of a vernal pool grassland environments in the world.

Eastern Merced County is also home to some of California’s rarest, most endangered animals and plants. Some of these organisms are making their last stand here against extinction. Each of these species has specific adaptations and exacting habitat requirements.

Ownership

The Grasslands are presently owned by the Regents of the University of California (Regents) and the University Community Land Company (UCLC), a Limited Liability Corporation of which the University is a 50% partner. The Grasslands comprise three land units, the Virginia Smith Trust Land Preserve (5,130 acres), the Campus Natural Reserve (1,339 acres) and the Myers Ranch Parcel (92 acres).
The proposed Grasslands-Vernal Pool Reserve consists of three parcels of land (Virginia Smith Trust Land Preserve, Myers Ranch and Campus Natural Reserve owned by the UC Regents and the University Community Land Company.)
The Grasslands-Vernal Pool Grasslands site is marked by unique habitat significance and significant opportunities for teaching and research activities. The site lies within the watersheds of the Fahrens, Black Rascal and Cottonwood Creeks, which flow generally southwest from the property to Bear Creek and the San Joaquin River. Elevations are about 200-570 ft; topography is flat to moderately rolling. Currently the only structure on the property is a historic barn, located near the boundary of campus with the Campus Natural Reserve.

The site is defined by watersheds that support a dense vernal-pool complex, including the habitat of the extremely rare Conservancy fairy shrimp (Branchinecta conservatio); a cross-section of both upland and wetland areas are part of the site.

Site Summary

<table>
<thead>
<tr>
<th>Campus</th>
<th>UC Merced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prospective Establishment Date</td>
<td>2013</td>
</tr>
<tr>
<td>Location</td>
<td>San Joaquin Valley, Merced County, CA 10 miles (20 km) northeast of the City of Merced.</td>
</tr>
<tr>
<td>Latitude</td>
<td>37 22 42 N</td>
</tr>
<tr>
<td>Longitude</td>
<td>120 23 48 W</td>
</tr>
<tr>
<td>USGS Map</td>
<td>Merced, CA 7.5'</td>
</tr>
<tr>
<td>Size</td>
<td>6,428 Acres (2,601 ha)</td>
</tr>
<tr>
<td>Elevation</td>
<td>200 to 570 feet</td>
</tr>
<tr>
<td>Precipitation</td>
<td>12.6 inches</td>
</tr>
<tr>
<td>Average Temperatures</td>
<td>Summer Max: 100F, min: 43F Winter Min: 32F, Max 68F</td>
</tr>
<tr>
<td>Habitats</td>
<td>Vernal Ponds, grassland, scrub</td>
</tr>
</tbody>
</table>

Dry Summers, Wet Winters

Campus Barn adjacent to Grasslands-Vernal Pool site.
FIGURE B-2

University of California Merced Conservation Lands Grazing Management Plan

Project Area
Habitat Significance Criteria

According to UCNRS policies, reserves should possess exceptional value in illustrating, interpreting, and protecting examples of the major habitat types of California. The most desirable situation is a reserve with a high diversity of extensive habitats. This maximizes the academic yield for its acquisition cost. It is easy to become enamored with the unusual and overlook the common.

A reserve has added value if it also possesses special features such as: important variations of the common habitat types, e.g., different successional stages (including important man-induced successional stages), variations in soil parent material, etc.; significant gene pools, e.g., isolated populations, or populations at extreme limits of the range of a species or habitat type; “type localities”, i.e., the location where a species, soil type, geological type, etc., are first described; transition zones (ecotones) and interfaces between adjacent habitat types; the presence of a feature of geological, archaeological, or paleontological importance; the presence of a rare or an endangered habitat type, or the presence of a rare or endangered species.

The site is an ideal setting for Vernal Pools. Vernal pools support a unique suite of native plant and animal species that have developed life history strategies allowing them to cope with the extreme environmental conditions resulting from the annual cycle of stress from both prolonged inundation and drought.
Vernal Pool, UC Merced.
Scientific Opportunities at the Grasslands-Vernal Pool Natural Reserve Site

Represenativeness

Eastern Merced County, California, incorporates a remarkably intact section of an alluvial terrace landscape formed along the western base of the Sierra Nevada. At first glance, the region and the site appears to consist of a relatively homogeneous mix of annual grasslands and vernal pools distributed across undulating slopes and occasional low hills. However, upon more careful study, one finds that this semiwilderness landscape presents an intricate story with a rich, interwoven geological and biological history. Taken as a whole, this region provides an understanding and insight into the physical genesis and evolutionary history of a large region of California including areas well beyond the boundaries of eastern Merced County.

Uniqueness

Perhaps the most characteristic habitat within the site are vernal pools. As seasonally inundated wetlands, vernal pools require a unique combination of geology, climate and slope to exist. While vernal pools are found in scattered areas throughout California, they reach their greatest density and development precisely on the alluvial terrace landscapes formed along the base of the Sierra Nevada foothills. Here, the combination of geology, climate and slope is ideal for their development. Other uniquely characteristic habitats within this terrace landscape region include volcanic and sandstone rock outcrops, seasonally inundated clay flats, and certain geologically-influenced microhabitats within annual grasslands.

Species and Habitat Diversity

Numerous rare plant and animal species occur within the terrace landscape of eastern Merced County. Many of these species are associated with the site's vernal pools and, given the overall extent and quality of vernal pool habitat in the region, it is not surprising that several of these species have significant remaining population centers on the site. Other rare species are associated with the other unique habitat elements that are integral to the terrace landscape, such as rock outcrops, clay flats, unusual soils within annual grasslands, and riparian and marsh habitats.

From the perspective of aesthetic value, integrity of ecological function, conservation of statewide biodiversity, and preservation of California’s ranching heritage, eastern Merced County may be considered among the most important regions in the state. Facing rapidly increasing development pressures, local landowners, concerned citizens and regional policy makers are faced with critical choices regarding the nature and extent of development and land-use conversions in the region, and the role that natural resource conservation planning will play in determining the ecological and aesthetic qualities of eastern Merced County’s future landscape.

Habitat types on the site include annual grassland, agricultural land, vernal pool ecosystems and associated swales, seasonal wetlands, stock ponds, and seasonal freshwater marsh.
The annual grasslands provide habitats capable of supporting a number of sensitive wildlife species, including nesting habitat for northern harrier (*Circus cyaneus*) and western burrowing owl (*Athene cunicularia hypugea*) and potential foraging habitat for white-tailed kite (*Elanus leucurus*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), northern harrier, Swainson's hawk (*Buteo swainsoni*), golden eagle (*Aquila chrysaetos*), bald eagle (*Haliaetus leucocephalus*), burrowing owl, short-eared owl (*Asio flammeus*), mountain plover (*Charadrius montanus*), long-billed curlew (*Numenius americanus*), California horned lark (*Eremophila alpestris*), loggerhead shrike (*Lanius ludovicianus*), tricolored blackbird (*Agelaius tricolor*), and numerous common raptors and other migratory birds.

Annual grasslands also provide habitat for a variety of mammals, including potential denning and dispersal habitat for San Joaquin kit fox (*Vulpes macrotis mutica*) and prey species such as the California ground squirrel (*Spermophilus beecheyi*) and California vole (*Microtis californicus*) for kit fox and other predators.

Annual grasslands in the project area also provide habitat for the California tiger salamander (*Ambystoma californiense*) and other reptiles and amphibians.

d. Level of Disturbance

Vernal pools are considered one of the most threatened ecosystems in California, with a significant proportion of their distribution lost to cultivation or urbanization. Regionally, local grasslands are unique because they occur within a region where precipitation falls only during the cold part of the year, they have a very strong representation of annual species in their flora. However, like much of California, they have undergone a large-scale replacement of native species by European ones over the past 150 years.

Since the 1800s, the site and its grasslands have been used for cattle or sheep grazing, a leading agricultural activity.

2. Ecosystem Viability

Ecosystem viability is a prime requisite in establishing a natural reserve. The reserves should be of sufficient size and appropriate geometry so that the community may be maintained with the survival of the species and ecological/environmental processes assured. The boundaries must be located so as to encompass the critical landscape features necessary to maintain the ecosystem. An ideal reserve will be buffered from the detrimental impact of adjacent land uses.

The University of California has protected from development over 6,400 acres of land through the placement of conservation easements. These lands consist of the former Virginia Smith Trust, Campus Natural Reserve and Myers Easterly properties. The Cyril Smith Trust (“CST”) ranch is adjacent to these University controlled lands to the north and is also conserved in perpetuity.

The CST was purchased with funds allocated by the California Legislature in AB No. 1740 for the “University Of California Merced Grasslands Project”. Upon purchase of the land by the Wildlife Conservation Board, the land was transferred to The Nature Conservancy through a grant agreement. At this time the CST is owned by TNC and not proposed as part of the reserve. Independent of any research and education provisions, the CST land is ideally situated to be a protective buffer for managing and enforcing access restrictions to the reserve. The portion of the campus bordering the site is and will continue to be fenced from pedestrians.
B. Academic Opportunities

UCNRS concentrates on serving the needs of higher education. Sites lacking in high degree of academic usefulness do not meet a fundamental criterion for inclusion in the NRS.

Of particular interest are unprotected sites which enjoy current academic use, but are not in the system. The larger the variety of disciplines that can be accommodated, the more useful the reserve will be. Extended field trips and studies in remote locations play an important role in field studies and these needs should be met by the NRS, but the backbone of undergraduate and graduate education is the normal three-hour laboratory period. Sites close to a campus will naturally receive more use and make a correspondingly higher contribution to the NRS.

Research Value

There are outstanding opportunities for both basic and applied research on the proposed reserve site.

Much of this research can inform adaptive management of vernal pool ecosystems across the region. Much remains to be learned of the geological history of the area, including more accurate ages of the landforms. The identification of the processes that form and maintain the pools have yet to be definitively determined, and much of the resulting soil hydrological and chemical responses to landform age have yet to be studied. This geological and hydrological framework creates the unique habitat in which this unique ecosystem has adapted.

Many important aspects of species biology and management have not yet been studied, creating gaps in our ability to develop a scientific basis to their protection. Thus, in an adaptive management sense, results of research will be used to refine habitat protection, habitat management, and species and ecosystem monitoring to more effectively meet recovery criteria.

Primary information needs related to management include: surveys to determine species distributions; population censusing and monitoring; reproductive and demographic studies; the linkage between seasonal soil physical and chemical conditions and biological changes; habitat management technique research; restoration technique research; biosystematic and population genetics studies; studies of pesticide and herbicide effects; and habitat and species restoration trials.

Undergraduate field classes, UC Merced.
The types of projects needed to support recovery efforts in the region include: studies related to habitat protection (e.g., appropriate preserve size and location), habitat management and restoration techniques (e.g., appropriate levels of burning, grazing, mowing, or rest), and species ecology and biology (e.g., genetic relatedness, tolerances to environmental contaminants, and species interactions). The breeding systems and patterns of gene flow are not known for most species; however, interim adaptive management plans should be developed and implemented for protection of the species and their habitat until appropriate research is conducted.

Teaching Value

The site is already being used by UC Merced classes, and its potential for university and K-12 education is excellent.

Since the campus opened, undergraduate students have learned about vernal pool ecology/natural history/conservation and have been involved in sampling vernal pool invertebrates. Students were able to directly observe and sample vernal pools on proposed site. Class activities included characterizing plant communities, identification of vernal pool invertebrates, and the analysis of sampled vernal pool crustacean communities over space and time.

In addition to university education, there are several opportunities to partner with public agencies responsible for habitat restoration to increase the public’s general awareness of vernal pool ecosystems. Development of a zoned nature walk describing the unique geologic, soils, hydrologic, and biological interactions occurring on vernal landscapes would provide high visibility and awareness. The ability for K-12 programs to take field trips to this ecological resource and the ability of Grasslands-Vernal Pools staff to provide guided nature walks with studies guides would make this facility an important resource to the community.

Having a research site conveniently located next to campus provides excellent opportunities for independent research and exploration by undergraduate students through internships. It is envisioned that the Grasslands-Vernal Pool staff could facilitate coordinated internship opportunities that could contribute to and enhance the existing ecological monitoring at the site.

At the same time, students could use the monitoring data and data collected over the years to conduct their own independent research. Issues surrounding vernal pools provides undergraduate research concepts for a wide range of disciplines: ecological, environmental policy, management, and economics, soils, and hydrology.

Facilities Criteria

On-site support facilities are essential to realize fully the teaching and research potential of an NRS Reserve. Primary support facilities include:

- Housing, campgrounds, and dining facilities for long-term research and extended field classes
- Laboratories, libraries, offices and computers for diversified research programs integrating traditional field research with controlled laboratory studies and on-site computer analysis.
The availability of facilities on a reserve has proven to be the dominant factor controlling a reserve’s use and productivity, a finding supported by the Organization of Biological Field Station’s report to the National Science Foundation. The report surveyed over 50 field stations of national caliber and documented that “housing ... together with] new or renovated laboratory space is the highest-priority need among the respondent [field stations].” (*The Research Needs of Biological Field Stations*, http://paws.wcu.edu/bkloeppl/OBFS/1984report.pdf)

The report went on to state that “new construction...is often the most cost-effective way to improve the efficiency of station operation and make it more suitable for a wider variety of research uses.” Inadequate or outdated facilities at field stations constitute “difficulties which limit their effectiveness and efficiency.”

Meeting the strategic needs of the Grasslands-Vernal Pools Natural Reserve will require adequate facilities to accommodate:

1) Administrative staff
2) Space for education and outreach
3) Housing for visiting students and researchers
4) Lab and office space for both resident and visiting researchers
5) Space to hold meetings, workshops, conferences, and also facilitate informal interaction among students and researchers at the CVP, and
6) museum space for both educational and research purposes.

**Near Term**

To minimize impacts to vernal pool habitat and hydrology, almost all of these facilities will be sited in the near term on campus and, if feasible, will renovate or replace the existing barn to create one on-site multi-purpose facility to be used primarily for education and public outreach purposes.

**Short Term**

In the short term, a 10,000 square foot building to provide work space for users of the site would enable launching many of the proposed programs. This building would provide basic staging and meeting areas, with reliance on existing campus buildings for high-quality laboratory space.

**Long Term**

In the long term, rather than create a typical field station facility of rambling low buildings, the aspirational vision is to follow the campus model of minimizing building footprints on the land. Ideally, the campus would construct one 35,000–40,000 square foot research, education, and public outreach building on campus that would open onto the conservation lands.

In the long term, it would also have access to dedicated housing to accommodate visiting scientists and students. Both the research/education and housing facilities would be designed to facilitate social interaction and group gatherings. In particular, given the unique nature of this reserve and its proximity to campus, the lab, office and museum space noted above could include the equivalent of a multi-use facility overlooking the vernal pool lands – a space that could be used to entertain potential donors, encourage social interaction among faculty, research associates, and graduate students, and host regional and international meetings. This facility, and its relationship to the vernal pool land, has the potential to serve as an icon for UC Merced’s unique status in the UC system.
In the long term, there is the potential to transform the Campus Barn, the oldest structure on campus, into a shared use facility for the campus which could also include reserve-related research, education and outreach functions.
**Database**

The Grasslands-Vernal Pool Natural Reserve offers a rich set of resources for achieving excellence in ecological research and education. The unique environmental and regulatory circumstances of siting the campus required the development of significant data regarding species, soil quality and hydrology that has the potential to enhance short and long term research goals.

Baseline data regarding the site, its flora and fauna has been assembled over more than 15 years of environmental analysis developed during the siting process for the campus.

1. **Long-term, baseline data collection**

During the campus siting process, UC Merced was required to generate a number of legacy data sets that are of extraordinary value to current and future research efforts in and around the site. We will continue these long-term data series and encourage the development of other such data sets.

2. **Demonstration areas**

As opportunities present themselves, the campus will identify appropriate locations for application of research results as demonstrations for education, outreach, and future research.

3. **Standardized digital data base.**

There is potential to convert legacy development of a comprehensive archive of data collected related to the site. All participating researchers will be asked to make appropriate contributions to this body of information that will benefit future research. This includes both a metadata catalog as well as an integrated database of raw sets from individual research programs.

The extensive campus siting and environmental mitigation process has created an extensive mapping database of flora and species locations and species travel patterns on the site.
The mapping database encompasses endangered species, soil types, flora and fauna.
Even though the Grasslands-Vernal Pool Reserve may meet all of the UCNRS’ academic and scientific criteria, it must also be administratively viable. A campus must be willing to assume administrative responsibility for its reserves and provide support funds. UC Merced recognizes that a limited amount of funds for special projects, emergency repairs, and maintenance and operations is available from Systemwide resources.

Proposed Structure
**Proposed Management Structure**

Meeting the strategic objectives and facilities needs requires appropriate staff and an effective communication and reporting structure. A typical NRS reserve includes at a minimum a reserve manager/director, a steward and a part-time faculty director to support reserve staff and to promote reserve activities on campus.

In order to conserve resources, the “needs” independent of “people” because this allows maximum flexibility to parse the former among different combinations of the latter depending on the developmental stage of the Reserve and the specific skill sets of different people. The entire framework will be informed by an oversight committee and supervised by the Sierra Nevada Research Institute.

For example, early in the process, multiple needs at the Grasslands-Vernal Pool Natural Reserve will be met by one person, and later could be separated into two or more separate positions. Similarly, the individual hired to be a ‘research coordinator’ may also have a strong background and interest in environmental compliance and land management, which would indicate that they could satisfy both of those needs.

Alternatively, the ‘research coordinator’ may have a stronger background for education than for environmental compliance issues, thus the academic and science coordinating could be met by one person, but the environmental- compliance and land-management functions would require different staff.

The manager and steward collaborate on maintenance of facilities, and carry out environmental monitoring. The manager oversees and coordinates research and teaching use of the reserve, and archives use and scientific data, for incorporation into systemwide NRS data bases. The following factors make the site unique and will eventually require more staffing:

1. The number of special status species on the reserve, and the requirements for monitoring and reporting are still being defined. A higher fraction of time could be required to ensure compliance with environmental regulations and reporting.

2. The uncertainty and range of factors involved in actively managing the land to protect these special-status species from invasive flora and fauna may also require more effort than usual to develop large scale adaptive management studies that are coordinated with other research on the site.

3. Since this reserve is immediately accessible to campus (and the nearby community), it is likely that more effort than usual will be required to develop an array of education and outreach programs for UC Merced students as well as Merced high schools and the general public.

**Funding**

The UC Endowment Pool contains a $2 million gift fund that is dedicated to the management and monitoring of the Reserve. Between 4 and 5% of the corpus can be distributed annually from this endowment directed by the Resource Legacy Fund from the Hewlett Foundation.

It is estimated that this endowment is enough to get started with a development of the proposed reserve, but that it would need to grow to approximately $10 million to fully support the salaries and operations of the Reserve. This estimate does not include funds for the buildings.
This proposal recommends the establishment of the Grasslands-Vernal Pool Reserve affiliated with the University of California, Merced.

By virtue of its location, the 6,428 acre site represents a strategic stewardship and public service opportunity for the underserved, ethnically diverse and rapidly growing San Joaquin Valley. Its affiliation with the UC system’s newest campus would demonstrate a commitment to the next generation of California’s students and researchers. The variety of special status and endangered species species would also enhance UC Merced’s academic mission and its growing reputation for sustainability related research as well as UCNRS’s research and education network.

The site is uniquely suited to develop programs with the adjacent campus and student body as the University grows to 10,000 students by 2021 and 25,000 at full development. As the centerpiece of a network of permanently preserved open space on the edge of Merced County’s urban edge, the reserve has the potential to quickly build local and regional support and provide access to young people throughout the region.

As described in Section V, the UC Endowment Pool contains a $2 million gift fund that is dedicated to the management and monitoring of the reserve. Together with campus investments, this provides a foundation for careful stewardship, fundraising and development of reserve related programs.
About UC Merced

Opened in 2005, the University of California, Merced is the newest and 10th campus in the University of California system and the first American research university founded in the twenty-first century. The campus significantly expands access to the UC system for students throughout the state, with a special mission to increase college-going rates among students in California’s San Joaquin Valley. The university is expected to grow rapidly, topping out at approximately 25,000 students within 30 years.

UC Merced at a Glance
Fall 2012

Four-year public university
Coeducational, Semester Calendar
5,700 students (97% from California)
1,000 alumni
1,097 faculty and staff
$18 million in research grants (2010-11)
$1.12 billion in statewide economic impact since 2000; $650 million local economic impact since 2000
10 LEED Gold Certified Buildings, 4 LEED Platinum target buildings
Athletics: NAIA California Pacific Conference
Tuition/Fees: $13,070 per school year for state residents/$35,948 per school year for out-of-state students

Campus

The main campus is located on an 815 acre site located in California’s San Joaquin Valley outside the City of Merced. Roughly 10% of the 815 acre site is developed. UC Merced also operates a research field station in Yosemite National Park affiliated with its Sierra Nevada Research Institute.

Teaching, Research and Public Service

UC Merced is developing a reputation for excellence in research and offers a range of programs in the Social Sciences, Humanities and Arts; Engineering and the Natural Sciences.