Overarching Goal

Optimize UCI's Naturescape to serve campus research, teaching, community engagement, wellness, and sustainability needs through program, physical planning, infrastructure, and land improvements that reflect and capitalize on the unique human and biological heritage of our region.

Visioning the future of UCI's Naturescape is a once-in-a-generation opportunity to develop a campus asset with the potential to distinguish this institution among universities world-wide. UCI's Naturescape can bring significant value to this campus in the same fashion as high-tech high performance buildings and other core facilities. A collaboratively planned, managed, and preserved Naturescape will fundamentally advance UCI's mission in unique and transformative ways.

At UCI, Naturescape serves campus life and community activities, art and culture, habitat and watershed management, recreation, wellness and especially interdisciplinary teaching and research. Naturescape allows UCI to use the campus as a living laboratory and exemplifies the original planning principal of campus as an arboretum. Naturescape puts to practice what we learn and value. UCI's Naturescape includes parks, greenbelts, community & botanical gardens, trails & pathways, teaching pavilions, field research sites, upland and wetland habitat, and urban outdoor spaces.
University of California, Irvine was established in the public land grant university tradition of community engagement, service, and economic mobility. Establishing an environment conducive to interdisciplinary research and engaging in the cultural, educational, and economic life of the region were identified as key priorities. These values were reflected in the collaborative 1962 land use plan developed by the University and community that emphasized the importance of open space in community life, including greenbelts as connections between communities.

Consistent with this vision, UCI’s founding 1963 LRDP (Long Range Development Plan) identified a greenbelt and trail system to link campus neighborhoods to the North Campus, surrounding communities in Irvine and Newport Beach, and to ocean and aquatic resources. These greenbelts would enhance the natural features and character of the site emanating from a large central park. UCI’s natural areas, parks, and a campus wide botanical garden program would support student wellness, research, and outdoor learning.

Aldrich Park would serve as UCI’s central open space, reflecting the great urban parks of the time. A key goal was balancing the need for respite and passive recreation with the interest in serving campus events and activities. The initial vision for the park reflected this balance of passive open space areas, preserving natural rock outcroppings and a streambed, while developing activity spaces at the perimeter and a central terrace overlooking a water feature. A trail system would support recreation, link the park’s use areas, and provide connections to the academic quads in the central campus.

UCI’s Naturescape vision builds on these founding principles regarding the role of open space in serving campus and community needs. Program implementation will allow UCI to fully realize these long term campus goals and to expand this vision to serve current strategic priorities.
UCI’s Naturescape Vision is to build a unique sense of place by building campus wide and regional linkages that become more than the sum of their parts. This includes completing “missing links” in existing campus trail systems and working with community partners to build effective connections to regional trails.

Enhancing these community connections will provide improved links to regional open space resources including San Diego Creek, Newport Bay and to the Pacific Ocean at Crystal Cove. These connections will provide access to natural areas and wellness activities including walking, biking, and wildlife viewing.

Existing relationships with regional partners such as the Natural Communities Coalition, the Irvine Ranch Water District, Cities of Irvine and Newport Beach, and Orange County & State Parks can be strengthened and new relationships established to support collaborative funding opportunities.
UCI’s Naturescape Vision includes creating stronger connections throughout the campus to unite different core goals and functions including research, teaching, wellness, sustainability and community engagement. Fully implementing the vision includes enhancing key Campus Connections. The following pages outline these important open space connections: the North Campus Health & Wellness Trail, the Garden to San Diego Creek Trail, the Ecological Preserve Trail, and the Anteater Community Trail.
The North Campus Health & Wellness Trail links the Campus Core to the North Campus starting at the San Diego Creek Bridge and following the edge of the San Joaquin Marsh Reserve.

This one-mile bicycle and pedestrian trail creates a biological, physical, and resource linkage between the main campus and associated wildlands, bringing nature into the day-to-day lives of the campus community.

Along the trail, boardwalks and overlooks provide views of the wetlands while safely protecting sensitive habitat. Classrooms, research plots, interpretive signage, and shaded gathering areas are interspersed along the trail.
SAN DIEGO CREEK BRIDGE

The San Diego Creek Bridge will create a new seamless connection from the Campus Core, Health Sciences District, and UCI Research Park to San Joaquin Marsh, and onward to the UCI North Campus. The bridge will further connect with the existing San Diego Creek bike path. Spanning University Drive and San Diego Creek, the bridge will extend the concept of “Naturescape” by including native landscaping to promote green space and potential habitat.

Envisioned as two elegant, interconnected arched spans, San Diego Creek Bridge is supported by a graceful steel structure allowing visual permeability and a striking display when framed by the surrounding wetlands. San Diego Creek Bridge will become an iconic feature to the UCI campus and a new architectural landmark to the region.
The Garden to San Diego Creek Connection extends the North Campus Health and Wellness Trail from the San Diego Creek Bridge to the Campus Core. Starting at Aldrich Park and continuing past the future Student Success Building the path will entice the UCI community and visitors alike with opportunities for wellness including short walks along the edge of Crawford Athletic Complex, panoramic views to the San Joaquin Marsh, and ultimately connecting to the San Joaquin Marsh and future North Campus amenities.
The Ecological Preserve Trail links the heart of campus to adjacent wildlands bringing the campus community into contact with our local biological heritage. This link presents a unique opportunity to express UCI’s commitment to protecting that heritage for future generations and to strengthen regional connections including Bommer Canyon and Crystal Cove. Along this pedestrian trail, shaded overlooks showcase views to the Campus Core, local mountains, and the Pacific Ocean while strategically placed outdoor classrooms for research, learning, collaboration, and respite are placed lightly within the landscape.
The Anteater Community Trail highlights UCI’s commitment to sustainability between the botanical garden and the residential communities within the East Campus. A joint-use trail extending from West Peltason Drive to Culver Drive promotes sustainable modes of transportation while a classroom and gathering area (Harvest, Community, & Sustainability Classroom) adjacent to the Anthill Community Garden provides opportunities for research, education, and engagement of important stakeholders and supporters of UCI’s programs and mission.
As part of the Naturescape Vision a series of outdoor classrooms will be distributed throughout the UC Irvine campus. These spaces will provide new opportunities for faculty and students to gather, learn and collaborate in an environment outside of the traditional classroom. The outdoor classrooms will be equipped to perform as high amenity teaching spaces and will be flexible enough to host events or act as informal meeting spaces.

The Naturescape outdoor classrooms have been conceived as an adaptable kit of parts. Each structure will consist of an elegant, lightweight open frame that can support any combination of planting, screening, weather protection, photovoltaic solar panels, and collapsible doors. Each of the outdoor classrooms will be similar in their appearance but tailored to the specific requirements of their location and will take on the character of adjacent trail connections.
ECOLOGICAL PRESERVE CLASSROOM

- SHADED REST AREA
- INFO KIOSK
- VERTICAL NATURESCAPE
- WILDLIFE/BIRD HIDE
- MOBILE CLASSROOM CART
- DRINKING FOUNTAIN
- OUTDOOR CLASSROOM

HEALTH & WELLNESS CLASSROOM

- CHANGE ROOM AND SUPPORT SPACE
- INFO KIOSK
- DRINKING FOUNTAIN
- ACTIVE WELLNESS AREA
- RELAXATION ALCOVE
- MEDITATION GARDEN
ALDRICH PARK GARDEN

Establishing a main campus botanical garden, centered in Aldrich Park is a main focus of UCI’s Naturescape Vision. The garden would enhance existing landscape areas to support academic and cultural uses, wellness and recreation, and community engagement. The botanical garden collections would include adjoining areas of the campus including ring mall, academic malls and plazas, greenbelts and campus linkages. The Garden will serve as the center between the ecological and research linkages: The San Joaquin Marsh, Ecological Preserve, and Anteater Community Trail systems. The garden will celebrate the Mediterranean Biome and focus on ecosystem-based, geographically-based, and culturally-based collections.
Ecoregions are areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar. Characteristics that define an ecoregion include geology, landforms, soils, vegetation, climate, land use, wildlife, and hydrology.

The EPA has a hierarchical system to determine boundaries of ecoregions into 4 levels. Each level creates finer characteristics of a region.

https://www.epa.gov/eco-research/ecoregions

UC Irvine is part of the Mediterranean Ecosystem.

The region of Southern California is mostly the Mediterranean California Ecosystem and Desert Ecosystem.
85. SOUTHERN CALIFORNIA/NORTHERN BAJA COAST
This ecoregion includes coastal and alluvial plains, marine terraces, and some low hills in the coastal area of Southern California, and it extends over 200 miles south into Baja California. Coastal sage scrub and chaparral vegetation communities with many endemic species once were widespread before overgrazing, clearance for agriculture, and massive urbanization occurred. Coastal sage scrub includes chamise, white sage, black sage, California buckwheat, golden yarrow, and coastal cholla. Small stands of the unique Torrey pine occur near San Diego and on one of the Channel Islands. The chaparral-covered hills include ceanothus, manzanita, scrub oak, and mountain mahogany. Coast live oak, canyon live oak, poison oak, and California black walnut also occur.

8. SOUTHERN CALIFORNIA MOUNTAINS
Like other ecoregions in central and southern California, the Southern California Mountains ecoregion has a Mediterranean climate of hot dry summers and moist cool winters. Although Mediterranean types of vegetation such as chaparral and oak woodlands predominate in this region, elevations are considerably higher, summers are slightly cooler, and precipitation is greater than in adjacent ecoregions, resulting in denser vegetation and some large areas of coniferous woodlands. In parts of the Transverse Range, a slope effect causes distinct ecological differences. The south-facing slope of the range receives more precipitation (30–40 inches) than the northern slope (15–20 inches), but high evaporation rates on the southern side contribute to a cover of chaparral. On the northern side of parts of the ecoregion, low evaporation, low annual temperatures, and slow snowmelt allows for a coniferous forest that blends into desert montane habitats as it approaches the Mojave Basin and Range ecoregion boundary. Conifer species, such as Jeffrey, Coulter, and ponderosa pines, occur along with sugar pine, white fir, bigcone Douglas-fir, and at the highest elevations, some lodgepole and limber pine. Severe erosion problems are common where the vegetation cover has been removed by fire, overgrazing, or land clearing. Large parts of the region are National Forest public land.

14. MOJAVE BASIN AND RANGE
Stretching across southeastern California, southern Nevada, southwestern Utah, and northwestern Arizona, Ecoregion 14 is composed of broad basins and scattered mountains that generally are lower, warmer, and drier than those of the Central Basin and Range ecoregion (13). Its creosotebush-dominated shrub community is distinct from the saltbush–greasewood and sagebrush–grass communities to the north in the Central Basin and Range (13) and Northern Basin and Range (80) ecoregions; it also differs from the palo verde–cactus shrub and saguaro cactus in the Sonoran Basin and Range ecoregion (81) to the south. In the Mojave, creosotebush, white bursage, Joshua tree and other yuccas, and blackbrush are typical. On alkali flats, saltbush, saltgrass, alkali sacaton, and iodinebush are found. In the mountains, sagebrush, juniper, and singleleaf pinyon occur. At high elevations, some ponderosa pine, white fir, limber pine, and bristlecone pine can be found. The basin soils are mostly Entisols and Aridisols that typically have a thermic temperature regime; they are warmer than those of Ecoregion 13. Heavy use of off-road vehicles and motorcycles in some areas has made the soils susceptible to wind and water erosion. Most of Ecoregion 14 is federally owned and grazing is constrained by the lack of water and forage for livestock.

81. SONORAN BASIN AND RANGE
Similar in topography to the Mojave Basin and Range ecoregion (14) to the north, this ecoregion contains scattered low mountains and has large tracts of federally owned land, a large portion of which is used for military training. However, the Sonoran Basin and Range ecoregion is slightly hotter than the Mojave and contains large areas of paloverde-cactus shrub and giant saguaro cactus, whereas the potential natural vegetation in the Mojave is largely creosotebush. Other typical Sonoran plants include white bursage, ocotillo, brittlebrush, creosotebush, catclaw acacia, cholla, desert saltbush, pricklypear, and mesquite. Microphyll woodland trees and shrubs, such as ironwood, blue paloverde, smoketree, and desert willow, generally are unique to this desert, occupying desert washes with occasional moisture flow. In the region, winter rainfall decreases from west to east, whereas summer rainfall decreases from east to west. Aridisols and Entisols are dominant with hyperthermic soil temperatures and extremely aridic soil moisture regimes, creating some harsh environments for plant growth.

The garden will explore our unique ecoregion and has the opportunity to look at similar ecoregions of the world for research, education, exploration, and enjoyment. There are four other Mediterranean Ecosystems around the world. Each one is similar to California in that there is an adjacent Desert Ecosystem.

**The Mediterranean Ecosystem**
Regions of Mediterranean climate types occur roughly between 30° and 45° latitude on the west coasts of continents, where there are offshore cold ocean currents. Each region in which the Mediterranean shrublands and woodlands occur, is island-like in character and thus there is frequently a high degree of endemism. Comparative studies of regional expressions of this biome reveal interesting examples of convergent evolution in plant and birds families on the different continents.

**The Desert Ecosystem**
The Desert covers about one-fifth of Earth’s surface. Deserts usually get at most 20 inches of rainfall a year, and the organisms that live in deserts are adapted to this extremely dry climate.

Plants in deserts have adaptations to conserve water. For example, cacti have enlarged stems to store water, as well as spines to protect these water reserves from thirsty animals.
Aldrich Park is the nucleus of UC Irvine. As the first Naturescape project, the Botanical Garden is the catalyst for future open space projects. The Botanical Garden will be centered at Aldrich Park, but the collections and ideas will emanate to the whole campus.

The Framework is the next step beyond thinking about the connections of the Garden. The California Thread will focus on exploring the native ecoregion. The Evolution Thread will be a spine for past, present, and future ideas of horticulture, ecology, biology, climate change, etc.

The Agriculture Thread links the Anteater Garden to the Botanical Garden and can focus on California and similar World Ecoregion agriculture and related studies.
GARDEN ENVIRONMENT

TOPOGRAPHY

LOW SLOPES
50’ - 70’ ELEVATIONS
COASTAL OR DESERT HILLSIDES AND CLIFFS

FLATTER ZONES
50’ - 70’ ELEVATIONS
COASTAL, PRAIRIE, MEADOWS, DESERTS

MIDDLE SLOPES
70’-86’ ELEVATIONS
CHAPARRAL, AGRICULTURAL HILLSIDES
SOME MONTANE PLANTING

HIGH SLOPES
87’-110’ ELEVATIONS
MOSTLY MONTANE WITH SOME CHAPARRAL

HYDROLOGY

HYDROLOGICAL FEATURES
LINK THROUGH THE GARDEN THE EXISTING WATERWAY THAT RUNS FROM E PELTASON TO RING MALL TO THE SOUTH
EPHEMERAL STREAMS
RAIN GARDENS
WATER FEATURES

RIPARIAN BUFFER
20’ RIPARIAN ZONE OFFSET FROM HYDROLOGICAL FEATURES

SUN EXPOSURE

SUMMER
WINTER
SPRING / FALL
Collection Location Notes:
1. Australian Garden is located in flatter southern region of the site that has the most heritage trees from Australia. Of all the similar world ecoregions, the Australian Mediterranean and Desert Ecoregions is renowned for its flat topography.
2. The Cape Garden is located adjacent to a large stand of existing Aloes by the rock outcropping.
3. Feature Gardens are collections which do not fit into the provided framework. This allows for the utmost flexibility and to expand the Garden beyond Aldrich Park.
View of the Stream and Overlook Bridge from the Chilean Garden path
The California Garden Collections are seen as a central focus of the Aldrich Park Botanical Garden. The suggested locations includes the corridor which links the San Joaquin Marsh to the Ecological Preserve through the center of the garden. It surrounds most of the daylit stream and celebrates California's interesting biodiversity in the center of our campus and will feature coastal prairie, coastal scrub, chaparral, oak woodland, and riparian plant communities.

**OAK WOODLAND**

Predominantly Native Oak trees with some shrubs, grasses, wildflowers

- Quercus engelmanii
- Rhus integrifolia
- Rhus ovata
PINYON-JUNIPER WOODLAND
Known for extreme temperatures, fast draining soil with Pine trees and Junipers plus shrubs and wildflowers

CHAPARAL COLLECTION
Drought tolerant woody shrubs including Chamise, Manzanita, Artemisia, Salvia, Ceanothus

INDIGENOUS ETHNOBOTANY GARDEN
The indigenous anthropology garden can be seen as an ethnobotanical garden of sorts, acting as a source of traditional knowledge, featuring culturally important native plants such as Black Sage and White Sage, key food and medicinal plants, *Juncus textilis* for basketry, and medicine, as well as many others.
Australian Garden is characterized by resilient and noteworthy plants that have evolved strategies to thrive through drought, fire, and some of the earth's oldest and most infertile soils. This Garden surrounds visitors strolling through the North entry with diverse and colorful flora and plant forms that transitions carefully from the surrounding urban landscaped environment.

**KWONGAN (SCRUBLAND) COLLECTION**

Known for plants that can survive nutrient poor soil conditions. An immense variety of species from a limited genus of plants

- Cephalotus follicularis
- Kingia australis
- Adenanthos cuneatus
WOODLAND COLLECTION

As recent wildfires in Australia have begun to burn even hotter and drier, and California has seen its fire season expand as well, the power of regenerative fire landscapes has been proven. This garden may feature a way to look forward and adapt, in addition to highlighting plant types that may survive fire better, flourish following wildfires, or help the landscape to heal. Some examples include Acacias, Scarlet Banksiae, Tufted Lobelia, Dianella revoluta, and Hakea repullulans.

RIPARIAN GARDENS

CALIFORNIA NATIVE RIPARIAN GARDEN

A garden showing appropriate plants that live in riparian habitats, help improve water quality via the first flush in bioswales, and pick up heavy metals through the process of phytoremediation.
The Cape Gardens will exhibit a dazzling array of vibrant plants. Characterized by long surviving, ancient plants with whimsically odd forms, this garden will be an exquisite place to wander through or viewed from the Overlook Bridge. This Garden provides a means to connect to our founding faculty at UCI, whose scholarship provided the foundation of the UCI Arboretum through collections associated with the African continent.

**CAPE GARDENS**

**KAROO COLLECTION**
Succulent hotspot of world with extreme aridity in summer.

- Tylecodon paniculatus
- Pachypodium namaquanum
- Crassula mesembryanthemoides

**FYNBOBS COLLECTION**
Low shrubland with diverse, often endangered, endemic plants.

- Protea cynaroides
- Erica baccans
- Disa uniflora
The Mediterranean (Europe) Garden region is famous for dramatic massing of shrubs, dense evergreens and low trees. The formality of this landscape lends itself to the structured planting design surrounding Aldrich Park. This will be a garden of sensory delight with herbs and flowering shrubs. Highly manicured and managed, it also demonstrates the legacy of human impact and interaction with these systems and the need for caution, clarity, and compassion in preserving these systems into the future.

**MAQUIS COLLECTION**

Similar to California's chapparal with aromatic groundcovers and shrubs and small trees such as Olives and Figs.

- Mentha suaveolens
- Myrtus communis
- Ficus carica

**WOODLAND COLLECTION**

- Arbutus unedo
- Erica arborea
- Ilex aquifolium
MEDITERRANEAN POLLINATOR GARDEN

A pollinator garden will be both educational and highly beneficial to the insects that will inhabit it. Pollinator insects include a wide variety of bees, butterflies, moths, flies, and even some ants. Flowers blooming year-round will help support these pollinators. Different shrubs and perennials are useful in creating this habitat, while flowering trees, such as the Jacaranda, will also contribute. Mediterranean plants such as Jerusalem sage, rockrose, lavender, bottlebrush, and most herbs (sage, rosemary, oregano, thyme, mint) are all excellent candidates.

MEDITERRANEAN AGRICULTURE GARDEN

The Mediterranean region, with its long growing season, is very suitable to agricultural practices. The climate condition makes for productive growing opportunities. Forms recalling the agrarian experience such crop-rows may be utilized for affect in the agriculture garden. The Mediterranean’s fertile areas are able to sustain their regions and then some, providing many food products for export. From wheat to olive trees to citrus, rosemary, lavender, and grapevines, this garden will be highly recognizable.
The Chilean Garden will showcase this region's ever-changing landscape with seasonal variation and a large number of drought-deciduous shrubs. This Garden will exhibit the Chilean region's similarities to the California Ecoregion. A large area will be dedicated to the matorral plant community, which is similar to California's chaparral. Chile also has a coastal matorral analogous to California's coastal scrub. High elevation species and systems will also demonstrate convergent form and function.

**FOREST COLLECTION**

Known for much endemic flora and biodiversity, predominant evergreen trees with bamboo and ferns

- Araucaria araucana
- Chusquea culeou
- Lophosoria quadripinnata

**MATORRAL COLLECTION**

Similar to California chapparal but with palms and cactus, and agricultural lands.

- Echinopsis chiloensis
- Lobelia excelsa
- Puya chilensis
KYZZYLLUM DESERT
The Kyzylkum Desert in Uzbekistan is covered in dunes and rock formations. It translates to “red sand.”

AUSTRALIAN DESERT
This collection may bring the great Sandy Desert and the Great Victoria Deserts.

Stapelia schinzii Parkinsonia aculeata Waitzia acuminata
NORTH AMERICAN DESERT
This collection may combine the Mojave, Great Basin, and Chihuahuan Deserts of North America.

Halostachys caspica  
Ferula foetida  
Atriplex canescens

PATAGONIAN DESERT
The Patagonian Desert is a cold desert surrounded by the Andes and the Atlantic.

Berberis montana  
Embothrium coccineum  
Gaultheria mucronata
FEATURE GARDENS

MEDICINAL HEALING GARDEN

Echinacea spp
Matricaria recutita
Hypericum perforatum

CHINESE GARDEN

Featuring the wide array of Chinese native plants that are commonly seen thriving in California.

Pistache chinensis
Loropetalum chinensis
Cotoneaster dammeri

SCULPTURE GARDEN

Focus on creating a simple backdrop so the setting recedes and the artwork takes precedence

Rhamnus californica
Myrica californica
Ribes viburnum

ADDITIONAL FEATURE GARDENS AND THEMES:

Succession / Phytoremediation / Permaculture / Aqua or Hydroponics / Sensory Garden / Asian Garden / Temporary Research Gardens / Central American Garden / South American Garden / North American Garden / African Garden / European Garden / ...
ALDRICH PARK GARDEN
The Stream & Water Feature

The Stream is an incredible opportunity to restore the natural hydrologic function to the heart of the Campus through daylighting an historic drainage that once ran through what is now Aldrich Park. This perennial stream will emulate natural conditions, enabling endless research and learning opportunities in a setting that promotes reflection and wellness.

The Water Feature will give the botanical garden an active water feature year around. It will be a recirculating and shallow water element providing cooling benefits via evaporation, noise benefits via riffles, habitat value for birds and pollinators, and an area of enjoyment for students, faculty, staff and visitors.
ALDRICH PARK - Flexible Theater Space

Situated on an existing sloped knoll along the Inner Ring, the Garden Amphitheater transforms an underutilized space into a dynamic area for small classes, large lectures, or dance shows during the day and then transitions to theater or musical performances under the stars at night.
ALDRICH PARK
Overlook and Learning Center

Situated on the edge of Aldrich Park Botanical Garden, at the arrival of the Biological Sciences Mall overlooking Aldrich Park, an outdoor classroom will provide a unique setting for learning and social gathering. The new learning center will place students and faculty amongst the garden in a sheltered setting at the lower level. The plaza above will reach out into the botanic garden and provide an overlook as well as additional gathering space for small campus events.
The Shade Structures are iconic elements that dot the Naturescape connections, the Ring Mall, and Botanical Garden entries along the Inner Ring. Harmonizing nature and art, these unique elements take the form of abstracted mushrooms, rising from ground and sometimes clustering to form larger areas to meet beneath.