Campus 'botanical parkway' to feature Mediterranean plants

By KAREN BARTHOLOMEW

Collaboration between the University Planning Office and Stanford's Center for Conservation Biology has produced a plan to turn the University's main loop road — Campus Drive — into a "botanical parkway" over the next decade.

The Campus Drive Botanical Parkway will become a display area for drought-tolerant trees and shrubs of the world's five Mediterranean climate zones — regions such as California that receive winter rains, but are naturally dry in summer.

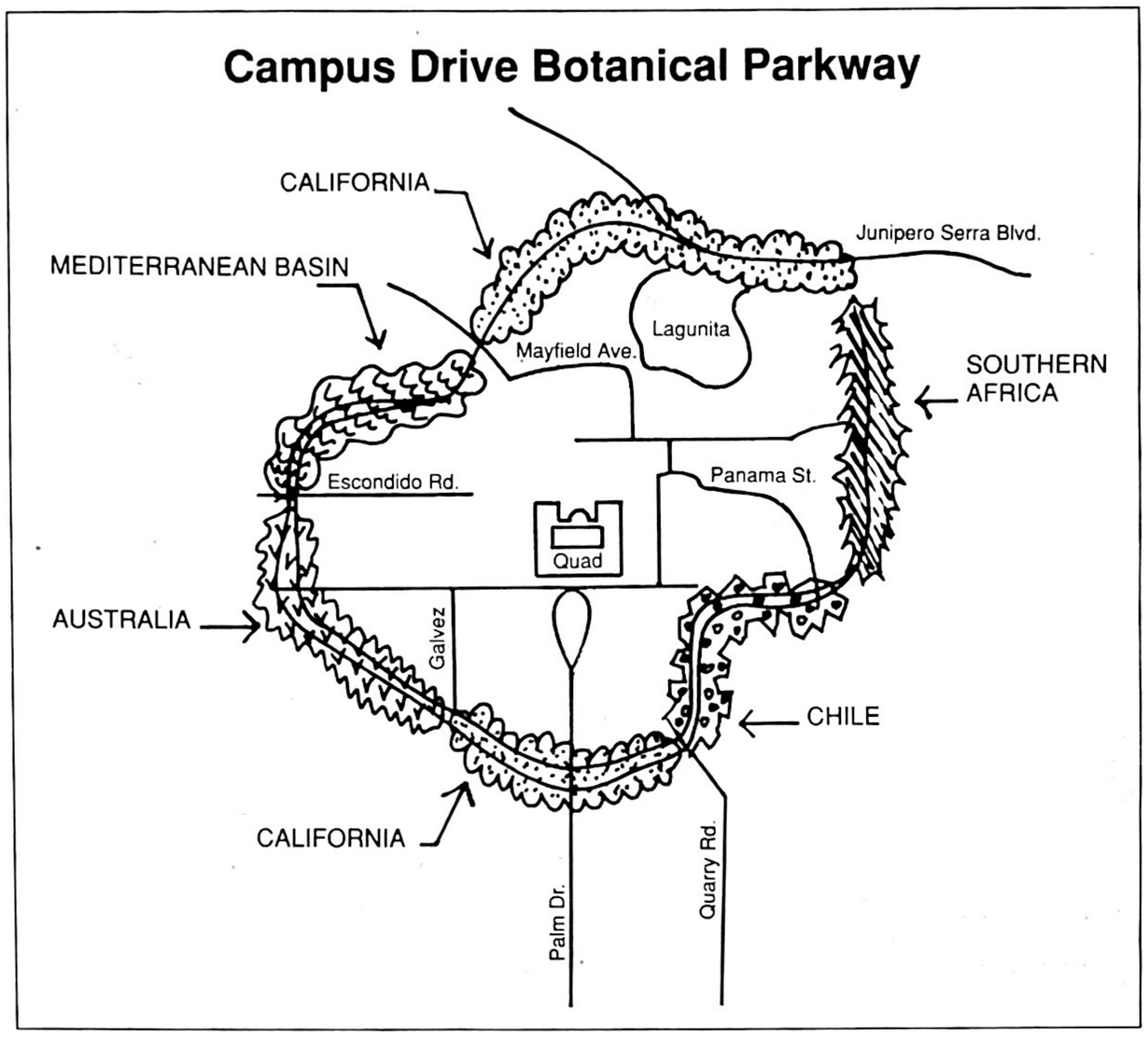
In the planning stages for nearly two years, the parkway will get its formal kickoff at 11 a.m. Wednesday, April 11, during a program, "Celebrating Biological Diversity at Stanford," to be held at Campus Drive and Lomita Avenue near the Mausoleum. Fifteen oaks, bay laurels and buckeyes native to California will be presented for planting along Campus Drive, along with a large specimen of an unusual Chilean tree.

Participants will acknowledge John and Susan Boething, owners of Boething Treeland Nursery, whose gifts have underwritten the project. Boething Treeland Nursery grows thousands of trees commercially on land leased from Stanford in the hills behind campus. Biological sciences Prof. Paul Erhlich will give the keynote address.

The botanical parkway will evolve based on an informal framework that already was in place, according to Judy Chan, associate director of planning. Additional guidelines have been established by landscape architects in the Planning Office.

Changes will be subtle and will happen over a period of many years, she says.

"We'll supplement plantings as species decline and as roadway projects or other developments call for landscape improvement," Chan explains. Many of the areas already are heavily populated with California native oaks, and these will remain as a unifying thread even in the four non-California zones.



The Campus Drive loop road eventually will be a display area for plants of the world's five Mediterranean-type climate zones under a plan developed by the Planning Office and the Center for Conservation Biology. The project is supported through gifts from John and Susan Boething of Boething Treeland Nursery

Emphasizing a rural landscape

The project provides an opportunity to emphasize a naturalized and undeveloped rural landscape style that is important to Stanford's ambiance, according to Chan. The University's Landscape Design Guidelines encourage preservation of a rural atmosphere to maintain the character of "the Farm."

Although California is experiencing another drought year, the 15 native trees and the specimen Chilean tree, *Beilschmiedia berteroana*, will be planted soon because spring is the optimum time, according to Chan. "Water is the whole intention here. We'll be installing low-water plants," but they will be given supplemental water the first summer.

The project provides an opportunity "to use more of our lands for their educational value as well as their aesthetic value," Chan says.

She hopes, for example, that the campus community will grow to appreciate the full life cycle of California wildflowers, including dead remnants that must be left for reseeding, rather than expecting the perpetual lushness of English-style landscapes.

Adding a range of new plant materials to campus will provide a "valuable education benefit," especially to biology students, says Thomas Sisk of the Center for Conservation Biology. Plant diversity on campus has been deteriorating for years, Sisk adds.

Developing in-depth collections of Mediterranean plant communities is "preferable to a broad assortment of exotic species" scattered around campus, and provides opportunities to illustrate biological concepts "in a living classroom."

"The display of a wide range of plants that have evolved under similar climatic conditions presents a natural laboratory for studies in evolution," Sisk says, citing as an example the fact that Mediterranean shrubs worldwide have developed reduced, thickened leaves with heavy cuticles to retard moisture loss during hot, dry summers.

This evolution of similar forms in different species, known as convergent evolution, "has provided some of the most convincing support for the theory of evolution."

For more than 20 years, biology Prof. Harold Mooney has studied the "remarkable evolutionary convergence" of California's chaparral and Chile's matorral. Such "powerful examples of convengent evolution could be highlighted throughout the botanical parkway," Sisk says.

Sisk and others want to stress the interpretive value of the parkway, but are not yet sure whether this will be done through labels and signs and/or brochures describing the plants.

Five Mediterranean zones

The Campus Drive Botanical Parkway is divided into six sections displaying the world's five Mediterranean plant zones:

Australia — From the Escondido Road intersection to the Galvez Street intersection; this area already is heavily planted with a wide variety of Australian eucalyptus.

California — From Galvez Street to Quarry Road near the Medical Center; this area includes numerous eucalyptuses and native oaks. Many of the century-old eucalyptus trees are nearing the end of their natural life span and have been furthered weakened by a beetle infestation that began about six months ago. As new trees are planted to replace those that die, the emphasis will be on oaks and other California natives.

A second California section is from the intersection of Junipero Serra Boulevard and Campus Drive West, proceeding along Junipero Serra and past the student housing on Campus Drive East to Mayfield Avenue. Along Junipero Serra, this region already is densely planted in California buckeyes.

Chile — From Quarry Road to Panama Street, dividing the Medical Center from the main campus. Selecting plants for this section is the biggest challenge because few species from Chile's dry summer region are in cultivation. Officials from several botanical gardens in California are donating Chilean plants, which campus horticulturists will have to propagate. Meanwhile, the area was seeded with California wildflowers — which are just starting to bloom — following installation of new storm sewers in the region last summer.

Southern Africa — From Panama Street to Junipero Serra Boulevard. This section probably will be deferred into the future.

Mediterranean basin — From Mayfield Avenue to Escondido Road; this area already is bordered by numerous olive trees and Italian stone pines native to southern Europe.

Collaborative project

Collaboration between the Planning Office and the Center for Conservation Biology began several years ago when planners began working on re-landscaping the meadows adjacent to the Oval. Campus biologists "made us aware of how birds used the area," explains Chan, with the administrative and academic units ultimately working together on a planting scheme that would encourage wildlife in the area.

The two units then collaborated on development of a marsh at Campus Drive and Lasuen Street, near the Graduate School of Business. The conservation biologists also are involved in the oak regeneration project in the foothills behind campus.

The project, while slow, has been cost effective and a good example of tapping internal University resources, Chan says. Rather than hiring outside consultants, the plan was developed by landscape architects in the Planning Office, with Charles Carter as project manager.

In addition to their work with the Center for Conservation Biology, the planners have drawn on the expertise of staff horticulturists Herb Fong and Steven Gale of Operations and Maintenance, who will head up propagation efforts for the Chilean area.

In a related project also supported by John and Susan Boething, Drew Oman of the Planning Office is working on a landscape scheme for the mausoleum area, which he says should be gloomier to maintain its "Victorian morbidity."

Oman also is developing guidelines for future plantings in the arboretum. Chan said no funds are being spent now on arboretum plantings, but the guidelines are being prepared "in case we need to incrementally and modestly respond to further decline (of the eucalyptus)."