This garden is a connection point between the UC Davis campus and the City of Davis, showcasing local native plants in a striking modernist design.

Explore how the garden is...

Celebrating Our Local Heritage
The garden celebrates our local natural and cultural heritage, with plants that are native to our local region (within 20 miles of this site). Look for exhibits about the history of Putah Creek, local wildlife, and the importance of native plants to the Patwin people, the original inhabitants of the area. Discover where you can visit natural habitat areas nearby.

Strengthening Community Connections
The garden was created through partnerships with local residents, businesses and non-profits. It was planted by volunteers and features beautiful community-built art, with a landmark gateway sculpture and a mural celebrating our native valley oaks. From here, you can explore the Putah Creek Parkway, the rest of the Arboretum, the UC Davis campus, and downtown Davis.

Building a Sustainable Future
The garden demonstrates best practices in sustainable landscape design. As you walk through the garden, look for strategies we’re using to reduce greenhouse gas emissions, conserve water, protect water quality, reduce waste, and provide wildlife habitat. Re-introduced local native plants provide habitat for native insects and wildlife. Permeable paving, bioswales, and a rain garden minimize storm water runoff from the site. Using recycled materials conserves resources and reduces pollution.

Urban Greening Project
Starting in 2011, the UC Davis Arboretum and Public Garden, the City of Davis and partners developed a series of urban greening improvements in this area, including:
- Creating the Arboretum GATEway Garden with local native plants, storm water management features, educational signage, and a sculptural gateway
- Reconfiguring bike and pedestrian paths to improve access and circulation
- Restoring local native plants to the Putah Creek Parkway for wildlife habitat
- Installing green parking lot retrofits at Davis Commons to increase storm water infiltration

Project Partners
UC Davis Arboretum and Public Garden
City of Davis
Yolo County Resource Conservation District
Tree Davis
Fulcrum Property
Nishi Gateway LLC
Dowling Properties
Community Built Association
Friends of the UC Davis Arboretum and Public Garden
Whole Foods Market
Community volunteers

Project Funders
California Prop. 84 Urban Greening Grant Program
UC Davis Campus Planning and Community Resources
U.S. Institute of Museum and Library Services
City of Davis
Pacific Gas and Electric Company
Stanley Smith Horticultural Trust
U.S. & K.D. Glide Foundation
Stuart Foundation
Rotary Club of Davis

Project Designers
Cunningham Engineering
Lutsko Associates Landscape

Arboretum GATEway Garden
arboretum.ucdavis.edu
This **bioswale** (BY-o-swale), a shallow channel filled with plants that mimics a natural wetland, filters storm water runoff before it reaches the Arboretum Waterway.

**Bioswales provide some of the same benefits as natural wetlands.**

**Reduce Storm Water Runoff**
Plants and soil in bioswales absorb water and reduce the amount that flows into storm drains and waterways downstream.

**Create Habitat**
Bioswales planted with native plants can provide food and shelter for beneficial insects, birds, reptiles and amphibians.

**Recharge Groundwater**
The water flowing through bioswales filters down into groundwater supplies that people use for drinking and trees can access for growth.

**Filter Pollutants**
As water flows through the bioswale, sediment and chemical contaminants get filtered out. Micro-organisms in the roots of plants and in the soil help break down pollutants.

**Bioswales can protect water quality in a home or larger-scale landscape.**

**What types of plants are best for bioswales?**
- Native or non-invasive
- Tolerant of both winter floods and dry summer conditions
- Useful for wildlife habitat

Many native wetland plants, such as the ones in front of you, share these qualities.
The land around creeks and rivers, called the riparian zone, provides multi-layered habitat for many native animals.

Lift the flips to learn about some animals you might see here and how they use the layers of vegetation in the riparian habitat.

Riparian Habitat Structure
This part of the Arboretum is no longer a native riparian habitat, but it has a similar multi-layered structure that supports native wildlife.

Midstory Layer
Canopy Layer
Understory Layer
Aquatic Layer

Western Scrub Jay
Aphelocoma californica

North American River Otter
Lontra canadensis

Pipevine Swallowtail
Battus philenor

Great Egret
Ardea alba

Western Pond Turtle
Actinemys marmorata

Mallard
Anas platyrhynchos

Desert Cottontail
Sylvilagus audubonii

Swainson’s Hawk
Buteo swansoni

Why is Riparian Habitat Important?
• Riparian forests support a greater diversity of wildlife than any other habitat type in California.
• Riparian areas provide critical corridors for wildlife migration.
• Riparian vegetation improves water quality by filtering pollutants from urban and agricultural runoff.

What’s Happening to Central Valley Riparian Habitats?
Riparian forest once lined the rivers and flood plains in California’s Central Valley, extending up to several miles out from the river’s edge. Ninety-five percent of this habitat has been lost due to human activity since the arrival of Europeans.

Building a Sustainable Future
In recent decades, scientists, government agencies, and conservation organizations have been collaborating on large scale projects to protect and restore riparian habitat in the Central Valley. Here on campus, researchers use the UC Davis Putah Creek Riparian Reserve as a living laboratory for studying riparian habitat restoration.

putahcreek.ucdavis.edu

Arboretum GATEway Garden
This sign made possible by a grant from the Institute of Museum and Library Services
Pipevine swallowtail butterflies can be spotted flying in the midstory layer of the riparian habitat. Pipevine caterpillars eat the leaves of the California pipevine plant (Aristolochia californica). North American river otters hunt in the aquatic layer of the riparian habitat and live in burrows close to the water. They eat fish, amphibians, crustaceans, birds, insects and fruit. Otters have been seen in the Arboretum Waterway since 2011.

Scrub jays can be easily seen in the midstory layer of the riparian habitat, feeding on insects, fruit, nuts, and berries. They are notorious for stealing acorns from other birds. Msulis Western pond turtles live in the aquatic layer of the riparian habitat and can often be seen basking on rocks or logs to soak up the sun. They can live to be 50 years old.

Mallard ducks swim on the surface of the aquatic layer and nest in the understory of the riparian habitat. Mallards are “dabbling ducks”—they feed in the water by tipping forward and grazing on underwater plants.

Great egrets wade in shallow water in the aquatic layer to hunt fish, frogs, and other small aquatic animals, and roost high in the canopy layer of the riparian habitat. Why is Riparian Habitat Important?

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Lift the flips to see the many ways Native Californians have traditionally used the versatile tule plant.

Where do tules grow?
Tule plants grow in freshwater marshes throughout western North America and can reach more than 16 feet tall.

Traditional uses of native plants
The study of how people of a particular culture or region make use of plants is called ethnobotany. The Patwin people were the first inhabitants of this area, and their descendants continue to live in the Central Valley today.

To learn more about traditional Patwin uses of native plants, we invite you to visit the Native American Contemplative Garden in the UC Davis Arboretum.

Discover Our Local Heritage
To see tule plants in the wild, visit the Yolo Bypass Wildlife Area, south of Interstate 80 between Davis and Sacramento. yolobasin.org

This sign made possible by a grant from the Institute of Museum and Library Services
Whole or split tules can be twisted to make ropes or woven into mats.

Baskets woven from tule stems can be used for gathering and storing food and water.

Tule stems can be woven into traditional clothing and moccasins.

Traditional houses are framed with saplings and thatched with tule.

Tule stems can be harvested, dried, and pounded into flour for making mush.

The long green stems of the tule (TOO-lee) plant growing in the container to your right can be made into many useful items. Tule stems are typically harvested in summer or fall before the plant goes dormant in the winter.

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Where to see tule plants

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Arboretum GATEway Garden

arboretum.ucdavis.edu

This sign made possible by a grant from the Institute of Museum and Library Services
It would say, “I’ve lost my flow!”

The Arboretum Waterway used to be part of the north fork of Putah Creek, but now it’s a pond with no natural flow.

What happened?

Before 1800

The Patwin people lived here in villages along the banks of Putah Creek for thousands of years until the early 18th century.

1870s

Local residents used horse-drawn scrapers to divert the creek south of Davis to prevent periodic flooding in heavy winter flows.

1939

A major flood caused considerable damage to the early UC Davis campus.

1948

The Army Corps of Engineers permanently sealed off the north fork of Putah Creek to prevent future flooding.

1968

With support from UC Davis students, the Arboretum Waterway was widened and dredged to create Lake Spafford and the lagoon at the west end. Paths were paved and footbridges were constructed.

2008

A system was devised to route treated water from the campus wastewater treatment plant to the Arboretum Waterway to create flow in order to reduce algae growth and improve water quality.

2014

The Arboretum GATEway Garden was built to feature plants native to the lower Putah Creek watershed. The garden’s green features help improve water quality in the Arboretum Waterway.

Going Forward

Arboretum and Public Garden staff and campus experts are continually exploring options for improving water quality in the waterway by increasing aeration, generating water movement, and reducing contaminants in campus runoff.

Where did the flow go?

To protect the Davis area from flooding, the north fork of Putah Creek was dammed and the water diverted to the south fork. The Arboretum Waterway, dammed at both ends, is essentially a pond. The lack of water movement in a pond can cause issues such as increased algae growth and low oxygen levels, both of which can affect fish health.

All water that goes into campus storm drains flows into the waterway. Excess water is pumped to the south fork.

Discover Our Local Heritage

To see the flowing creek, visit the UC Davis Putah Creek Riparian Reserve. putahcreek.ucdavis.edu
Purple needlegrass (*Stipa pulchra*) once covered the Central Valley floor and surrounding foothills. Now it’s hard to find due to habitat loss and competition with invasive species.

This tough perennial bunchgrass tolerates poor soils, endures fires, drought, and occasional floods, and can survive for 100 or more years. It was named the state grass of California in 2004.

**Where are the native grasslands?**
Most are gone. Less than 1% of the original California native grasslands remain. Today California grasslands are dominated by invasive non-native annual grasses that produce our characteristic golden hills when they dry out in late spring.

**What happened?**
Native grasslands disappeared beginning in the 18th century with the arrival of Spanish missionaries. Seeds of invasive Mediterranean grasses were brought in with their livestock, and the invaders eventually spread throughout the state.

**What are invasive species?**
A species is classified as invasive if it becomes established and spreads aggressively on its own in an area where it is not native. Common invasive plant and animal species in this area include yellow star thistle, ripgut brome, Eastern fox squirrels, and New Zealand mud snails.

**Discover Our Local Heritage**
To see a remnant of California native grasslands and vernal pools, visit the Jepson Prairie Reserve in Dixon, part of the UC Davis Natural Reserve System.

**Invasive Species Project**
*Arboretum GATEway Garden*

1 foot

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**Can You find a needle in a Grassland?**

**Needle-like awns** (stiff bristles) on the seeds twist as they dry and help drive seeds into the soil.

**Leaves** provide forage for animals, including cattle and over 330 native species, like tule elk and pronghorn antelope.

**Deep roots** can grow 6-15 feet to reach underground water sources and survive drought. Roots protect soil from erosion and filter water.

**Should I Grow Needlegrass?**
Purple needlegrass's ability to spread rapidly by seed helps it survive in the wild, but can make it hard to contain in a typical home garden. Deergrass (*Muhlenbergia rigens*), an Arboretum All-Star and California native plant, is a good alternative for a low-water garden.
Artist Christopher Fennell took recycling to new heights by creating a sixteen-foot-tall, vine-inspired Shovel Gateway out of more than 400 used shovel heads.

The Shovel Gateway marks the transition between downtown Davis and the Arboretum and is the first city-funded artwork to be installed on the UC Davis campus. It dovetails with city and campus goals to improve pedestrian and bicycle connections and to promote the campus and downtown area as an arts destination.

Fennell, a sculptor with an engineering background, was selected through a national search. He specializes in creating large-scale public art from cast-off materials. The use of recycled shovels has special resonance because it recalls the work of faculty, staff, students, and community members who have planted and cared for the Arboretum during its 75-plus years of existence.

The Arboretum put out a call, and the Davis community responded, donating more than 400 used shovels for the project. Many of the shovels were inherited from previous generations. Every shovel has a story, ranging from service in the Vietnam War to the groundbreaking of Sutter Davis Hospital.

UC Davis design students worked closely with the artist (left) throughout the project.

Donors had a chance to spot their shovels and chat with the artist (right) at the dedication event.
Many Hands Make community-built art

Campus and community partners were involved from start to finish in creating a beautiful mural and art benches that connect the UC Davis Arboretum with the Putah Creek Parkway.

The “I Am Quercus” mural, inspired by the Arboretum’s heritage valley oaks (Quercus lobata), transforms a functional bike tunnel into a canopy of oak branches. Mural elements reflect seasonal changes, Putah Creek, and plants and animals native to the site. Over 100 people helped create this mural.

The UC Davis Arboretum and Public Garden initiated the project and led the fundraising effort. Above, Arboretum staff, volunteers, and community members attended workshops to develop themes and create design elements for the mural.

Pacific Gas & Electric Co. employees and their families volunteered to scrape and prime the tunnel surface. A donation from PG&E helped fund the mural project.

In conjunction with the 2014 Community Built Association conference, artist Caryl Yasko (second from left), a master community muralist, taught emerging artists about her technique and engaged dozens of community members in painting the mural.

City of Davis Council-member Lucas Frerichs (left) and Mayor Joe Krovoza spoke at the mural dedication, which brought project partners together to celebrate the adoption of the community-built art into the City’s Art in Public Places collection.

Look for four community-created art benches as you walk through the Putah Creek Parkway, all within about 1/4 mile of the bike tunnel.

Artists Tom Arie-Donch and Donna Billick led Community Built Association members in designing and constructing four hand-sculpted concrete benches inspired by the native plants and animals of Putah Creek.

Arboretum GATEway Garden

arboretum.ucdavis.edu