

# O P E N   S P A C E S

K E R I D W E N   C O R N E L I U S

The natural glory of Phoenix has a history of being saved by people ahead of their times. Depression-era environmentalists fought for land and funding to create Desert Botanical Garden ... and initially failed. Post-war park officials created urban preserves in what was once the boondocks and were mocked in editorials. Horse-lovers led city councilmembers on rides through Phoenix Mountains, as bulldozers obliterated the trails behind them.

*CAZCA and ROSS partners are grateful to the Nina Mason Pulliam Charitable Trust for their investment in this initiative.*

Thanks to these visionaries, Maricopa County is now home to the largest set of protected areas in a predominately urban county with more than four million residents. City dwellers can saunter through nearly 200,000 acres of saguaro-striped mountains, where mule deer sip from rivers, hummingbirds zip among wildflowers and coyote pups howl at sunset. But Maricopa County is also the fastest growing county in the nation, adding 222 residents every day. And that is threatening our city's greatest asset: open spaces.

In 1939, the founders of Desert Botanical Garden could only fathom what their town would look like in 80 years. We're no different from them. If we are to be visionaries, we must imagine what the Valley will look like in 80 years. Will growth gnaw away the world's most biodiverse desert? Or will we continue to cherish our Sonoran Desert parks and preserves?

Those questions are why the Garden convened the Central Arizona Conservation Alliance (CAZCA) in 2012. This unprecedented coalition of nearly 70 organizations aims to conserve, expand and inspire love for parks, preserves and protected spaces in Central Arizona. Now CAZCA is unveiling its Regional Open Space Strategy (ROSS), a road map toward a future in which preserves and human communities help each other thrive. Along the way, the project will foster numerous exciting efforts, including smart development, citizen science, wildlife corridor protection and creation, invasive species removal and recreational opportunities.

"I would hope that 80 years from now, the people living in the Phoenix Metro area will be saying, "Wow, those people back then, thank goodness they had the foresight to put this in place, because now we still have these fabulous open spaces,"" says Dr. Kimberlie McCue, the Garden's director of research, conservation and collections. "We have the [preserves today] because of the people that came before us ... Now it's our turn to carry it forward."



## THE SEEDS OF THE STRATEGY

The first kernel of CAZCA was a question: "How do we go beyond our own Garden walls?" McCue says. "How do we take our expertise and our desire to have positive impact in our community out beyond what we do here at the Garden?" It was 2010, and the Garden was defining a strategic plan for the future. The staff hatched the idea of bringing together diverse stakeholders to preserve and grow biodiverse open spaces.

Meanwhile, the Center for the Future of Arizona—a think and "do" tank founded by former Arizona State University president Dr. Lattie Coor—had commissioned a Gallup poll, asking Arizonans what they wanted for our state. The results echoed what survey after survey has found: Arizonans say parks, preserves and trails are the state's "greatest asset" and the quality they love most about their home. On the other hand, a majority of responders said they don't feel a connection with their social communities. In other words, we live in a place where people cherish the mountains and saguaros but can't ask their neighbors for a cup of sugar.

In 2011, the Center launched the Five Communities Project to explore five big ideas for creating "The Arizona We Want." The Garden realized their idea for an environmental alliance could simultaneously address the saguaro and sugar issues: The coalition could build community bonds by bringing people together to restore desert preserves. The Garden's "big idea" proposal was ultimately chosen as one of the Five Communities projects. Soon after, the Nina Mason Pulliam Charitable Trust awarded the Garden a \$300,000 grant to launch the project. CAZCA was born—and quickly grew.

"I honestly don't think that when we originally started, we realized there could be 70 different organizations [involved]," says R.J. Cardin, director of maricopa county parks and recreation, one of CAZCA's original partner organizations. "One of the benefits of CAZCA is that I think it's strengthened the voice for conservation of natural resources."

“By coming together and working in a coordinated fashion,” McCue adds, “we elevate and expand the impact almost exponentially, because ... everybody’s headed toward the same goal.”

That goal is outlined in the new ROSS, the outcome of nearly two years of work that came to fruition through the leadership of four primary CAZCA partners, Maricopa County Parks and Recreation Desert Botanical Garden, McDowell Sonoran Conservancy and Sonoran Institute. The ROSS has four main aims: to “Protect and Connect” a network of natural areas, to “Sustain and Restore” biodiversity and recreation, to engender “Love and Support” for open spaces, and to “Coordinate and Elevate” planning and conservation successes. Some parts of the plan are still ideas. Others, as we’ll see, are already unfurling.

#### SMART DEVELOPMENT

Every time the population doubles, triple the land is converted to urban use. With that in mind, one of CAZCA’s first feats was drafting a Greenprint, a map of Central Arizona’s green infrastructure. It’s a twist on the process developers use when deciding where to locate a new subdivision or building complex. Developers look at the built environment—roads, power plants, shopping centers, etc. CAZCA’s Greenprint spotlights natural treasures like riparian areas, wildlife corridors and preserves. As a result, the gaps between those areas stand out like pressure points on an acupuncture diagram. Knowing where these potential points of connectivity are located helps conservationists, urban planners and developers strategize where to creatively incorporate nature into design and which landmarks to avoid.

Since Arizonans value open spaces, there’s an incentive for developers to maintain wildlife corridors and desert washes so residents and tenants can see bobcats wander past blooming cactuses outside their windows and feel good about living and working in eco-friendly places.

The ROSS is not anti-development; it’s pro smart development. That’s “development that includes the beauty and necessity of the natural world,” explains

Ken Schutz, The *Dr. William Huizingh* Executive Director at Desert Botanical Garden. In this vision, he says, “Phoenix in the future would be a place where development means the reverse of what development meant for the last hundred years—where we grow by reclaiming nature and incorporating and privileging nature in our daily lives.”

Achieving this goal will require “overcoming what I think are inaccurate public perceptions that you have to choose between the economy or the environment,” says John Shepard, senior director of programs at the Sonoran Institute. “In fact, if you take a look at growth throughout the Intermountain West, most of it is amenity-driven growth. People are moving to places and building businesses in places where the community sets a priority on open space.” Far from being a financial drain, open spaces flood the economy with funds. In the Grand Canyon State, outdoor recreation generates \$21.2 billion annually in direct consumer spending and \$1.4 billion in local tax revenue. The outdoor recreation industry is responsible for 201,000 jobs. Properties located next to open spaces see their values spike by 20 percent, according to a study from the National Association of Realtors.

Open spaces are also integral to the health and well-being of the community. Research shows correlations between spending time in nature and improved mental health, enhanced happiness and amplified immune function. Getting outdoors is also linked with reduced stress, lower rates of certain cancers, and decreased mortality from stroke and circulatory issues.

CAZCA is already fostering productive dialogue about smart development. At a recent meeting, two attendees presumably on opposite sides of the spectrum—a developer and a representative from the Center for Biological Diversity—sat at the same table. Yet they all had “a really positive, collaborative, cooperative conversation,” McCue says. “Everybody was willing and open to talking about alternative solutions to get to what we all want.”



Likewise, CAZCA is bringing together scientists and land managers who rarely talked to each other before. And they're realizing they can help each other by designing studies to solve ecological conundrums and implementing practical applications of research.

### RESTORING OUR LEGACY, CREATING CONNECTIVITY

Maricopa County preserves are so popular that visitorship surpasses that of major national parks. That's simultaneously encouraging and worrying. Many visitors hike, bike or drive ATVs off-trail, and each individual thinks they have no impact. But as others follow in their footsteps or wheels, the effect is shocking: On aerial images, it looks like someone took an eraser to the landscape and wiped out the greenery. Combine those "spider trails" with the impacts of urban intrusion, fire, historic grazing, climate change, invasive species and limited resources for land management, and the result is a serious threat to open spaces.

"It has the potential to degrade the land, to negatively impact animal populations and plant populations," McCue says. "And ultimately the very thing that we love about these spaces starts to disappear. We love them to death."

"The Sonoran Desert is extremely fragile. These parks and preserves are all within the desert, and they're fragile too," says Bob Berger, senior program officer at the Nina Mason Pulliam Charitable Trust, a partner and funder of CAZCA. "So if the ROSS isn't implemented, then you're going to have a fractured system, which is never going to be a healthy system."

Fortunately, some CAZCA organizations are already targeting certain areas for restoration and connectivity. One such region is around the McDowell Sonoran Preserve—the nation's largest municipal preserve. Maricopa County Parks and Recreation is talking with the McDowell Sonoran Conservancy about protecting biological corridors between the Preserve, McDowell Mountain Regional Park and the Tonto National Forest. Maintaining that massive wilderness is essential for

supporting mule deer and other four-legged nomads that need room to roam.

In the West Valley, the White Tank Mountains used to be so far outside the city that county officials were ridiculed "by some" for setting it aside as a regional park. Now, a half dozen cities and towns surround the range like opera lovers around an amphitheater. Conservation organizations and local jurisdictions are using CAZCA's Greenprint to plan the preservation and expansion of biological corridors on land radiating around the White Tanks, including Skyline Regional Park in Buckeye. This would ensure that cougars, desert bighorn sheep and other native creatures "have the ability to move from these sort of isolated mountain ranges, known as "sky islands", to other mountain ranges," Shepard says. "That is really critical to the long-term viability of some of these desert species."

Shepard says organizations are also planning restoration efforts on the Lower Gila River. These include protecting water flow, removing invasive species such as tamarisk, planting native trees to enhance habitat, and providing the public with more opportunities for birding, canoeing and hiking.

### FIGHTING INVASIVES, FOSTERING NATIVES

In recent years, scientists and citizen scientists have discovered an infamous enemy spreading across the Valley's preserves: buffelgrass. Public land managers brought this non-native grass to Southern Arizona in the 1930s to feed foraging cattle and prevent erosion.

Easily detonated by lightning, campfires and car sparks, buffelgrass fuels wildfires that turn saguaros into blackened skeletons. But unlike Sonoran Desert species, buffelgrass is adapted to fire. It emerges from the ashes like a phoenix, proliferating so much it prevents natives from returning.

Combating invasives like buffelgrass and tamarisk is a strong example of why CAZCA's cooperative, region-wide strategy is critical, McCue says. If one preserve

worked to keep the plundering species at bay, but the bordering BLM land or county park or national forest didn't make that effort, the invaders would continue returning. "It would be like Whack A Mole," McCue says.

To that effort, the McDowell Sonoran Conservancy has embarked on a multiyear pilot project to expand invasive species removal to neighboring McDowell Mountain Regional Park. They're training volunteers to identify, survey, remove and monitor invasives. What's more, "we're using the same kind of mapping app and data sheets with the volunteers, so as we scale that up, it'll be the same system that all the parks use," says Dr. Helen Rowe, Parsons Field Institute director at the McDowell Sonoran Conservancy. "Then all the mapping information can be centralized and shared, so we can all be on the same page."

Citizen scientists can also remotely survey our natural parks and preserves using Google Earth and inventory the disturbed areas with bare ground. Then, Rowe explains, land managers can prioritize those areas to restore by distributing native seeds and other proven techniques. That's where the Garden comes to the rescue. "The Garden is sort of a Noah's Ark of the plant world," Schutz says. "And someday instead of bringing plants into the ark, the goal is actually having them leave here and go back to the wild and restore habitats that have been lost."

## LOVING THE LAND

In surveys, Arizonans say they love our open spaces. But we're typically in a long-distance relationship with nature. The average American spends 98 percent of their time indoors or in transit, according to the Environmental Protection Agency. CAZCA wants people to expand that 2 percent of outdoor time so nature becomes a deeply important part of their lives. But there's a hurdle: Many people have little experience with the great outdoors and are wary of wilderness.

"Fundamentally, I don't think a lot of people even know [the preserves] exist," Berger says. So it's necessary to inform them how they can access these areas, he adds.

"[Then] it's about people enjoying open space with a certain enlightenment about it. An educated public become educated stewards."

Connecting people with volunteer opportunities is one solution. The McDowell Sonoran Conservancy has more than 600 volunteers who lead visitors on treks through the wilds, restore the landscape, tidy up trails, help conduct scientific studies and more. "Citizen science and volunteerism can be such a powerful tool for engagement," Rowe says. "Once they start getting engaged, they get passionate about all these ideas. People have a hunger for learning more about the desert and seeing what they can do."

In addition, volunteers contributed more than 100,000 hours to Maricopa County Parks and Recreation in 2017. The department has a full-time volunteer coordinator who matchmakes individuals with projects that appeal to them. CAZCA's website, MyMountainParks.org, serves as a menu of volunteer and citizen science opportunities in parks and preserves throughout the Country.

While the current corps of volunteers is robust, the ROSS's goal is to "go beyond the choir"—to inspire a new group of environmental friends and stewards. CAZCA holds conservation service days for corporate groups, including Intel and Target. "The days I've gone to those events, everybody is happy to be there. It makes people feel good," McCue says. "And when you have a volunteer who comes out ... I'm quite certain they go home, and at the dinner table, they're telling their family, and they're gonna tell their friends, and it sort of has this amplification effect."

CAZCA also plans to help teachers learn to incorporate nature play and environmental education into their curricula. The coalition already offers kid friendly conservation projects, such as creating butterfly habitat. The Garden hosts camps and classes for kids and teachers, and in the next several years, it will build a Children and Family Garden so kids can play among the plants and rocks. Meanwhile, the McDowell



Sonoran Conservancy holds children's programs, including the Junior Citizen Science Festival and hikes and talks where families can learn about everything from raptors to Native storytelling.

Recreation is also a portal to eco advocacy. Many people couldn't tell an ironwood from an amaranth, but they're intrigued by our local preserves. "So it's important for us to use of traditional recreation programs to introduce people to nature." Cardin says of the Maricopa Parks and Rec Department. "We'll do a fitness hike, but as we're doing that, we'll point out some of the plants along the trail, and people start to get an interest ... We need to get people down here and then work them through [the levels of knowledge], and then they become true advocates for open space."

"People feel great attachment to place here," McCue adds. "So I think if we can reach out and engage at all of these different layers of community, we're going to be successful. And this is very lofty, but I wrote this in the initial Five Communities proposal: We can be a model city for others around the world."

Schutz says the ROSS is a natural extension of Desert Botanical Garden's visionary founding 80 years ago. "[Just] as our founders were starting in the '30s, we—the Garden and the broader community—are just starting on that journey. And we can figure it out. It will take hard work, ingenuity, civil discourse. It will take a sense of [seeing] our mutual destiny—people and other species—as one. And to innovate and strive to find new ways to live in harmony with each other and with nature. And just as our founders had to trust that somehow the Garden would make it in year one and two, we have to trust in these efforts."

