Make no small plans
Joe Ewan is comfortable in a work shirt and worn jeans, his shoulder-length hair swept into a ponytail. He looks as if he’d be more at home digging a vegetable garden or picking an acoustic guitar on a front-porch swing than pushing the boundaries of landscape architecture. But those who know Ewan’s work aren’t fooled by his modest, soft-spoken ways.

Joe Ewan is an assistant professor of landscape architecture at Arizona State University. He has tackled one of the biggest challenges facing American cities today: preserving open space against a crush of urban sprawl.

Ewan works in a place that is considered by many experts to be ground zero for sprawl—the Phoenix metropolitan area. In Phoenix each year the size of new developments seems to break as many records as the desert heat. To accommodate growth, the City of Phoenix alone has annexed 156 square miles in the past two decades, expanding in area by 47 percent. Earlier in 2003 it announced plans to take over an additional 39 square miles.

Most of this land appropriation has occurred north of the city in a sector known as the North Phoenix Area (NPA). According to population projections, by 2040 this area will be home to some 350,000 people. So swift is growth in the NPA that the desert is losing ground to development at a staggering rate of one acre per hour.

Ewan knows the area as well as his own backyard. Working with his ASU colleagues in landscape architecture and landscape ecology, Ewan has traveled many miles of the NPA on foot, mapping the home ground of the endangered desert tortoise or charting the location of plant communities. The area, Ewan says, is attracting new residents for a reason. It contains some of the most beautiful desert to be found in Arizona.

Much of the NPA lies in what is known as the Arizona Upland subdivision of the Sonoran Desert. Blessed with an annual rainfall of 11 inches or more, this ecozone is the wettest and lushest part of the Sonoran Desert. Indeed, its rocky hillsides bristling with saguaro cactus and palo verde trees have been reproduced on countless calendars and picture postcards, becoming the archetypal image of the Sonoran Desert.

In 1995, Ewan was part of an ASU design and planning team that conducted explorations of the future development of the NPA. The team was so successful in helping public officials and citizen stakeholders to articulate a design vision for the area that the City of Phoenix continued to collaborate with ASU.

Little did Ewan know that this partnership would soon lead to the planning opportunity of a lifetime. In the early 1990s, citizen groups in the NPA began to lobby for a desert preserve in their rapidly developing region. As red-tile roofs continued to spread across the desert floor like barnacles on a rock, the drumbeat for desert preservation grew louder.

In 1996, Phoenix officials launched plans to establish a major new desert preserve within the NPA. But instead of taking the customary route—hiring a large design firm to head up the project—the city approached Ewan about spearheading the planning and design effort. So integral did he become to the process that Ewan even accepted a temporary part-time position as landscape architect with the city.

The scope of the project was daunting. Ewan took charge of a 110-square-mile swath of desert located 24 miles to the north of downtown Phoenix. After countless hours of reviewing maps, on-the-ground reconnaissance, and meetings with city officials and citizen groups, a 21,500-acre amoeba-shaped tract of land began to emerge on paper. The proposed new Sonoran Preserve encompassed an area 20 times the size of Central Park and six times the size of Manhattan, nearly doubling the acreage of the Phoenix’s existing desert-preserve system.

The project passed its first milestone of success in 1998 when the Phoenix City Council approved the Sonoran Preserve Master Plan: An Open Space Plan for the Phoenix Sonoran Desert. Ewan drafted the document with James Burke, deputy director of the City of Phoenix Parks and Recreation Department.

One year later, Phoenix voters passed a ballot initiative that raised the state’s sales tax by one-tenth of one cent for a period of 10 years. The proceeds would fund the estimated $250 million needed for land acquisition. So keen were citizens to make the Sonoran Preserve a reality that some 80 percent of Phoenix voters voted in favor of the initiative.

Far more than a fancy set of blueprints, the Sonoran master plan sets a new benchmark for the design, planning, and acquisition of open space. It combines the results of soils studies and wildlife inventories with economic analysis; local history with computer modeling scenarios; studies of land values, transportation needs and recreational trends with some of the most progressive ideas in the field of landscape architecture today.

But as Ewan learned early on in the project, careful research is only the beginning. “There’s a lot of science and data collection,” Ewan explains.
exploring life at the edge

The City of Phoenix lies in the northern portion of the Sonoran Desert, one of the most beautiful and distinctive places on Earth. Within the urban environs, however, a person would be hard pressed to find much evidence of the desert.

Indeed, in an informal poll conducted by tour guides from the Desert Botanical Garden in Phoenix, local school groups routinely are asked the question, “Do you live in the Sonoran Desert?” Astonishingly, few children raise their hands.

This lack of awareness can be blamed, in part, on a failure of design, says Joe Ewan, ASU assistant professor of landscape architecture. Although Phoenix boasts an extraordinary legacy of desert mountain preserves, including South Mountain, the largest municipal park in the country, the Sonoran Desert is poorly integrated into the daily fabric of urban life.

Ewan says that landscape planners need look no further than places like Ahwatukee, a community that borders the southern edge of South Mountain. Nearly 11 miles of more or less continuous concrete-wall fencing separates the desert’s creosote, cactus and coyotes from the backyards of private homes.

Critics have complained that such hard boundaries restrict public access to the city’s open spaces. And biologists caution that they artificially isolate plants and animals, threatening their survival over the long term.

Ewan got back to work before the ink was dry on his award-winning master plan for a major new preserve on the northern outskirts of Phoenix. Working with ASU architecture professor Michael Underhill, Ewan explored the problem of the urban-wild edge. The project included a graduate class composed of architecture, planning, and landscape architecture students.

In May 2003, Ewan and Underhill published “Exploration of the Edge,” a study of the ways in which the new Sonoran Preserve can be better integrated into the human-built environment.

Adapting concepts from the study, Phoenix officials recently drafted a set of prescriptions for development along the new preserve known as the Sonoran Preserve Edge Treatment Guidelines. Chief among the document’s goals were provisions to create a more porous edge along the urban-wild interface. To accomplish that goal, for example, developers must leave 60 percent of the land adjacent to the preserve as open space.

Developers also are encouraged to treat concerns about public access in novel ways. They should create pedestrian-friendly neighborhoods adjacent to the desert or small commercial nodes where visitors can congregate along the desert’s perimeter on constructed promenades known as paseos. Such new uses are designed to take some of the frustration out of visiting the mountain preserves.

Ewan explains. “For example, right now you can get into your car and drive to a place like Camelback Mountain. Once there, you struggle to find a parking spot if the weather is nice. “So, you end up parking on some residential street somewhere. You walk through cars and traffic just to get to the trail,” he continues. “Once on the trail you have a wonderful experience. Perhaps you see people you know and stop to have a conversation. But when the hike is complete, you again must walk through traffic just to get to your car. Maybe you stop for a bagel or coffee at a strip mall where you sit on a patio and stare at a sea of cars. Perhaps you even see the same people you saw on the trail. It seems absurd that these things are so disjointed,” Ewan says. “We saw the lack of interface between these two types of uses as one of the great missed opportunities.”

Above all, Ewan hopes the new guidelines will encourage the most important public access of all—the exposure of future generations of children to the natural environment in which they live. Pointing out how much the future survival of a healthy desert depends on an ecologically literate citizenry, he champions the idea of locating schools on the desert’s edge.

“We need to learn how to live with the desert,” Ewan says. “The ability of a generation of Phoenicians to be educated with daily access to this type of natural open space is truly incredible.”

Adelheid Fischer

Editor’s Note: In October 2003, The Phoenix City Council unanimously passed the Sonoran Preserve Edge Treatment Guidelines. In the same month, the American Society of Landscape Architects named Joe Ewan as their Educator of the Year. The Arizona ASLA chapter also recognized Ewan and Michael Underhill’s “Exploration of the Edge” project with an Honor Award.
“The key is translating that data into public policy or interpreting it in such a way that public officials can make decisions.”

Perhaps even more important is developing a vision that can bring about consensus among a diverse group of stakeholders ranging from horseback riders and mountain bikers to housing developers. “In my mind,” Ewan adds, “this is what’s most valuable about planning: the ability to put tangible visions forward.”

To craft this vision, Ewan took advantage of cutting-edge thinking in the science of ecology and landscape planning as well as changes in citizen attitudes toward open space. What makes the master plan so revolutionary in sprawl-ridden American cities like Phoenix is its insistence on using ecological principles to guide the shape and makeup of the new preserve.

The goal was not simply to add more scenic acres to the city’s desert-preserve system, but also to maintain the desert’s ecological health over time. To accomplish this important objective, Ewan became a kind of knowledge broker, bringing biologists and wildlife ecologists into contact with city planners, highway engineers and developers. The cross disciplinary nature of his own training as a landscape architect helped him to build bridges among diverse groups of stakeholders. “It enabled me to start a discussion among groups that don’t communicate often or necessarily work well together,” Ewan says.

In the new Sonoran Preserve, the preservation of picture postcard views takes a back seat to maintenance of the land’s ecological function. “In the past, aesthetics reigned supreme,” Ewan says. “But preserving only the appearance of the desert will not guarantee maintenance of landscape health.”

During the 1960s and 1970s, when the city first began to set aside desert open space within the city limits, Ewan says that easy-to-bulldoze flat lands were largely given over to development while the visually prominent and hard-to-reach mountain tops were set aside as preserves. Over time, the peaks became surrounded by houses, highways, and strip malls. Aerial photos of Phoenix today show the city’s mountain preserves as isolated islands in a sea of roofs and asphalt.

The ASU scholar points to recent research that sends a sobering message. When these isolated islands are too small or become too fragmented, the life within their confines often withers and dies.

Isolation, for example, can result in inbreeding which weakens many plant and animal species. The loss of genetic diversity is especially threatening to species whose populations naturally ride boom-and-bust cycles. When pests or disease have taken their toll, they depend on fresh recruits from outlying areas to rejuvenate their numbers. But outsiders can make few inroads into these islands when the natural travel corridors on which they depend have been cut off.

“In meetings with the public,” Ewan recalls, “we heard lots of anecdotes from people who could remember all sorts of wildlife in places like Papago Park. Over time, as the city enveloped it and it became isolated, the wildlife has virtually disappeared. If you look at images of Papago Park 40 years ago and compare them with today, it’s hard to reconcile the fact that it’s the same place.”

To prevent such ecological degradation in the future, Ewan plotted as large a contiguous area as possible for the new Sonoran Desert. Such a broad sweep seeks to protect as many components of the landscape as possible, including the bajadas, hillsides, and mountain peaks as well as the less scenic creosote flats. And he took advantage of every opportunity to enlarge the preserve’s ecological borders by sharing boundaries with existing open space such as federal land, public parks, and flood control basins.

Above all, Ewan’s plan attempts to minimize ecological isolation by hooking-up desert open space to existing trails, the region’s water-canal system, utility corridors and, most important, desert washes.

Ecologists have discovered that these natural drainages, which normally only carry water during major rainstorms, are the most biologically diverse components of the Sonoran Desert landscape. Their lush vegetation provides feeding, breeding, nesting, and resting opportunities for a range of animals, not to mention protected highways for wildlife.

At the same time, these green corridors provide low-cost flood control. Indeed, the Sonoran Preserve Master Plan points out that the City of Tucson will save an estimated $413 million over the next 30 years from preserving washes in their natural state instead of paving them over.

Almost immediately after its publication, the Sonoran Preserve Master Plan began to make ripples nationally. In 2000, the document won top honors from the American Society of Landscape Architects. Ewan was awarded the prestigious President’s Award of Excellence—the Pulitzer Prize of landscape architecture. Taking his place among such luminaries in the design field as Peter Walker, Laurie Olin, and Anne Whiston Spirn, Ewan bears the distinction of being the only junior faculty member to have received the honor.

Ewan is pleased that his work has met with national recognition. But even more gratifying is the reception that the project has received at home. To date, some 5,000 acres have been acquired for inclusion into the preserve. By public works standards, Ewan says, the land acquisition has proceeded at lightning speed.

For Ewan, a Phoenix native who grew up in the shadow of the city’s South Mountain, such support for the new Sonoran Preserve is immensely satisfying. “Looking back,” he says, “I’m most proud that I was able to be involved in an effort that generations of Arizonans will get to enjoy.”

WORK ON THE SONORAN PRESERVE MASTER PLAN IS SUPPORTED BY THE CITY OF PHOENIX. FOR MORE INFORMATION ABOUT THE PLAN, CONTACT JOSEPH M. EWAN, PH.D., SCHOOL OF PLANNING AND LANDSCAPE ARCHITECTURE, 480.965.0615. SEND EMAIL TO: EWAN@ASU.EDU