

# LIGHTING UP AN IDEA

## Death Valley looks to become first national dark-sky park

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THE ASSOCIATED PRESS

**D**EATH VALLEY NATIONAL PARK, Calif. — High atop Dante's View, overlooking sheets of salt flats and ribbons of sand dunes, night watcher Dan Duriscoe shone a laser beam at the North Star and steadied his digital camera at the starry heavens.

Click. The sky looks dark. Duriscoe panned the camera toward the light factory of Las Vegas, 85 miles away but peeking out like a white halo above the mountains in the eastern horizon.

Click. The sky is on fire. "You can see the Luxor

vertical beam," said Duriscoe, pointing to a time-exposure shot on his camera-connected laptop showing the Vegas Strip pyramid-shaped hotel's famous searchlight. "That's the

brightest thing out there."

Acclaimed for its ink black skies, Death Valley, the hottest place in North America, also ranks among the nation's unspoiled stargazing spots. But the vista in recent years has grown blurry.

The glitzy neon glow from Las Vegas and its burgeoning bedroom communities is stealing stars from the park's eastern fringe. New research reveals light pollution from Vegas increased 61 percent between 2001 and 2007, making it appear brighter than the planet Venus on clear nights as seen from Dante's View.

Duriscoe, a soft-spoken, mustachioed physical scientist with the National Park Service, is part of a roving federal team of night owls whose job is to gaze up at the sky and monitor for light pollution in national parks.

"What is alarming to me is, what's going to happen three or four generations from now if this growth of outdoor lights continues?" he asked.



Dan Duriscoe sets up the camera used to photograph the night sky at Dante's View.

Amid such concerns, Death Valley, the largest national park in the Lower 48, has set an ambitious goal: It wants to be the first official dark-sky national park.

### A VANISHING NIGHT

Since the dawn of civilization, humans have been enthralled by the night sky's mystique. Early seafarers relied on stars to steer their ships. Farmers looked toward the night sky for clues to plant and harvest crops. Ancient cultures spun mythologies from staring at the cosmos.

Civilization is also the chief reason why the night sky is vanishing in many corners. As the world grows, so do the number of lamp posts that sprout up like trees in sprawling subdivisions. Pass by Anywhere, USA and chances are you will see lighted shopping strips, twinkling auto malls and flashy billboards.

Today, it's estimated about one fifth of the world's population and more than two-thirds in the United States' cannot see the Milky Way from their backyards.

Further, studies have shown exposure to artificial lights can interrupt animals' biological clocks and disrupt ecosystems. Migratory birds have been known to be confused by blinding lights on skyscrapers and fly smack into them. Last year, the cancer arm of the World Health Organization listed the graveyard shift, where workers toil under

### WHAT IS A DARK-SKY PARK?

According to the International Dark-Sky Association ([www.darksky.org](http://www.darksky.org)), an international dark-sky park is "a park or other public land possessing exceptional starry night skies and natural nocturnal habitat where light pollution is mitigated and natural darkness is valuable as an important educational, cultural, scenic and natural resource."



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# Death Valley: Park working to go dark

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artificial lights, as a probable carcinogen.

The International Dark-Sky Association, an Arizona-based nonprofit whose slogan is "Carpe Noctem," has noticed an increased awareness about the perils of light pollution, but acknowledged there's a limit to promoting dark skies.

"I don't think you can get Paris to turn off the Eiffel Tower or persuade Times Square to turn off all of its lights," said Pete Strasser, the association's acting executive director.

The same could probably be said for Las Vegas, the sparkly desert playground where neon signs blend into the natural landscape.

"It's part of the whole ambiance. It's the selling point of Las Vegas," said Barbara Ginoulias, director of comprehensive planning for Clark County, Nev., where Vegas is located. Still, she added, "We're certainly cognizant of light pollution, and we try to address it in the best way."

Ginoulias' department oversees unincorporated parts of Clark County, which are required to shield outdoor lights or cast the light downward. Next month, the county commission will consider an ordinance that would set lighting standards on digital billboards on Interstate 15 that runs along the Vegas Strip.

As for the main drag, Las Vegas Boulevard, Ginoulias said signs are reviewed case by case. Newer signs tend to be less flashy or not have the glaring white background, she said.

## DANCING DOTS

With no control over the Vegas glow, park rangers at Death Valley are looking

inward to fix the light problem, as they pursue their goal of becoming the first dark-sky national park.

To gain that distinction, the park must shield or change out two-thirds of its existing outdoor light fixtures. Death Valley has about 700 lights in its 3.3 million acres, including parking lot light poles, flood lights, fluorescent tubes and egress lights next to doors. Only about 200 lights meet the sky-friendly standard.

At the Furnace Creek Visitor Center located 190 feet below sea level, the pedestrian walkway leading to the front entrance is lined with overhead rows of fluorescent tubes under a canopy. From Dante's View at night, the visitor center appears as dancing white and blue dots.

"This is a really bright spot in the park," said Terry Baldino, chief of interpretation at Death Valley. "All the campgrounds have to share their night sky with the lights here. If we can reduce that, then we're going to improve their

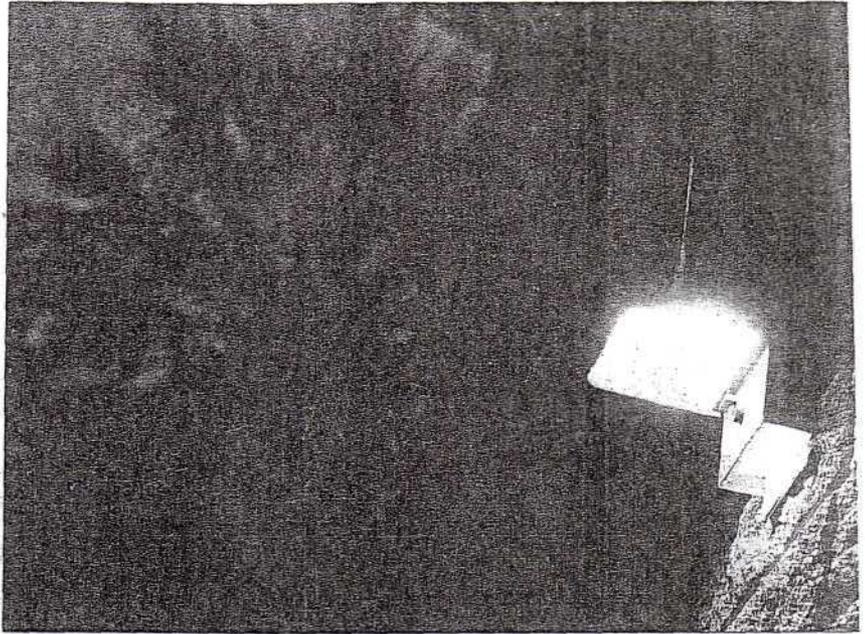
night stay."

The park has replaced some fixtures with tin can-shaped designs that focus light onto the ground instead of sideways or upward. Rangers are also debating whether to turn off outdoor lights in some cases.

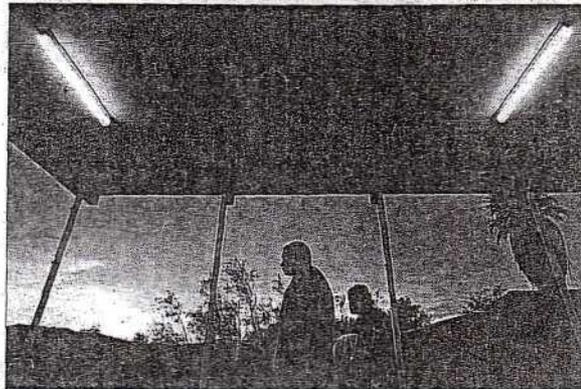
"We're doing little by little," said Baldino.

So far, Utah's Gold Tier Natural Bridges National Monument and Pennsylvania's Cherry Springs State Park are the only two parks certified by the International Dark-Sky Association as dark-sky enclaves. This fall, the group gave a tentative OK to the Geauga Park District's Observatory Park 40 miles east of Cleveland, Ohio, for its work

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JOHN LOCHER PHOTOS/ASSOCIATED P



Special fixtures help reduce light pollution at the Furnace Creek Visitor Center, above, in California's Death Valley National Park. Left, people walk out of the center under more traditional lights.

to preserve darkness over the observatory and nearby park land.

## A FISHEYE VIEW

Back at Dante's View, a 5,475-foot panoramic viewpoint overlooking the glimmering valley floor, Duriscoe is working his second night taking sky brightness readings. The crescent moon, which formed a triangle with Jupiter and Venus earlier in the night, has dropped below the horizon.

The night is still - save for the occasional breeze and whirring noise of Duriscoe's camera mounted on a moving tripod that automatically takes 45 images, covering the entire sky. The images are then stitched together, and by subtracting the

light by known stars, scientists create fisheye and panoramic maps of light invasion.

Duriscoe has been skygazing at national parks for a living since 1999 and made the first sky-brightness comparisons two years later. A self-described desert rat, Duriscoe excitedly points to the Orion, Aquarius, Pisces and Aries constellations. The Milky Way, which arches across the night sky, bleeds into the Vegas light dome 30 degrees above the horizon. The glow from the greater Los Angeles region forms a long, narrow band.

Skywatchers can theoretically see some 6,000 stars in the blackest and pristine skies of Death Valley. With light pollution from Vegas, scientists

estimate about 2,500 stars are visible from Dante's View.

Advances in technology have enabled people to see the cosmos like never before. Take the Hubble Space Telescope, which has beamed stunning images of exotic galaxies and distant supernovae to people's computers. But Duriscoe noted that these onscreen images are just not the same as being out under the sky.

Sitting on the ledge of Dante's View, his legs stretched out and his back toward Vegas, Duriscoe pondered the shrinking sky.

"This is the real universe," he said, taking in the celestial light show until clouds moved in, drawing a curtain on the stars for the night.