

Preservation

THE MAGAZINE OF THE NATIONAL TRUST FOR HISTORIC PRESERVATION

Silent Night, A Basic Right

Longing for a darker, stiller existence

BY ANNE MATTHEWS

Losing Modern Landscapes

The Spirits of Kentucky

Mississippi's Little Muddy

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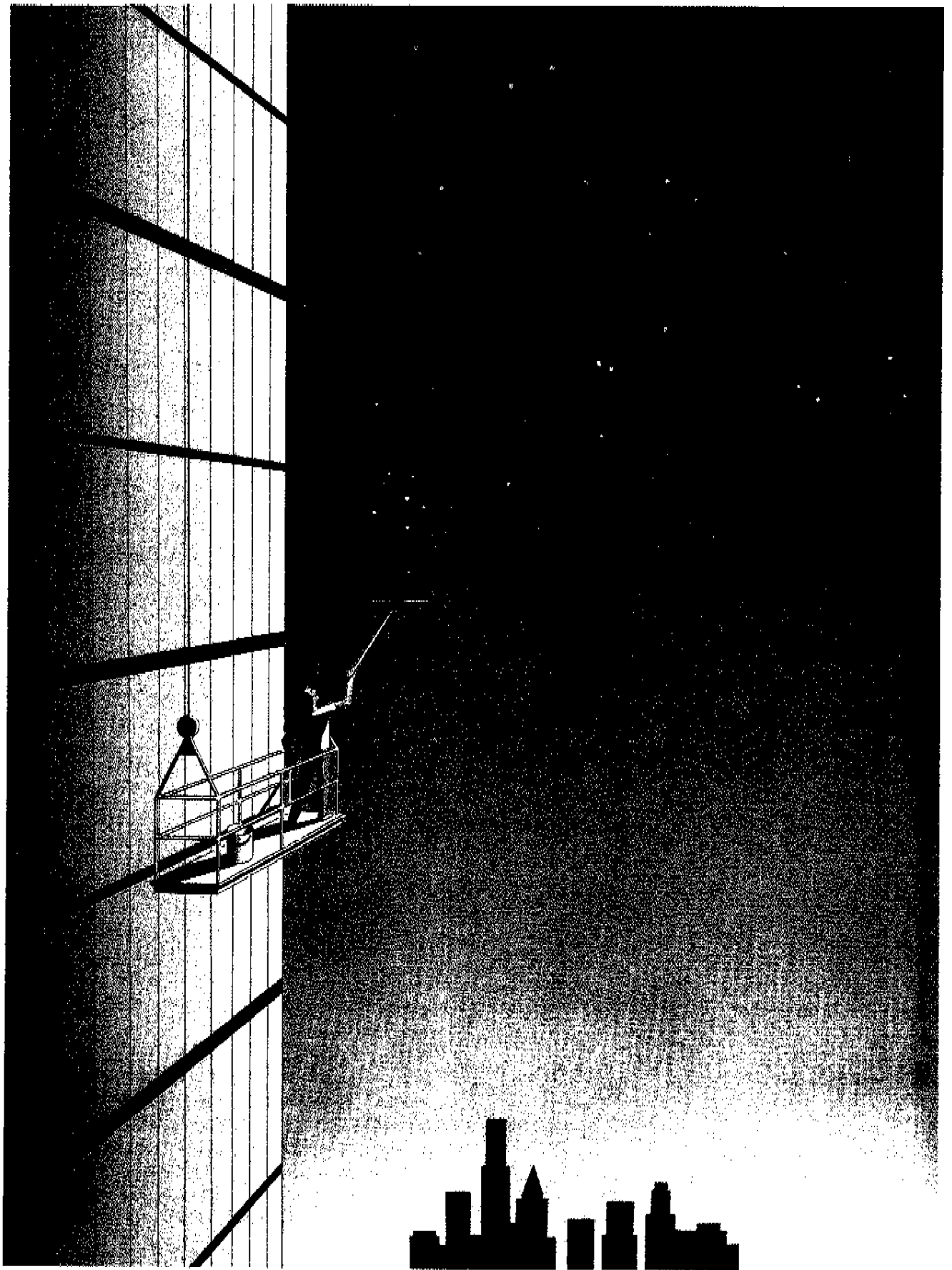
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BEYOND THE GLARE AND THE BLARE

Once, people could bathe in starlight and listen to snow fall. Now the quest to renew darkness and silence is growing. ∞ BY ANNE MATTHEWS



WHEN THE NORTH AMERICAN POWER GRID FALTERED LAST SUMMER, millions of people took to the streets—not to loot or protest, but to gaze, astonished, at the night sky. For a few August evenings, in eight states and a province, our postmodern population knew true darkness and real quiet. Reporters seeking tales of horror and hardship often heard about the firmament instead:

"I could see the stars very clearly, which was rare, and magical."

"Stars like you've never seen in your life. Fascinating and terrifying at the same time."

"No neon, no street-lights, no apartment lights. Peaceful."

"The whole neighborhood sat talking by candlelight, or just listened to the crickets."

"We should have power outages more often."

Perhaps it shouldn't take an international power cut to let us rediscover starlight and quiet.

Maybe such things are, in fact, social capital. A public investment. A cultural heritage. Even a civil right. Or so the advocates for a darker, stiller existence increasingly argue. Since the late 1980s, a global patchwork of individuals and organizations has strived to preserve night and quiet. Some focus on neighborhoods, others on nations; all hope to save the celestial and aural commons from unwanted intrusion, in the belief that darkness and silence are sadly endangered conditions in our increasingly crowded, noisy world. To advance these overlapping causes, fans of tranquility turn to legal face-offs and Internet lobbying, policy and poetry.

Preserving a negative, championing an absence, can be tricky and on occasion calls for serious chutzpah—like the anti-honking haiku (or "honku") some Brooklynites post on neighborhood lampposts:

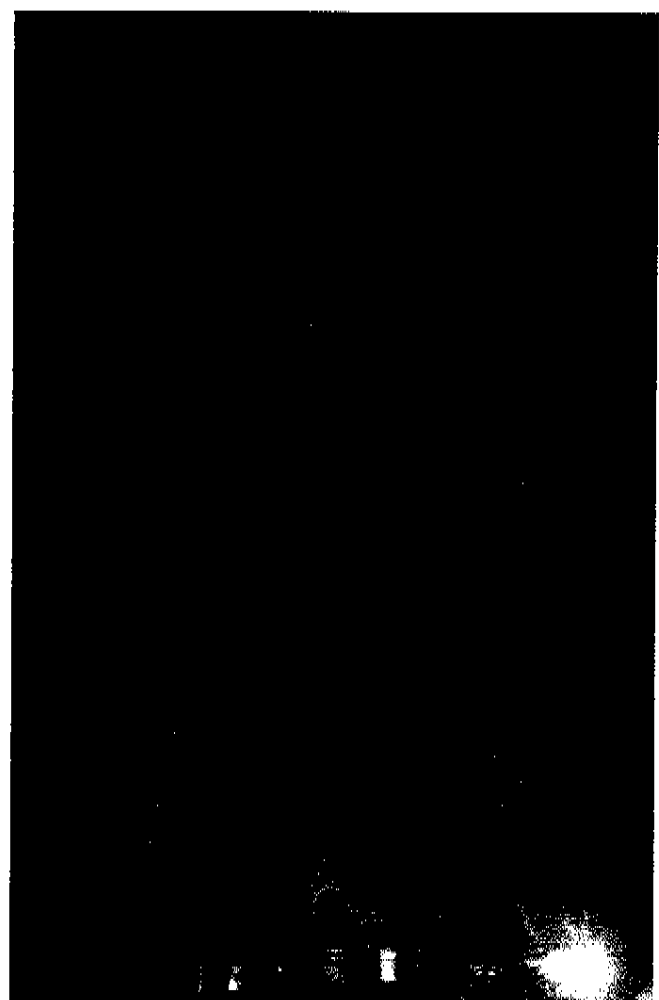
*"You from New Jersey
Honking in front of my house
In your SUV.*

*What keeps me from just
Pelting your honking auto
With rotting garbage?"*

Rebuffs in the buff work, too. One man who for years enjoyed sitting nude in his garden at night took wordless revenge when neighbors near State College, Pa., installed highest security lights. These illuminated his property as well as their own, providing excellent views of a retired mechanical draftsman tending his tomatoes while wearing only a watch and shoes. Charges of indecent exposure and disorderly conduct brought him two years' probation from a sympathetic judge and cheers from other victims of aggressive lighting.

The struggle to keep night dark and nature audible might look quixotic, even doomed, given our high-decibel, high-wattage, 24/7 ways. Since 1960, the planet's population has more than doubled. By 2020, world energy demands will rise nearly 60 percent. Does traffic noise seem worse each year? It is: The United States now has more cars than drivers. Are night skies truly getting brighter? Just 30 years ago, sky watchers remind us, dark skies existed within an hour's drive of major population centers. Today one often needs to travel 150 miles or more. Forty percent of Americans live in areas so constantly, brightly lit that their eyes never even need to adjust to night vision.

Light pollution takes three forms, says the International Dark-Sky Association, a pragmatic coalition of astronomers and lighting industry interests. Light trespass occurs when illumination crosses property lines, as the Pennsylvania gardener



With power knocked out, the stars shined brightly above Goodwood, Ontario, on Aug. 14, 2003. In the same view the following night, with power restored, the glow of Toronto 50 miles to the southwest overwhelmed starlight.

proved. Glare comes from overly bright lighting, especially along highways, and is a major cause of traffic accidents. Light spills upward from urbanized areas, causing "sky glow" and blocking our view of the stars. The Bortle Dark-Sky Scale, popular among stargazers, calls this inner-city sky, and it can be 50 times brighter than natural conditions. At the other end of the scale—after city sky, suburban/urban transition, bright suburban, suburban, rural/suburban transition, rural, typical truly dark, and excellent dark sky—starlight from the Milky Way casts shadows on the ground: prime viewing. The National Parks Conservation Association estimates that just 10 percent of the U.S. population can even see the Milky Way. Half of the young people have never seen it at all. Soon, warns the International Astronomical Union, the Earth could lose its view of the stars altogether.

Similarly, all-natural soundscapes are nearly extinct in North America and Europe, even in remote reserves, because of persistent noise pollution from helicopters, jets, ATVs, and snow-

cats. The Nature Sounds Society, affiliated with the California Library of Natural Sounds in Oakland, has documented such deterioration for decades. As curator and cofounder Paul Matzner explains on the organization's Web site, nature-sounds.org, "Recordists and others who return time after time to listen to and document previously pristine locations worldwide find that these are fast disappearing under the onslaught of technological sources of noise. . . . We must work now to preserve these places or they will soon be gone." He quotes Thoreau—"in wildness is the preservation of the world"—and then extends the idea: "So in the quietude of wilderness, we believe, is the preservation of its very essence." Society members have also conferred with Gordon Hempton, an acoustic ecologist who won an Emmy Award for his recording work on the 1992 documentary *The Vanishing Dawn Chorus*. In 1984, Hempton knew 21 places in Washington State where he could reliably record natural sound for 15 minutes straight. By 1989, there were only three.

WHY EVEN TRY TO FIGHT BACK? Protectors of darkness and silence cite four big reasons for controlling what's out there and preserving what's left.

Our wallets. The International Dark-Sky Association estimates that the United States spends at least \$2 billion a year on wasted energy, especially in street and parking lot illumination. Newer fixtures that prevent light from radiating upward shine more brightly but use smaller bulbs and improve night visibility for motorists. Cities like Chicago and Newark, Ohio, have applied these principles to historic district lighting, choosing fixtures that combine postmodern efficiency and period design. Cutting public lighting is not a safety issue, the association notes; the Department of Justice reports no correlation between levels of brightness and levels of crime.

Our health. Neurologists warn that the human brain *needs* silence and darkness. Our species, hard-wired for life in the Paleolithic, craves naps and rest breaks, but modern life does not allow enough quiet time. "We've got to rediscover silence," Richard Restak, a brain and behavior specialist at George Washington University, told *The Boston Globe*. Alan Lockwood, professor of neurology at the State University of New York at Buffalo, explained in the *Los Angeles Times* that "we live in a much, much noisier world than we were ever intended to." There used to be "the occasional saber-toothed tiger and that was about it." Overexposure to light at night upsets human diurnal cycles, produces fatigue, strains the immune system. Overexposure to noise has been linked to heart disease, headaches, high blood pressure, low birth weights. One out of 10 Americans suffers from impaired hearing. Noise may even deafen us morally as well as aurally. People enduring high levels of noise in their daily

lives, so *Harper's Magazine* reports, are less likely to assist strangers in difficulty, "less likely to recommend raises for workers, more likely to administer electric shocks to other human subjects."

Our sense of place. When the Central Park Conservancy announced plans to install bigger, stronger, snazzier lights, New Yorkers leapt to defend the old-fashioned iron filigree lamps. "What happens to people who want to walk along the park under moonlight?" one preservation advocate demanded in *The New York Times*. "Currently, the street lights are filtered through the trees, and you get a beautiful dappled effect. You get a magical quality."

In exurban Boston, a rise in commercial traffic into Hanscom Field regional airport has so enraged residents that last year the National Trust included Minute Man National Historical Park (plus nearby Bedford, Concord, Lexington, and Lincoln) among America's 11 Most Endangered Historic Places. At the designation ceremony, historian David McCullough noted, "So thunderous is the sound of the jets coming over here that the guides at this bridge often have to stop talking because their visitors can't hear." Deflection of air traffic from Hanscom would raise the likelihood of more jets bound for nearby Logan International Airport passing above such Boston landmarks as the Old North Church and the Freedom Trail.

Our cultural memory. Does light pollution equal celestial vandalism? Consider what Chet Raymo, a physics professor at Stonehill College, wrote last year in a *Boston Globe* science column: "I became familiar with the stars on the sleeping porch of my grandmother's house on Ninth Street in Chattanooga, Tenn., during the early 1940s, on sultry summer nights, with

The Defense Meteorological Satellite Program Operational Linescan System maps the locations of permanent lights on the Earth's surface. The U.S. Interstate Highway System appears as a lattice connecting brighter urban centers, while the interior of Africa remains mostly dark.



only a thin wire mesh separating me from the many mysteries of the night: heat lightning, fireflies, inky darkness. My father taught me the names of constellations, [and] no child ever had a better storybook than the ever changing page of night above our badminton court. That's all gone now. We have effaced the storybook of night with the sickly orange glow of unnecessary and poorly designed artificial light. It is the rare child today who can look up into the sky and see, as I did, the history of our species."

And a quiet world is, literally, history. "More and more now as the hum and roar and scream of engines grows and closes in, I remember the silence of my childhood and youth," wrote British novelist Lucy M. Boston in 1973. "The present generation has no conception of silence. If it could be imagined it would be the silence of death, not of abounding life. Formerly it enfolded everything. We broke into it and it closed round us again. This gave great interest to sounds when they occurred, lost now since noise is the continuum."

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THE DISENCHANTING OF NIGHT has taken two centuries, ever since gaslight first brightened the forges and wool mills of the British Midlands. Industrial lighting made 19th-century streets safer, shops and theaters more alluring. Previously, night meant both liberation (thanks to the joys of communal masquerades, parades, and bonfires) and danger (since darkness presumably encouraged mobs, robbers, spirits, and dark magic). When Benjamin Franklin proposed daylight savings time, early America was using the night in serial fashion: a "first sleep" from eight or nine until midnight, then several hours of wakefulness and socializing in the wee hours, followed by a "second sleep" until dawn.

As we steadily banish night and silence, law and culture can seem at odds. Light and noise ordinances have long been aimed at individual nuisances, not social prescription; for voters and consumers to demand darkness and quiet requires a sea change as great as the push against drunken driving or pesticides or secondhand smoke.

Some city governments now see the issue as a quality-of-life problem, and citizens are clearly grateful. In New York City, Operation Silent Night goes after chronic, disruptive noise with sound meters, vehicle checkpoints, monitoring at intersections, towing of vehicles, seizure of audio devices, summonses, and arrests. As part of its campaign for a kinder, quieter city, New York also installed a complaints hotline. More than 80 percent of the calls report noise offenses: loud bars, mammoth car stereos, mid-

night truck convoys, tap-dancing neighbors. Charleston has a special livability court to handle noise complaints. College towns from Tuscaloosa to Amherst to East Lansing have embraced anti-student-noise ordinances. Tokyo built a new freeway below ground, then placed a park on top to permit even an expressway's neighbors to enjoy *shin-shin*, the absence of sound. And one Fort Lupton, Colo., judge sentences noise scofflaws to mandatory doses of John Denver, Wayne Newton, and Henry Mancini. (Fort Lupton has very few repeat offenders.)

A host of interest groups and nonprofits rally and educate, like the Flagstaff Dark Skies Coalition and Canada's vigorous Right to Quiet Society for Soundscape Awareness and Protection. The patron of the Campaign to Protect Rural England is the queen, who would reportedly like to retire in quiet Lancashire. Forty-three countries and all 50 states observe International Noise Awareness Day each spring; the sponsor, appropriately, is the Noise Center of the League for the Hard of Hearing, in lower Manhattan. Vermont's Noise Pollution

Clearinghouse (motto: Good neighbors keep their noise to themselves) maintains a useful list of 20 Noises We Can Do Without, like car alarms, garbage trucks, Jet Skis, leaf blowers, commercial air conditioners, boom cars, and cell phones in public places. The archived headlines on its Noise in the News Web site are instructive, too: "Resident Breaks Noise Laws, Town Destroys Stereo"; "Busch Gardens Will Build Noise Walls After Residents Complain of Incessant Screaming"; "Tennessee Man Mounts Siren on Tractor to Retaliate Against Nearby Gun Club"; "Entire Kentucky Town Relocates to Escape Airport Noise."

Other progress comes light bulb by light bulb. The sky over Los Angeles is actually darker than it was 15 years ago, thanks to such light-control measures as modernized street lamps. Calgary has retrofitted nearly all its streetlights and is happy to have cut energy expenses and power plant emissions. After the New Mexico Heritage Preservation Alliance declared the night sky one of its most endangered places in 1999, the state legislature quickly passed a Night Sky Protection Act. Dark sky bills are also in force or on the table in 27 other states. A very few U.S. developers have begun to advertise dark and quiet as a plus; one new Wisconsin subdivision insists that residents observe good-neighbor lighting practices so that all can enjoy the stars.

The National Park Service fields a roving Night Sky Team, charged with measuring the quality of the night sky, then

identifying and mitigating light pollution sources; retrofitted lights at Chaco Canyon in New Mexico have improved night-sky viewing and saved 30 percent on the electric bill. The Park Service has also designated natural soundscapes as a resource to be protected and conducted noise studies at Bryce Canyon, the Grand Canyon, and Florida's Big Cypress and Biscayne. And in 2002, the Czech Republic passed a Protection of the Atmosphere Act, becoming the only country in the world with national light laws.

Night blight's most persistent foes have been astronomers, amateur and professional, since sky glow endangers work at major observatories around the world. The dark skies movement, a model of low-key, persistent, practical lobbying and public education, began in 1988 when David Crawford, then at Kitt Peak National Observatory near Tucson, and amateur astronomer Tim Hunter founded the International Dark-Sky Association. The group lobbies the lighting industry for change, promotes the cause of night around the world, and helped persuade Tucson to enact one of the toughest urban lighting codes anywhere. ("A case based on money, energy, and good-looking surroundings," as Art Upgren, an astronomer at Yale and Wesleyan, wrote, "will get you farther than one based only on astronomy when appealing for light-pollution control.")

In 2001, Flagstaff, Ariz., the home of Lowell Observatory, was declared the world's first dark sky community. Starry nights are one of northern Arizona's chief tourist attractions; to save them, Flagstaff officials replaced high-pressure sodium and mercury vapor lights with fully shielded fixtures, talked up the advantages of intelligent lighting with businesses and homeowners, and sponsored public darkness festivals to celebrate night. It seems to be working. The area's population is growing fast. Area sky glow is not.

Sometimes light-and-noise debates pit two desirable outcomes, as in rural Somerset, England, where countryside defenders and architecture preservationists have been at odds. If reopened to produce the traditional lime mortar so badly needed to restore cathedrals and stately houses, a historic lime kiln would roar 24 hours a day. A retired engineer who lives 500 yards from the proposed incinerator told the London *Guardian*, "It's just one more nail in the coffin of anyone trying to get a good night's sleep."

Also unsolved, and perhaps insoluble, is the divide between introverts and party animals. (In noise war terms, the former erects a scarecrow to keep birds out of the garden; the latter cheerfully buys a sonic cannon.) New Hampshire's 91,000-seat International Speedway lies near the village of Canterbury, perhaps the most pristine Shaker townscape in America. Residents and racing fans have battled for years over which should prevail: the historic peace of rural New England or the race-track with its rock bands, fireworks, and whopping property tax contributions.

Likewise, the out-again, in-again status of snowmobiles at Yellowstone National Park keeps nature fans and thrill-craft owners eyeball-to-eyeball. Clark Collins, director of the Idaho-based BlueRibbon Coalition (motto: Preserving our natural resources

FOR the public instead of FROM the public), is adamant: "Unfortunately, selfish anti-recreation extremists won't be satisfied until all motorized use of our backcountry areas is eliminated. What we need is more tolerance and less exaggeration." Motorcycledaily.com posted a more nuanced view. "If we really love to ride and want to protect our sport, we need to do everything we can to reduce noise well below the legal limits. We need to make friends, not enemies, and all we really get from noise is more enemies. We need to make quiet COOL, instead of nerdy. We need to harass our fellow riders with



Bright lights, big New York City, not an ideal setting for stargazers

obnoxious pipes until they do something about it. 'Cause if we don't, all we are doing is digging our own grave."

Last fall, Mars swung closer to Earth than at any time since Neanderthal days. Millions never even saw it because of sky glow and glare. Millions who yearn for night and quiet may never enjoy either to the fullest. Yet just one high school sophomore, telescope in hand, can keep the preservation agenda alive. When Jennifer Barlow of Midlothian, Va., tried to stargaze from her yard, light pollution spoiled her view. She went to her computer and organized National Dark Sky Week in 2003 and again in 2004. Towns, schools, museums, observatories, and star watchers around the country gladly signed on to celebrate the untrammelled night; the American Astronomical Society, the Astronomical League, the International Dark-Sky Association, and *Sky & Telescope* magazine are her cosponsors. "We have laws passed for the contamination of our water and air," Barlow told *Sky & Telescope*. "What about our starry skies?"

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