

You're alive during the **NOISIEST PERIOD OF HUMAN HISTORY**, and it's having powerful effects on your body, mind, and mood. Happily, you can turn down the volume.

Reclaim your **PEACE** and **QUIET**

BY FLORENCE WILLIAMS
PHOTOGRAPHS BY JAMIE CHUNG

THIS MORNING, as I often do, I walked with my dog by the Potomac River along a pretty stretch managed by the National Park Service. Both of us watched a pair of nesting mallards, and I spotted a couple of hawks circling overhead. A great blue heron flew by, all gangly and prehistoric. It could have and should have been a blissful moment of repose from D.C.'s urban frenzy. But above the hawks was a disruptive blast of low-flying commercial airplanes, interrupted only by the heart-shaking thumps of a helicopter.

Noise is defined as unwanted sound, and modern life is full of it. The world's background-noise levels are likely louder now than at any point in human history.





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unsung reasons that modern
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TO BLOCK OUT THAN
UNWANTED SIGHTS. We hear
things even when we sleep.**

More of us live in urban areas—half the population of the planet—and with us comes our worldly din. Suburbs and rural areas have hardly escaped: Traffic on U.S. roads has nearly tripled in the past 30 years, and the number of passenger planes keeps rising and is expected to increase by as much as 50 percent by 2032.

I never knew how much noise bothered me until I moved from the Rocky Mountains to D.C. several years ago. Even though my new city is filled with greenery, parks, and trails, it's hard to escape a pollutant that is both invisible and pervasive. Above my medium-density neighborhood, more than 800 aircraft fly every day to and from Reagan National Airport. I notice the airplanes the most but also the sirens, service trucks, and construction equipment, not to mention all the sounds of competitive lawn maintenance.

I often feel on edge, like it is hard to take a truly deep breath. Peace and quiet—as well as the sweet sounds of nature—can be important to achieving true relaxation. As Erling Kagge, the polar explorer and author of the forthcoming *Silence in the Age of Noise*, puts it, “Silence in itself is rich. It is exclusive and luxurious. A key to unlock new ways of thinking...a deeper form of experiencing life.” Kagge knows silence; he once spent 50 days plodding around Antarctica by himself.

Because I was interested in learning more about how my new urban environment was affecting my well-being after my move, I borrowed a portable brain wave-monitoring device for my head and started wearing it around like a crown of thorns. My kids tried to steal it because of the cool sensors. The neighborhood dog walkers cut me a wide swath. I persevered.

I wanted to see how my brain was responding to all the noise around me. So I wore the machine along the Potomac trails, but my nervous system was too busy noticing the jets. The device's software spit out an interpretation of my mental state: “This indicates that in this state you were actively processing information and, perhaps, that you should relax more often!”

That's the thing about noise. It demands high-powered

effort on our part, both to interpret it (is it a threat?) and to block it out. It's one of the great unsung reasons that modern life takes a toll on us. And it's a bigger one than most of us think. Unwanted noise is harder to block out than unwanted sights. We hear things even when we sleep.

I'VE NOTICED THAT not all my neighbors are as annoyed as I am.

“I don't even notice the planes,” says Lauri Menditto, who has lived here for 20 years. Another neighbor, Nick Keenan, has a theory: There are two kinds of people—those who become increasingly sensitive to noise and those who learn to tolerate it. Some people download apps that play sounds that connote nostalgia, like train horns. It's hard to imagine anyone would actually want to listen to low-flying jets, however.

It turns out Nick is partly right. Many of us can become habituated to noise, at least somewhat. But there is a hard-core minority, about 20 percent of people, who will remain irritated by loud, common sounds. We are more sensitive to stimuli. And some of us are so annoyed that we go to extremes. Consider the case of 82-year-old Pennsylvanian Frank Parduski Sr., who reportedly ran out to confront an offending motorcyclist, only to

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CASE STUDY:
SANTA MONICA, CA

**Create Your
Own Data**

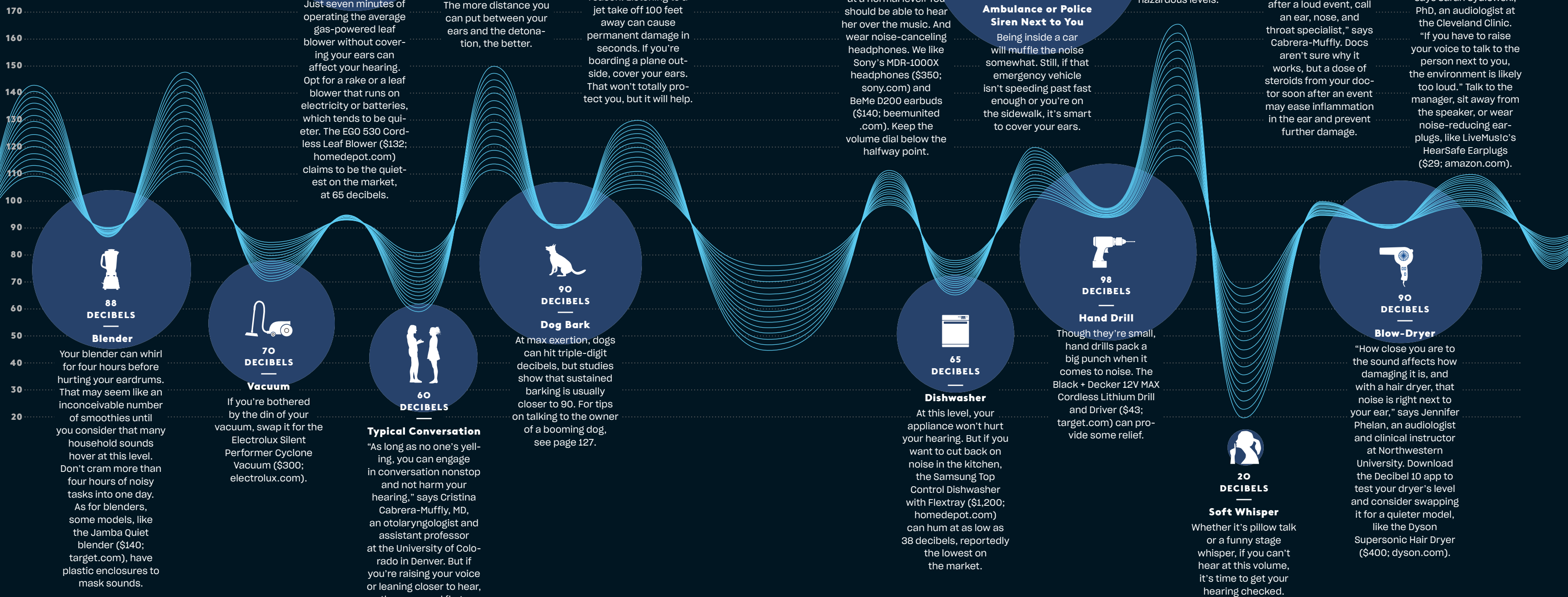
In 2010, John Fairweather and his wife were so fed up with the Santa Monica Airport that they were considering a move. For a long time, residents tolerated the airport, which was mostly used by hobby pilots, but then it became a popular stop for jets and helicopters. So Fairweather, who owns a software company that he runs out of his home, started dig-

ging. Believing that knowledge is power, he rallied volunteers to count planes, log tail numbers, and measure decibels. “We needed to create a more informed debate so something could be done,” he says. He handed his findings to the city council, which took up the issue and later settled with the Federal Aviation Administration to allow for the closure of the airport after 2028.

Know your NOISE

Sounds don't have to be deafening to cause harm—especially if you're subjecting yourself to the **SOUNDS OF A HAIR DRYER, A LEAF BLOWER, AND A ZUMBA CLASS ALL IN THE SAME MORNING.** Here's how to protect your ears and your sanity.

BY KATE ROCKWOOD



95 DECIBELS

Leaf Blower
Just seven minutes of operating the average gas-powered leaf blower without covering your ears can affect your hearing. Opt for a rake or a leaf blower that runs on electricity or batteries, which tends to be quieter. The EGO 530 Cordless Leaf Blower (\$132; homedepot.com) claims to be the quietest on the market, at 65 decibels.



150 DECIBELS

Fireworks

Fireworks are loud enough to affect your hearing with just one *kaboom* from a few feet away. Grab your earplugs and head for the farthest lawn seats at the next display. The more distance you can put between your ears and the detonation, the better.



130 DECIBELS

Airplane Takeoff

Runway workers wear ear protection for a reason. Listening to a jet take off 100 feet away can cause permanent damage in seconds. If you're boarding a plane outside, cover your ears. That won't totally protect you, but it will help.



110 DECIBELS

Personal Music Player

You can listen to most headphones at top volume for only about eight minutes before it affects your hearing. Ask a friend to talk at a normal level: You should be able to hear her over the music. And wear noise-canceling headphones. We like Sony's MDR-1000X headphones (\$350; sony.com) and BeMe D200 earbuds (\$140; beemunitd.com). Keep the volume dial below the halfway point.



165 DECIBELS

12-Gauge Shotgun

A shotgun blast at close range can cause permanent damage after a single fire, which is why so many sport shooters wear noise-canceling earmuffs. Howard Leight's Impact Sport Electronic Earmuffs (\$43; homedepot.com) block out sounds at hazardous levels.



100 DECIBELS

Sporting Event

"If you have ringing or buzzing in your ears after a loud event, call an ear, nose, and throat specialist," says Cabrera-Muffly. Docs aren't sure why it works, but a dose of steroids from your doctor soon after an event may ease inflammation in the ear and prevent further damage.



110 DECIBELS

Fitness Class

"It's ironic that we go to the gym to get healthy but may be damaging our ears," says Sarah Sydlowski, PhD, an audiologist at the Cleveland Clinic. "If you have to raise your voice to talk to the person next to you, the environment is likely too loud." Talk to the manager, sit away from the speaker, or wear noise-reducing earplugs, like LiveMuslc's HearSafe Earplugs (\$29; amazon.com).



88 DECIBELS

Blender

Your blender can whirl for four hours before hurting your eardrums. That may seem like an inconceivable number of smoothies until you consider that many household sounds hover at this level. Don't cram more than four hours of noisy tasks into one day. As for blenders, some models, like the Jamba Quiet blender (\$140; target.com), have plastic enclosures to mask sounds.



70 DECIBELS

Vacuum

If you're bothered by the din of your vacuum, swap it for the Electrolux Silent Performer Cyclone Vacuum (\$300; electrolux.com).



60 DECIBELS

Typical Conversation

"As long as no one's yelling, you can engage in conversation nonstop and not harm your hearing," says Cristina Cabrera-Muffly, MD, an otolaryngologist and assistant professor at the University of Colorado in Denver. But if you're raising your voice or leaning closer to hear, those are red flags that you should take your talk elsewhere.



90 DECIBELS

Dog Bark

At max exertion, dogs can hit triple-digit decibels, but studies show that sustained barking is usually closer to 90. For tips on talking to the owner of a booming dog, see page 127.



65 DECIBELS

Dishwasher

At this level, your appliance won't hurt your hearing. But if you want to cut back on noise in the kitchen, the Samsung Top Control Dishwasher with Flextray (\$1,200; homedepot.com) can hum at as low as 38 decibels, reportedly the lowest on the market.



98 DECIBELS

Hand Drill

Though they're small, hand drills pack a big punch when it comes to noise. The Black + Decker 12V MAX Cordless Lithium Drill and Driver (\$43; target.com) can provide some relief.



90 DECIBELS

Blow-Dryer

"How close you are to the sound affects how damaging it is, and with a hair dryer, that noise is right next to your ear," says Jennifer Phelan, an audiologist and clinical instructor at Northwestern University. Download the Decibel 10 app to test your dryer's level and consider swapping it for a quieter model, like the Dyson Supersonic Hair Dryer (\$400; dyson.com).



20 DECIBELS

Soft Whisper

Whether it's pillow talk or a funny stage whisper, if you can't hear at this volume, it's time to get your hearing checked.

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be run over. *New Scientist* magazine called the poor fellow “the world’s first anti-noise martyr.”

Ted Rueter is another of The Annoyed. Rueter, who suffers from noise-related headaches and fatigue, once boldly bought a neighbor an outdoor sweeper, a quieter alternative to a leaf blower. He delivered the gift with brownies. But his neighbor returned the offerings, and the near-daily gas-powered lawn care continued unabated. When Rueter left the University of California, Los Angeles, where he taught political science, he decided to take up the cause. Now he runs Noise Free America, a North Carolina-based coalition of dozens of citizen groups working to strengthen regulations and enforcement around the nation.

“Noise definitely wears me out,” he says. “I think a lot of people are of the belief that noise is a nuisance we have to live with rather than a significant health problem.” It can be a hard battle to wage, he says, because it’s a pollutant you don’t see. Nor do you see the damage, as you would smog or a dirt-clogged river.

I feel Rueter’s pain. These days the suburbs, especially if they’re leafy, can be just as loud as urban areas. Leaf blowers, along with lawn mowers, circular saws, surveillance helicopters, and the omnipotent planes, regularly impinge on my home-office shed, which has a roof about as thick as a sardine tin. Leaf blowers, I learned, can spin screamingly fast—up to about 8,000 rpm. Their high, whining pitch is particularly grating, falling somewhere between a baby with colic and a table saw approaching your cranium.

HEARING DEVELOPS before vision in the womb. It is our dominant sense when it comes to sudden threats. It tells us something is out there and from which direction it’s coming, triggering our strongest startle reaction. In fact, mammalian ears can be incredibly sensitive. When Carl Linnaeus was deciding what to call our class of animals in 1735, he had a few unique characteristics to name us after, including our mammary glands and our fine inner ear structure. Clearly he was a boob guy.

Our three delicate ear bones, our eardrums, and our pinnae—the hairs that deliver vibrating molecules into the brain, where they are processed as “sound”—may have evolved in early mammals in part to help them locate insects for food. This may be why human ears today are especially tuned to high-pitched sounds like mosquitoes and, yes, leaf blowers.



One in two millennials shows early signs of hearing loss, mostly from excessively loud music in their headphones. HEARING IS ONE OF OUR GREAT SUPERPOWERS, AND YET WE ARE CAVALIERLY GIVING IT UP.

Health experts have long been concerned about noise because of its threat to hearing. Loud noises, whether at chronic levels over time or in sudden bursts, damage the pinnae, leading to permanent hearing loss. Across the U.S., a quarter of adults ages 20 to 69 show signs of noise-induced hearing impairment, and a recent study in Ireland found that one in two millennials shows early signs of hearing loss, mostly from excessively loud music in their headphones. Hearing is one of our great superpowers, and yet we are cavalierly giving it up.

Sound is measured in decibels (dB), and the scale increases logarithmically, so that 65 dB is 10 times as loud as 55 dB and 100 times as loud as 45 dB. Sixty decibels is high enough to drown out normal speech, and anything over 85 dB (such as busy city traffic) can damage hearing over time. The airplane noise in my neighborhood logs in at about 55 dB in an average 24-hour period, but individual planes can spike much louder, sometimes at 5:30 in the morning. This significantly exceeds the World Health Organization’s recommended limit of 40 dB at night to prevent sleep disturbance.

If you think noise doesn’t bug you, research suggests you may be fooling yourself. Studies show that even when people sleep through loud noises, their nervous systems are still responding as if preparing to wake and run if need be. This takes a toll.

“What we’re learning from quite a lot of studies is hearing loss may be just the tip of the iceberg,” says public health expert Richard Neitzel, associate professor of environmental health sciences at the University of Michigan in Ann Arbor. “As more research comes out, we see associations with heart attacks and high blood pressure, and guess what: That’s what kills Americans most. We are ignoring this at our peril. Noise is not just a nuisance to be accepted as a by-product of modern life. It can be just as bad for us as other pollutants we’ve been regulating, like ozone and particulate air pollution.”

Sound gets delivered to deep parts of our brain that are connected to the centers for fear and arousal. With

enough rumbles and roars, our nervous systems can become stressed-out over time, says Neitzel. This is why people living in noisier neighborhoods have up to a 17 percent higher risk of cardiovascular diseases, including stroke and hypertension. Old and young people seem to be especially at risk. Scientists have also found associations between increasing noise levels and the release of stress hormones.

Alarming, more than 20 studies have shown that noise pollution can affect children’s learning outcomes and cognitive performance. Some children in the Netherlands and the United Kingdom whose schools sit under flight paths or near busy airports show poorer reading comprehension and memory than children at quieter schools, even after adjusting for income and parental education. In fact, for every five-decibel aircraft noise increase, the reading scores dropped by the equivalent of a one- or two-month delay.

ALL OF WHICH leads to the question, What is a city or suburb dweller to do? It turns out, people have been asking this question for a long time. Many of the loudest city sounds come from vehicles, which was true even before the dawn of cars and trucks. Ancient Rome was said to have banned chariots at night. The Found-



**CASE STUDY:
NEWTON, MA**

Chat Up Your Neighbors

Karen Lane Bray thought she was alone in her loathing of the gas-powered leaf blowers in Newton, Massachusetts. Then she read a newspaper op-ed by a woman who was starting a group to push for a ban. Bray, who eventually took over the whole effort, set out to talk to as many Newtonians as possible. “The best way to make change with your neighbors is to

develop relationships with them,” she says. She canvassed outside the supermarket and library wearing a sign that said ASK ME ABOUT CHANGING LEAF BLOWER LAWS. Soon she had hundreds of people to call on for support at city hall hearings. In January, the city banned gas leaf blowers between Memorial Day and Labor Day and required all blowers to be 65 decibels or quieter all year.



Peer pressure helps. In Muir Woods in Northern California, the National Park Service simply PUT UP SIGNS DESIGNATING A QUIET ZONE AROUND THE BIGGEST, MOST MAJESTIC TREES. And people listened.

ing Fathers in Philadelphia had the cobblestone streets covered with dirt lest their important work be disturbed.

In 1907, Manhattan socialite Julia Barnett Rice founded the Society for the Suppression of Unnecessary Noise. Its main campaign was focused on tugboats, which blew their horns more than 1,000 times a day. Mark Twain was an early supporter. Unlike the airport activists in my neighborhood, Rice was successful: Congress passed legislation restricting horn blowing.

But then came the wider use of the automobile, and city noise was to grow and not stop. Soon the car cacophony was joined by sirens, jackhammers, skill saws, leaf blowers, airplanes, helicopters, and subways.

Today Guangzhou, China, is the loudest city in the world, followed by Delhi, Cairo, and Mumbai, according to research compiled by the World Health Organization and Mimi, a hearing-technology company. The quietest cities all lie within Europe: Zurich, then Vienna, Oslo, Munich, and Stockholm. That's because the European Union takes noise seriously, both funding research into health effects and regulating industrial equipment to protect workers from hearing loss. Germany even discourages lawn mowing on Sundays. (Though between runway expansions and an increasing number of flights, the airports in Europe are still a source of irritation for many residents.)

Thanks to the federal deregulation movement in the 1980s, the United States follows a much more local—and often lax—approach to sound regulation. This is why, says Rueter, it's so important for citizens to speak up and defend their right to relative peace. A number of communities, including Los Angeles and other cities in California, have successfully lobbied to ban gas-powered leaf blowers. What has replaced them? Battery-powered ones, which are improving in power and are several orders of magnitude quieter.

Airport noise here, as in Europe, is harder to tackle. Santa Monica, California, is scheduled to close its airport after 2028. The posh resort town of East Hampton, New York, logged more than 30,000 noise complaints against

its airport in 2015. But when the town tried to impose nighttime curfews on flights, a federal appeals court ruled that the town had to obtain Federal Aviation Administration approval first. East Hampton lost its bid to go to the Supreme Court in June, but local officials plan to keep working on the noise issue.

THAT WON'T BE happening in my hometown anytime soon. After reading the European health studies, I installed a decibel meter app on my phone. To my children's amusement, I now sometimes run around, phone outstretched, measuring the noise levels in and out of the house. Distressingly, they are similar to levels associated with hypertension and learning delays. Apart from moving, there are some steps we can take. I now often wear noise-canceling headphones while working at home. I tell my teenagers, frequently, to turn down their music and protect their ears. But, being teenagers, they tend to wave me off. In this they are not unlike most Americans when it comes to auditory concerns.

Perhaps we have ignored noise pollution for so long because we are visual creatures, suggests Colorado State University postdoctoral researcher Rachel Buxton, PhD. She's been studying the detrimental effects of noise on



**CASE STUDY:
ELKHART, IN**

**Meet with
Your Mayor**

Bradley Vite, an art dealer and real estate broker who suffers from tinnitus and heightened noise sensitivity, spent two-plus decades lobbying for antinoise laws in Elkhart, Indiana—until, in 2008, the city agreed to designate a noise enforcement police officer, whose sole job will be to issue \$250 to \$2,500 citations for nuisances like excessively loud cars. Over the

years, Vite sent letters to council members and state senators, but he says meeting with the mayor proved most effective. "He's like the CEO," he says. "If the mayor is supportive and has a good relationship with the council, that's the first step." Bring your city leader articles like this one to reference issues and stats; noisefree.org has printable guides. And be persistent, says Vite: "I had to go through three mayors before I finally got a noise enforcement officer."



the mating and feeding patterns of wildlife, including birds. She's also been mapping and modeling sound throughout the nation. Despite the problems she sees and the steady growth of noise over time, she's optimistic: "We have the technology and methods to manage noise pollution." She points to recent innovations like "quiet pavement" that muffles traffic noise, quieter home and yard machines, and strategies to consolidate aircraft noise over roads. Peer pressure helps, too. In Muir Woods in Northern California, the National Park Service simply put up signs designating a quiet zone around the biggest, most majestic trees. "And people listened," she said. "No pun intended."

Neitzel from the University of Michigan thinks we may have reached Peak Noise. Soon, he hopes, we will read the studies, come to our senses, and start enforcing reasonable limits to find peace once again.

In the meantime, I will keep searching for peace on my own. On a recent short vacation in Maine, I woke up very early and headed down to a small, hill-rimmed lake. I clamped down the EEG cap and slid into a kayak. Paddling through a foot of soft mist resting on the water's surface, I headed across, toward a generous expanse of the White Mountain National Forest on the far shore. I couldn't see my blade, but I could hear its drips, as well as the birds of morning along the shadowed woods. A few jets flew overhead, but they seemed very far away. I filled my lungs with the moist air and the sun and the birdsong, and I gently floated the boat along.

Once I returned and uploaded the data, I got this message: "Even with your eyes open... you enter a relaxed state very easily."

Finally I had tricked the machine into thinking I was some sort of bodhisattva. For a few moments on a quiet lake, I was.

How to ask for SILENCE

Not all loud situations can be solved with a mute button. REAL SIMPLE'S ETIQUETTE EXPERT has suggestions for navigating other people's noise with grace.

BY CATHERINE NEWMAN

Everyday noises set me off. I can't stand to be around people who click their pens or crack their knuckles. Don't even get me started on loud chewers or constant sniffers. I always want to ask them to stop, but because other people aren't bothered, I feel like I'm the weird one. Is it unfair to ask this?

Misophonia—meaning "hatred of sound"—is a condition in which certain noises trigger extreme agitation. It's not an officially recognized diagnosis, and it's a fairly new field of research, but just knowing you're not "weird" or alone might help. Your fellow sufferers have generated lots of coping strategies. Always carrying headphones is one. Music, podcasts, or white noise can provide respite. But you'll need a different plan for social situations and work meetings. A friend of mine who suffers around eating noises puts on music during dinner and sits by the speaker—and I much prefer this solution to not enjoying his company at all. Which raises a different point: How you handle incidents will depend on the nature of your relationships. You don't want to tell a client that the clicking of his pen makes you fantasize about snatching it and shoving it in your ear, but you could say to a close friend, "I'm so sorry. You know how undone I am by tiny sounds! Can I get you a rubber ball to squeeze? The pen clicking is kind of killing me."

I work in an office with an open floor plan, so I often hear what my coworkers are doing. Most of it is just background noise now, but one coworker talks on the phone constantly. He calls his wife in the middle of the day and talks with clients when he could email them. Sometimes his calls are conducted in his second language (nothing to do with our business), which gets very distracting. What can I say to make him put the phone down?

I often do my writing work in a café because I find the ambient noise pleasantly focusing. But there's another patron who often sits next to me and jiggles his leg up and down, which makes his stool rock on the floor, which distracts and irritates me. But I am at a public place that I could choose to leave. You are at work, where you have to be. I would take one of two approaches. The first: Speak directly with your coworker. Say, "I'm so sorry to be a pain, but my attention span seems to be shrinking, and I find myself super distracted by your conversations. Would you be willing to take your personal calls outside?" The second: Talk to a manager. Without naming names, explain that you're distracted by an abundance of personal calls and ask if there's a policy that could be articulated more forcefully. While you're at it, you might check whether there's a quieter part of the office you could move to or whether your employer might be willing to invest in a pair of noise-canceling headphones. Short of that, there are always earplugs, which you can try wearing conspicuously, poking right out of your head, to offer visual representation of your plight.

I plan to throw a party in my backyard that could get loud, between the 30 relatives and friends, the kids in the pool, and the music from our speakers. What's the best way to keep the peace in the neighborhood? Do I have to invite my neighbors as a courtesy, or can I just give them a warning about the party?

Considerate neighbors are a treasure, and you are one—your potentially cacophonous party notwithstanding. You care, and that matters. Sure, it would be extra neighborly to extend an invitation, but it's not necessary. Giving a heads-up is thoughtful enough. Do this in person. Be solicitous ("I want to apologize in advance!") and appreciative ("Thank you so much for understanding!"). If you can, offer a back-end limit. Then, when they hear "Marco! Polo!" and a thumping bass, your neighbors will remember that you cared enough to warn them. They'll be more likely to extend you the benefit of the doubt than to seethe (or call the police).

My neighbor's dog barks constantly. He barks at the wind. He barks at my kids when they're in our backyard. He can even see when I'm in my kitchen, and he barks at me through the window. It's not only loud but also frightening. How do you recommend I confront my neighbor?

Oof. You are in the belly of the beast, problem-wise. Start in good faith by approaching your neighbor in a peaceable, brainstorming mode. After all, this is not a leaf blower we're talking about (though it blows). It's a pet he doubtless loves. "Can we please problem-solve about your dog's barking? We're kind of at our wit's end, and I'm sure it's driving you crazy, too." Maybe you will even burst into tears during this conversation because you are so tired from being up all night fantasizing about duct-taping the dog's muzzle, and maybe that won't be the worst thing. Come ready to offer ideas: getting the dog professionally trained, keeping the dog away from the windows, chipping in on a fence or some shrubs to separate your properties, crating the dog at night. Then try to get your neighbor to articulate a next step so your concern won't just evaporate into the din. If the owner is unresponsive or hostile, though, you may have to pursue an escalated course of action—the kind that doesn't maintain neighborliness so well—such as looking into municipal laws. Just be mindful about what you set in motion. If you like your neighbor and he's forced to give up his pet, the conscience-stabbing silence may prove worse than the barking.

I was in a restaurant, and a woman at the next table was playing Candy Crush on her phone. I politely told her that the noise from the game was really loud and asked if she could turn it down. She did turn it down but retaliated by telling my companion and me that our conversation was too loud and was annoying her. Should I have done anything differently?

It's totally unacceptable to play a loud video game in a restaurant. After all, earbuds exist for just such occasions! Not including the occasion of a face-to-face conversation, which they can't help with. It's fine that you said something, and it's good that you were polite about it. The Candy Crusher was petty and aggrieved afterward? So be it. Maybe she was embarrassed about her behavior, or maybe she's a jerk. Regardless, there was nothing to do but pipe down a notch and let it go.