



TRUE NATURE

BY JULIE ZICKEFOOSE

A Solution to Window Strikes Thinking About *Thinking*

THUNK! It happens every day, sometimes three or four times a day during fall migration. I freeze, sifting the information coming into my ears and brain. Which window was it? How big a bird was it? How hard did it hit? Will it die? Depending on the quality of the sound, I can decipher all these bits of information; I can pretty well tell whether it was a cardinal or a mourning dove, a goldfinch or a hummingbird. I can tell, based on the volume and tonal quality of the *thunk*, whether I will find a few floating feathers, a dazed bird, or a carcass in the shrubbery beneath the window. I don't want to know these things, but I do. Our house, as much as we love it, is lethal to birds, and I have had entirely too much practice at this.

Atop our house, we've built a tower that stands 42 feet tall, expressly for watching birds. It's got

four huge plate-glass windows, one to a side; it's practically all glass. Despite what you'd expect, birds almost never hit those windows. Because the tower room is so well lit, the windows don't reflect the sky; they appear perfectly clear. So a bird flying toward the tower windows, hoping to pass through them, quickly perceives that it is about to fly into an enclosed space, and birds don't like to do that.

My studio sits two floors directly below the tower. The lethal windows are the four along the north side of the house on the studio level below the tower. There's a fifth deadly window looking out of our foyer. Because I work in natural light, and rarely turn on the overhead tract lighting, the cavernous studio interior is much darker than the outside world. The windows' north-facing orientation lends the

Top: A golden-crowned kinglet stunned after a slight window strike. Middle: Feather dust from a mourning dove's hard impact. Bottom: A fall Cape May warbler.

studio a constant light that's wonderful to work by, but it also ensures that they reflect the sky from dawn to dusk.

I've noticed that window strikes peak on overcast winter days, which is practically the only kind of winter day we have in the Mid-Ohio Valley.

When I go outside to assess the victim, I make a point of glancing at the window it hit, and it's usually reflecting a perfect image of the sky and trees in our yard. No wonder the birds hit the glass; they think it's sky.

When we planned the tower and studio construction, we anticipated window strikes, and learned upon researching the problem that windows set at an angle so that they reflect the ground instead of the sky have greatly reduced strikes. Our contractor was willing to give it a try, but the manufacturer informed him that, although we were free to try it, doing so would void the warranty for the windows. Three had already proved defective and had to be replaced; trying anything fancy with their orientation would have meant we'd have to replace them out of pocket.

So we moved to Plan B, which was to affix preventative devices to the outside of the windows, hoping



JULIE ZICKEFOOSE (3)

to warn the birds of their presence. Silhouettes stuck to the windows to break up the reflection of apparent sky had little effect on strikes. I put one up recently that came free in the mail as a bonus gift, touted as the solution to window strikes because it incorporates ultraviolet-activated designs that birds could perceive. That same afternoon, a rosette of mourning dove breast feathers appeared two inches to the right of the new decal.

For three winters, we used FeatherGuards, an ingenious product invented by *BWD* subscriber Stiles Thomas. FeatherGuards are simple but effective—a strand of monofilament strung with colored poultry feathers, with a suction cup on either end. We were gratified to find window strikes slowing to almost nothing soon after installing the guards, which we placed at one-foot intervals along the bank of windows. On smaller windows in fairly sheltered locations, FeatherGuards may well be the most effective solution. We live on one of the highest ridgetops in Washington County, however. Days without wind are almost unheard of, and gusts of 40 to 50 mph are commonplace. It wasn't long before the ferocious winter winds ripped the guards from our windows, tangling them together in a hopeless knot. We eventually tired of hauling out the ladder and reapplying new FeatherGuards

after each wind event. The winds on our ridgetop were just too much for them.

A manufacturer sent us a protective screen to try, claiming that it was the only real solution to window strikes. I had to concede that a nylon screen barrier over the window would work to stop window strikes cold. But when we hung it in front of the studio window, the fine black window screening—the same kind used to stop insects—dimmed the clean north light I need for my work, stopped my photography, and made observation more difficult. We had to find a solution we could live with.

On a fall day when migration was at its peak, I had picked up a dead ovenbird and a young yellow-bellied sapsucker in rapid succession. I hadn't gotten to know the ovenbird, but I had treasured that sapsucker, watching him slowly destroying the gray birches just outside the studio window. I came inside, distraught, and decided to try hanging Mylar windsocks over the windows. I searched online and ordered the biggest, most ostentatious windsocks I could find. Two days, a 12-foot ladder, lots of scary teetering, and \$70 later, a rainbow-colored assortment of windsocks, trailing three feet of finely cut Mylar fringe, fluttered and swung against the windows. They were pretty tacky, but I was past caring about that, and had high hopes that they'd work. And then out of the

stormy skies came Windy, leaning down to capture a moment and wad up and destroy \$70 worth of windsocks while she was at it.

With great interest, I read ornithologist David Sibley's blog, detailing his experiments with fluorescent highlighter pens. He drew patterns on the inside of his studio windows that would presumably be visible to birds, which are known to be sensitive to ultraviolet light—*Thunk!* As I write, a male scarlet tanager in fall



This fall adult male scarlet tanager hit the window while the author was sitting nearby. The red on his bill is berry juice. He recovered and flew away.

plumage hits the studio window. The tanager flies to a nearby birch, his bill agape, eyes open and bright, and sits as if wondering about the suddenly solid sky for about 40 seconds before flying off. He'll probably make it. Where was I?

Oh, yes—fluorescent high-

lighters. Although he had high hopes, the results of Sibley's experiments were equivocal. Of course, I scrounged yellow and orange highlighters and scribbled all over the inside of one of my windows, but I didn't notice a big difference in the collisions relative to the other two. More data are needed. And more birds die in the meantime.

By the spring of 2008, I was heartily weary of hearing *thunks*. When my beloved red-bellied woodpeck-

er friend Ruby killed herself against the window on May 23, I gritted my teeth and decided to end the killing once and for all.

I turned to Walter Dean, who worked on the original crew that built our studio and tower, and who freelances in what little spare time

JULIE ZICKEFOOSE

he has. His colleague, Bob Kidder, had proven himself capable of doing just about anything. Bob and Walter put their heads together and came up with a screen that stopped the collisions cold. Mounted on brackets about 10 inches from the window surface and stretched taut on its lightweight PVC frame, the soft, fine-gauge nylon crop netting gently bounces birds off before they have a chance to hit the window. The 10-inch buffer space between netting and windows allows us to crank the louvered windows open for ventilation. Almost best of all, the netting is unobtrusive, does not perceptibly cut light, and almost completely disappears in binocular or camera views. Once the white PVC pipe frame was painted dark gray to match the house trim, the screens simply faded away.

I take a great number of photographs through my studio windows, and I am happy to say that I can still get perfectly acceptable images of my feeder and bath visitors with a 300mm telephoto lens. The better the light outside, the better the images. On dull days, I find I have to open the aperture up a click or two to compensate for an overall darkening of the image thanks to the fine black screen. Nowhere in my photos is the screen perceptible, however.

In two months of observations, we have had no collisions or entanglements. It is vital to stretch the screen as taut as possible, to prevent

possible entanglements. My observations of birds flying toward the windows indicate that they see the netting and turn away before ever striking it. I have witnessed one bounce-off—an American goldfinch that bounced and continued flying away, unhurt. Compared with the number of birds striking the windows before—as many as six a day—the lack of collisions strongly argues that the screen provides a visual clue and prevents the birds from ever heading into the windows in the first place.

I can't express how satisfying it is, after years of cringing at the *thunks!* and dreading what I'd find, to know that no more birds will meet their deaths on my studio windows. I wish now that I had kept count of the casualties—the ones I found dead, that escaped the scavenging chipmunks and the midnight raccoon and opossum cleaning crew; the ones I picked up and tried to revive; the ones that scabbled in their brown paper hospitals to fly shakily back to the woods when released. I don't have to count any more. For Ruby the red-bellied woodpecker, for her mate and young; for the sapsuckers and oven-birds and Swainson's thrushes and goldfinches, I apologize for taking so long to figure it all out. These windows will kill no more. 🐦

Writer and nature artist Julie Zickefoose blogs daily at www.juliezickefoose.com/blog.

How to Screen Your Windows



The author's full screen installed on the problem windows. This setup allows full natural light to enter the windows, but safely bounces incoming birds.

MATERIALS:

- PVC pipe, 1-inch diameter, cut to length; and four PVC elbow joints for the corners. Our window bank is large enough to require two additional lengths of PVC and four T-joints to support it in the middle (see photo).
- Netting—we use Ross Tree Netting, diamond weave, fine-gauge, which comes in a 14' x 14' piece that was large enough to fit our expanse of windows.
- Drywall screws, ½" or ¾"—purchase enough to stud the perimeter of your frame

- at 12" intervals, to secure the corners and T-joints, to affix brackets to PVC frame, and to affix brackets to the outside window frame.
- Shelving brackets at least 8" long. Get four or more, depending on the size of your window. We used 10" brackets to allow enough clearance to crank our windows open in summer, and to allow a safety setback should a large bird hit the screen and bow it toward the window glass.
- Spray enamel, matched to the color of your window frame.

FRAME: Measure the area of the windows to be covered, and plan for a few extra inches on all sides so the frame will be out of your view from inside the house. Cut 1-inch PVC pipe to length and join at corners using PVC elbows and/or T joints. Use a ½" or ¾" drywall screw, driven through elbow and pipe, to secure the joints. At this point, you can use enamel spray paint to match the frame to your house color. Wiping the PVC pipe down with paint thinner might make the paint adhere a little better.

NETTING: For the least visually obtrusive screen, purchase the thinnest crop netting you can find. We used a 14 x 14' package of Ross Tree Netting, a fine, diamond-shaped, flexible netting designed to be draped over plants. Square-aperture netting also made by Ross is less flexible and more obtrusive to the view. (Ross Easy Gardener Products, Inc. P. O. Box 21025, Waco, TX 76702-1025)

STRETCHING THE NETTING: Use an electric drill to run ½" drywall screws around the outside perimeter of the PVC pipe every 12 inches or so, leaving the screw head protruding ¼". This gives you something over which you can hook the crop netting, and enables you to stretch it taut. Bob first tried lashing the netting to the frame with monofilament line, but hooking the netting over screw heads produced a tighter screen. A tight screen

is desirable; baggy netting is unsightly, and risks entanglement of birds that collide with it.

As you unfold the screen from its package, find the factory edge (the clean, straight one) and begin hooking it over the screws along one side of your frame. You will find as you work that the screen stretches in only one direction—away from the factory edge. Once it's hooked along that side, pull the screen across the frame and hook it over the



Hook the netting over the screw heads on the frame, stretching the netting taut.

screws on the opposite edge. Then attach the netting to the remaining two sides of the frame. You'll need to work on an unobstructed flat surface to accomplish this.

MOUNTING THE FRAME: Our windows are framed in 1 x 4" wood lathe, which made it easy to mount the shelving brackets that support the frame. Bob used drywall screws to affix the brackets to the window frame. Vinyl sided houses may require screwing the brackets into the siding. If attaching



Affix the frame to the exterior of your house. The author's wooden window frames made installation easy.

the frame to vinyl siding, you will need to put a bead of silicone down the back of the shelving bracket where the screws are going through, so as not to allow water into the siding. Be careful not to overtighten the brackets, which could crush the siding.

Mount the top two shelving brackets first, hang the frame from them, then pull a tape measure down the same distance from the inside edge of your frame tubing. Note that when you mount the bottom brackets they are mounted upside down. The lightweight brackets we used can simply be bent around the PVC frame. Then a screw can be run into the pre-drilled hole at the tip of the bracket and into the frame to secure the bracket to the frame. For most windows you won't need more than four brackets total. Bob screwed the PVC frame into the brackets, three on the top and two on the bottom for this 11' expanse of glass.

SUMMARY: Our screen will stay up year-round. It remains to be seen how long the net-

ting material will last. Its northern exposure should help protect it from UV and extremes of heat. No matter how hard the wind blows, the window screen keeps doing its job. The brackets hold the screen approximately 10" off the window glass, allowing us to crank our louvered windows out for ventilation. Setting the screen 10" from the window glass also allows plenty of "bounce room" should a large bird like a hawk or dove hit the netting.

The materials to build a bird screen are inexpensive; the time and labor to stretch the netting and mount the screen are the major expenses. All told, Bob logged 16 hours in measuring windows, and constructing and mounting the screens for our four oversized windows. The silence we now enjoy is priceless.

My thanks to Bob Kidder and Walter Dean for bringing my vague ideas to effective reality. And thanks to Ruby the red-bellied woodpecker for moving us to safeguard our home from window collisions.—J.Z.



JULIE ZICKFOOSE (3)