

Smithsonian's bird-friendly brew allows coffee lovers to support wildlife with every sip.

FOR THE Birds (AND THE Beasts)

BY LISA DUCHENE

In the deep dark of the rainforests of Tapachula, Mexico, the Mexican harvest mouse—weighing about the same as two U.S. quarters—scampers across the forest floor.



MEGHAN MURPHY/NZP

Cedar waxwings can be found locally and in more tropical regions. This wild bird was photographed at the Zoo.

On coffee farms carved from the rainforest and growing below its canopy, many of these mice have found themselves caught in humane traps set by Smithsonian Migratory Bird Center (SMBC) scientist S. Amanda Caudill and her team in early 2014.

The team tags, identifies, and measures each captured creature, meticulously recording its data. Then the animals are released to again roam and forage among the coffee plants. In this way—one mammal at a time—Caudill studies the abundance and diversity of small mammals on three kinds of coffee farms in Mexico. She's compared data from coffee farms that grow

their beans in full sun to those certified under the Smithsonian's Bird Friendly program, and those growing in some shade but not certified as Bird Friendly.

Initial results show a greater richness of mammal species at the certified Bird Friendly sites, says Caudill.

“The general trend does seem to indicate that bird-friendly can also be mammal-friendly,” says Caudill.

For two decades, scientists have argued that coffee farms with good shade are great habitat for many species of resident and migratory birds. From the birds' point of view, the shaded coffee farms that can be certified as Smithsonian Bird Friendly are the next-best habitat to the rainforest.

But the benefits may reach beyond birds. Caudill's work suggests that the biodiversity benefits of certified shade coffee farms extend to small mammals, insects, and bats. Her findings bolster the scientific evidence behind the Smithsonian's Bird Friendly Coffee eco-label, which requires that certified organic coffee farms also meet a strict definition of shade-grown.

Over the program's 14-year history, the label has brought 5 to 30 cents more per pound for Bird Friendly growers, in addition to any premium they receive for being organic (often another 5 to 40 cents per pound). That's a significant increase over the \$1.50 to \$2.75 per pound typically received by conventional coffee growers in the specialty coffee market. Worldwide, there are about 5,000 hectares of certified Bird Friendly coffee farms producing 7 million pounds of coffee a year.





Field assistant Stephen Brennen holds a naked-eared deer mouse—one of many species of small mammals studied by Caudill’s research team in Mexico—while field assistant Caitlin Campbell watches. The abundance of small mammals may offer clues to the overall ability of coffee farms to support biodiversity.

S. AMANDA CAUDILL/NZP

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One challenge to growth is that less than one-third of consumers are even conscious of social and environmental issues, and fewer than 5 percent of consumers purchase accordingly.

Yet, that amount is still less than one percent of global coffee production. It is hardly enough to effect the meaningful change SMBC once envisioned. Translating science-based standards into market-based conservation and social solutions is a tall order in any industry—and has proven especially daunting in the coffee world.

Still, SMBC is determined to grow demand for its certified Bird Friendly coffee. Its plan involves Whole Foods, bird-watchers, and you.

Beyond the Bean

Sixty-one percent of Americans are daily coffee-drinkers, according to the National Coffee Association (NCA). In fact, the U.S. is the world's largest coffee market, representing 15-20 percent of world consumption. More than one-third of American adults drink gourmet coffee daily, according to the NCA.

We coffee drinkers are rather particular. Most of us like our coffee exactly how we like it, thank you very much, yet we probably have not thought much about coffee-farming methods. (Myself included, before writing this story.)

But the daily grind we coffee-drinkers know and love has tremendous ecological and social implications.

Journalist Mark Pendergrast, in his book *Uncommon Grounds: The History of Coffee and How It Transformed Our World*, chronicled coffee's growth and boom-and-bust cycles, and in particular the impact of coffee prices on the 125 million people in developing countries who rely on it for a livelihood. They often make about \$1-3 a day to grow something sold to Americans for \$1-3 a cup.

The stimulating properties of coffee were first discovered in a shrub growing below the rainforest canopy of Ethiopia, according to Pendergrast's book. By 1750, the coffee plant—a shrub or small tree—grew on five continents. Coffee's range now encircles the tropics of the globe. After oil, it is the second most valuable exported legal commodity in the world.

A Vision to Preserve Habitat

Smithsonian's entry into coffee's complex history began with Russ Greenberg, an ornithologist who co-authored a 1989 landmark study on migratory bird decline that led Congress to fund the creation of SMBC. He was its first director when it opened in 1991, and led the organization until his death in November 2013.

"Russ was one of the first scientists to recognize that some crops could be grown in ways that minimize the negative effect of agriculture on native ecosystems," says a letter signed by 60 researchers and academics, nominating Greenberg for the American Orni-

the coffee landscape from shade- to sun-grown coffee.

Push to Sun

The coffee tree evolved as an understory plant. Throughout much of its history—both wild and in agriculture—coffee has grown in shade. In the 1970s, with the advent of new plant varieties and modern farming techniques, coffee began to also be grown in full sun. Latin American coffee growers, driven by fears of a debilitating disease known as coffee leaf rust, began to switch to varieties that can be grown in full sun. Researchers and trade groups pushed growers to make the change to sun-grown



ABOVE: The National Zoo sells Bird Friendly coffee at the Mane Grill and Panda Overlook Cafe.

FACING PAGE: The Smithsonian Migratory Bird Center works with coffee farmers to manage their growing practices in a way that supports birds and other wildlife.

thologists' Union's Elliott Coues Award in 2013, which he won. "Around that simple but profound concept, Russ invented the idea of promoting shade-grown coffee as a bird-friendly product."

The 1989 study showed most neotropical migrant bird species—birds that breed in North American forests and winter in Central and South American tropical rainforests—had declined after a period of stable or increasing populations. It estimated the decline began between 1978 and 1980.

The culprit: deforestation, both in the birds' North American breeding grounds and their winter habitats. One of several deforestation drivers was an intensification of coffee growing, and a change in

coffee. The U.S. Agency for International Development provided \$80 million to address coffee leaf rust, including transitioning to full-sun operations.

"The idea was to get rid of the shade so there would be less moisture, and it really got people in the coffee world on the path to intensification and the use of agrochemicals," says Robert Rice, director of SMBC's Bird Friendly Coffee Program. "Coffee was kind of late coming to the green revolution, with high-yielding varieties and the use of pesticides and fertilizers."

By 1990, almost half of the coffee production in northern Latin America had been converted to monoculture operations growing in full sun.

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Understanding the Coffee Ecosystem

In the '90s, studies began to show the biodiversity benefits of traditional, shade-grown coffee. It was becoming clear that these farms were a great runner-up to the native rainforest habitat—particularly for neotropical migratory bird species.

Such “shade-grown” coffee farms typically cleared the understory of the forest for coffee shrubs, and preserved a modified natural forest canopy of about 40 tree species. The many species of trees and multiple vegetative layers offered places to live and nest for animals from insects, spiders, and crustaceans to amphibians, birds, and more.

Rice, who has studied coffee farming for more than 20 years, joined SMBC in 1995 at Greenberg’s suggestion. They immediately planned the first sustainable coffee congress, a gathering of 270 people from 19 countries to talk about coffee and environmental sustainability and research.

Degrees of Shade

As any gardener will tell you, there are degrees of shade—light, dappled, dark. The details of shade are important because of what happened after the coffee congress: Bird images started showing up on the packaging of shade-grown coffee. In other words, marketers ran with the message that coffee grown in shade was automatically bird-friendly, even as scientists were working to define the kind of shade that actually supported birds and biodiversity.

“That brought an environmental dimension to coffee,” says Rice. “I thought it was great. But there also needs to be a certification. There’s shade and there’s shade: a certain canopy height, certain species of trees. All of that together creates good habitat, and it’s all based on field work.”

The SMBC Bird Friendly standards are defined by birds’ needs. The farm must be certified organic, with a main canopy height of at least 12 meters, and a foliage cover of 40 percent, made up of at least 11 species of trees. The primary species must be native to the area and must keep its leaves at certain times of the year when the birds most need the cover. Third-party certification agencies, all accredited by the U.S. Department

of Agriculture, inspect and certify the farms, and monitor paperwork tracing the beans from farm to shelf. In numerous papers and media reports, SMBC’s Bird Friendly standards are considered the “gold standard” of coffee certifications.

Competing for Your Cup

Smithsonian’s Bird Friendly is but one of many coffee certifications that promise to help growers, the environment, or both. There are enough labels to both baffle consumers and raise the profile of these issues.

The marketing of Bird Friendly coffee has hardly been aggressive. Historically, says Rice, people find out about the coffee and contact SMBC to get it. The center’s scientists are, after all, scientists—not marketers.

“Our challenge is to work on increasing demand,” says Rice. To that end, the center has added some key partners and enlisted a consultant for help with marketing.

Whole Foods stores nationwide are either stocking the certified coffee—look for the “Early Bird” blend—or have pledged to order it for customers upon request. Fred Meyer grocery stores in the Northwest carry it, and in the D.C. region, you’ll find it at MOM’s Organic Market. Look for the SMBC’s Bird Friendly seal.

You can also find a list of Bird Friendly coffee roasters online: fonz.org/coffee.

And if you don’t find it wherever you buy coffee, Rice hopes you’ll ask for it.

“It has to come from the consumers,” says Rice. “One of the more important parts of the puzzle is consumers demanding it.”

There is no other label that specifically addresses bird habitat, says Rice. “We’re trying to get birding organizations to endorse and support the Bird Friendly label exclusively as the one and only best certification for shade and for birds.”

Beyond the Bird-Watchers

One challenge to growth is that less than one-third of consumers are even conscious of social and environmental issues, and fewer than 5 percent of consumers purchase accordingly. But a dynamic working in SMBC’s favor is that the market for specialty coffee is growing. Certified

FACING PAGE, CLOCKWISE FROM TOP RIGHT: Many birds migrate through coffee-growing regions, including black-and-white warblers (top right), magnolia warblers (second-to-top), cedar waxwings (second-to-bottom), and hooded warblers (bottom). By banding individual birds, scientists learn more about their migratory habits that may influence coffee growing practices (top left and second-to-top left).

coffee—at 8 percent of all coffee imported into the U.S. in 2006—is a growth sector.

From a consumer perspective, while doing something good matters—so do taste, convenience, and price. Since I hit the bottom of a bag and now know more about what my daily pot has to do with the birds that breed in the forests near my Pennsylvania home, I looked up Golden Valley Farms Coffee Roasters in West Chester, Pennsylvania, and found nine flavors of SMBC-certified Bird Friendly coffee. I called the company for advice on a rich, dark, punch-you-in-the-nose roast.

Coffee bushes grown in a natural setting and not put under stress produce wonderfully flavorful coffees, says John Sacharok, the owner of Golden Valley Farms. My bag of Dark Roast Amazon Forest supports his claim. It arrived in the mail a couple of days after ordering, and is rich and flavorful (and I am a bit of a coffee snob).

“It’s good,” agrees Laurie Goodrich, senior biologist at Hawk Mountain Sanctuary in Kempton, Pennsylvania, who has been drinking Bird Friendly coffee from a different roaster—Birds & Beans—out of Massachusetts. Goodrich is a daily coffee drinker who considers herself moderately fussy. The Bird Friendly coffee tastes less harsh than conventional coffees, says Goodrich, with a flavor that represents what she believes is the true taste of coffee.

“I think all bird-watchers should be drinking it,” says Goodrich. “It may be a little more expensive, but you can feel good about it and preserving habitat for migrant birds.”

That’s precisely the support Rice is counting on to boost demand for the coffee, and provide the incentive for coffee farms to become places rich in species of birds, trees, insects, and mammals like the tiny Mexican harvest mouse. **SZ**

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