



THE BURDEN OF BRUNSWICK

Haunted by decades of industrial pollution, a coastal community in Georgia has partnered with Rollins researchers in hopes of shedding light on the toxic substances hidden in their midst.

By **Russell McLendon** • Illustration by **Lucy Rose Cartwright**
Portrait Photography by **Audra Melton**

Anita Collins is angry. Throughout her hometown of Brunswick—a historic port city nestled among salt marshes on the Georgia coast—friends and neighbors are struggling with cancer, kidney disease, autoimmune conditions, and other serious health problems.

Collins, like many in Brunswick, suspects these are more than just isolated illnesses. She's worried they're signs of a deeper danger plaguing her city—and she's mad so little has been done. "It is painful. I am angry, and for so long nobody's really given a darn," says Collins.

Brunswick is blessed with natural beauty and resources yet cursed by the toxic legacy of industrial sites congregated around the city over the past century. While these facilities often provide high-paying jobs, some have released staggering amounts of long-lasting pollutants into the environment for years or decades.

Despite ongoing efforts to remediate environmental damage at some sites, too little attention has been paid to the human consequences, says Kavanaugh Chandler, MD, a physician and CEO of Coastal Community Health in Brunswick, a federally qualified health center.

“We can never forget to make sure that the focal points in all of this are the communities that live within this,” Chandler says. “The communities that are perhaps experiencing some level of trauma, whether it's directly or indirectly associated with this.”

To that end, researchers from the Rollins School of Public Health—at the invitation of the community—launched a project last year to examine how Brunswick’s pollution affects residents. Rather than swooping in to gather data and leaving, researchers have worked with affected communities as partners, teaming with Brunswick-

based organizations such as Coastal Community Health, the Environmental Justice Advisory Board, the Urbana/Perry Park Neighborhood Planning Assembly, One Hundred Miles, the Glynn Environmental Coalition, Eco-Action, and the Coastal Equity and Resilience Hub.

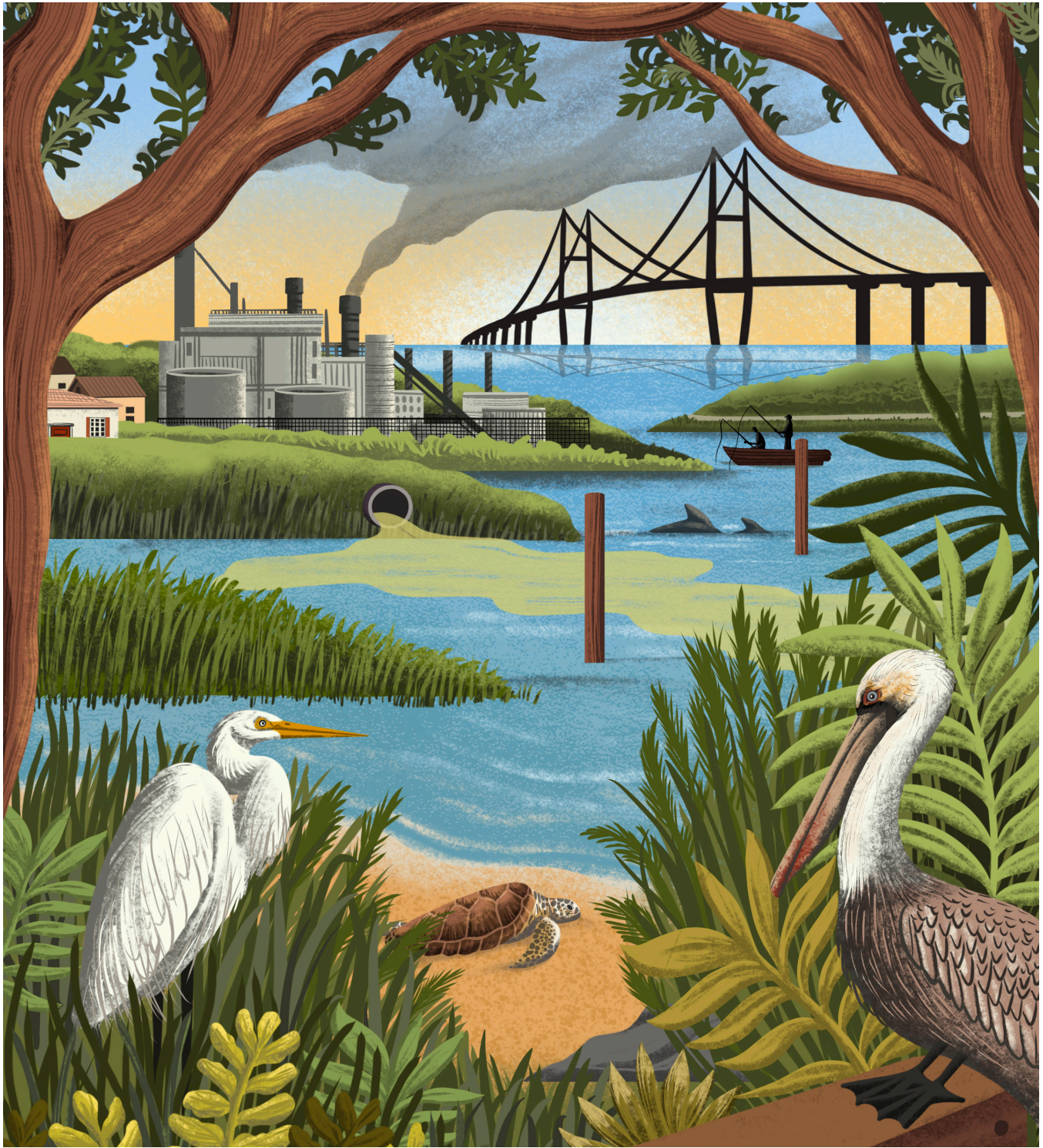
“They had people come into Brunswick previously and do research, but they never found out what the results were,” says Dana Barr, PhD, professor of environmental health and a member of the research team. “People would come in, take some samples, and they never followed up with the community. So I think [the community] was quite distrustful at first.”

TOXIC RELATIONSHIPS

Brunswick is the county seat of Glynn County, which has 14 sites on Georgia’s statewide Hazardous Sites Inventory, including four federally managed sites on the Superfund National Priorities List—more than any other Georgia city.

These four include the LCP Chemicals Superfund site, where an oil refinery, power plant, and chloralkali facility took turns releasing multiple hazards—namely polychlorinated biphenyls (PCBs), polycyclic aromatic





hydrocarbons, mercury, and lead—into the surrounding area between 1919 and 1994.

There's also the Hercules 009 Landfill Superfund site, where Hercules Inc. spent three decades dumping waste in a 7-acre landfill, including sludge contaminated with toxaphene, a durable insecticide the U.S. Environmental Protection Agency (EPA) classifies as a probable human carcinogen. Tests have found toxaphene levels up to 15,000 parts per million at the site, according to the EPA,

and lower levels in the front yards of some nearby homes.

The same company is also responsible for the Terry Creek Dredge Spoil Areas/Hercules Outfall Superfund site, where it discharged more toxaphene-laden sludge into a salt marsh tidal creek ecosystem, adjacent to a residential neighborhood and near an elementary school.

Glynn County also has several other, less notorious sites still teeming with contaminants, including arsenic, benzene, cadmium, dioxin, lead, mercury, and toluene. The chemical

company Pinova recently committed to shutting down a 110-year-old factory in Brunswick—the former Hercules plant—due to damage from a 2023 fire.

Industries are likely drawn to Glynn County partly for its geography, Barr says, including port access as well as creeks and marshes for discharging wastewater. But there's another factor that may help explain the way factories have clustered there: Polluting industries in the United States are infamous for gravitating toward communities of color and lower-income areas.

“There is a lot of wealth in the county, especially along the coast,” says Melanie Pearson, PhD, a research team member and community engagement expert. “Brunswick, however, where these industrial facilities exist, is much more under-resourced, has less economic opportunity, and is predominantly a community of color within the city limits. While we can't say for sure why the facilities are located where they are, we can say there is definitely a disparity in the surrounding community in terms of who's exposed.”

While much of this toxic burden dates back decades, the county is still experiencing new pollution today, points out Allen Booker, who grew up in Brunswick and now serves as Glynn County Commissioner for District 5.

“You have to have people with ethics all up and down the chain with these companies,” says Booker, also a representative of the Environmental Justice Advisory Board. “And that hasn't always been the case.” At the same time, government agencies have a duty to rein in polluters, he adds. “We pay them as taxpayers to make sure these companies operate the way they're supposed to. But that isn't always done.”

The private and public sectors have both failed the people of Brunswick, Booker says, allowing chronic desecration of their environment with substances few people would choose to live near.

“If your family lived here, that is the standard they should be regulating these companies by,” he says.

WISDOM LISTENS

People in Brunswick have worried about pollution for a long time yet felt ignored. They've drawn more attention in recent years, though, as community leaders built relationships with the University of Georgia Marine Extension Service, which eventually brought in other academic partners—including Rollins researchers hoping to collaborate on new projects.

“They wanted community input. So I suggested we do a health fair, but a different kind of health fair,” Booker says. “Instead of just passing out a bunch of information,



MELANIE PEARSON, PHD, ASSOCIATE PROFESSOR OF ENVIRONMENTAL HEALTH, RESEARCH TEAM MEMBER, AND COMMUNITY ENGAGEMENT EXPERT



NOAH SCOVRONICK, MELANIE PEARSON, AND JOSIAH (JAZZ) WATTS CATCH UP AT THE SOUTHEASTERN REGION ENVIRONMENTAL JUSTICE SUMMIT IN ATLANTA.



NOAH SCOVRONICK, PHD, ASSISTANT PROFESSOR OF ENVIRONMENTAL HEALTH



we do it in increments and where the information is explained to people, but also where the researchers are able to get feedback from the community residents.”

In their proposal for the project, Barr and principal investigator Noah Scovronick, PhD, assistant professor of environmental health, were deliberately noncommittal. “They wrote it with a lot of flexibility, saying, ‘We are proposing to respond to the concerns in this community,’” Pearson says. “The project was funded with that flexibility. So then Noah was able to go back to the community and say, ‘OK, now we have this funding, what would *you* like to do with it? What are *your* concerns?’”

While the researchers had considered studying local threats from climate change, the message from the health fair and other conversations with residents was clear, Scovronick says.

“They told us what it was like to live and grow up and work there, not knowing whether it was affecting their health,” he says. “Once they found out we have the capability to look at whether these chemicals from the hazardous sites were getting into people’s bodies, which is one of Dana’s areas of expertise, they invited us to do the study. So we gave them options of what we were able to do, and they asked us to do this human exposure study.”

RESULTS AND REACTIONS

The researchers took blood samples from 100 people, all residents of Brunswick for at least 40 years, and tested for several contaminants.

Preliminary results suggest a substantial number of participants do have higher-than-normal blood levels of toxaphene and certain PCBs, chemicals now banned in the U.S. and considered probable human carcinogens.

“We haven’t done any environmental pathway samples, so we don’t know necessarily where they’re getting the exposure,” Barr says. “But we do know certain PCBs are pretty prevalent in everybody in the U.S., primarily from consumption of meat and dairy. And those particular PCBs were not elevated in this population. They were similar to the U.S. population.”

Instead, participants showed high levels of a specific PCB mixture, found in a product known as Aroclor 1268, that—like toxaphene — was once produced in Glynn County.

“The fact that these PCBs were specific to this one Aroclor used there probably suggests their exposure is something unique to their environment,” says Barr.

“You cannot ignore what the data has shown,” Brunswick resident Anita Collins says. “I just want more people to see the significance of environmental damage that has been heaped upon this community for so many

years. We cannot be silent about it, and we should not be silent about it. And yeah, we should be angry about it as well. Even though [these companies] put food on the table and paid the house note, people are still suffering, and many don't know why.”

The Rollins project is one small pilot study, the researchers point out, and they're still finalizing the results for publication. The team is committed to continuing to work in Brunswick and has applied for funding to hopefully expand the effort “quite substantially,” Scovronick says.

Many in Brunswick appreciate the research team's transparency and inclusivity, Collins says. Community members have played key roles in guiding the project, and many join the researchers for a weekly video conference.

“The researchers have been very receptive and very real,” she says. “And what I mean by that is just very attuned to the fact that, without the community being aware and involved, you really didn't do the research that you intended to do. And therefore, fortunately, there's been good feedback as well as more engagement, more people who want to participate in a future study, if that materializes.”

The team has proposed several new investigations, including an exposure health study to look for any prevalent health outcomes in Brunswick that might be related to exposures. Other ideas include examining the toxicity of specific pollutants and studying how increased flooding in Glynn County might affect its many toxic waste sites.

If the project does expand, researchers will continue to shape it jointly with their partners in Brunswick. “They're very engaged. They are co-leads of this effort,” Pearson says. “We decide everything together as a coalition of partners.”

Partnering is key to the project's success, Chandler adds.

“I'm very grateful for Rollins' involvement. We want to make sure this research doesn't forget the individuals,” he says. “All of the resources, all of the effort has to be led with the mindset of putting people first.” ■



DANA BARR, PHD, PROFESSOR OF ENVIRONMENTAL HEALTH AND A MEMBER OF THE RESEARCH TEAM



SCOVRONICK PRESENTS PRELIMINARY STUDY RESULTS TO THE BRUNSWICK COMMUNITY IN SEPTEMBER 2023.



ROLLINS RESEARCHERS AT AN IN-PERSON MEETING IN SUMMER 2023 WITH THEIR COMMUNITY PARTNERS.