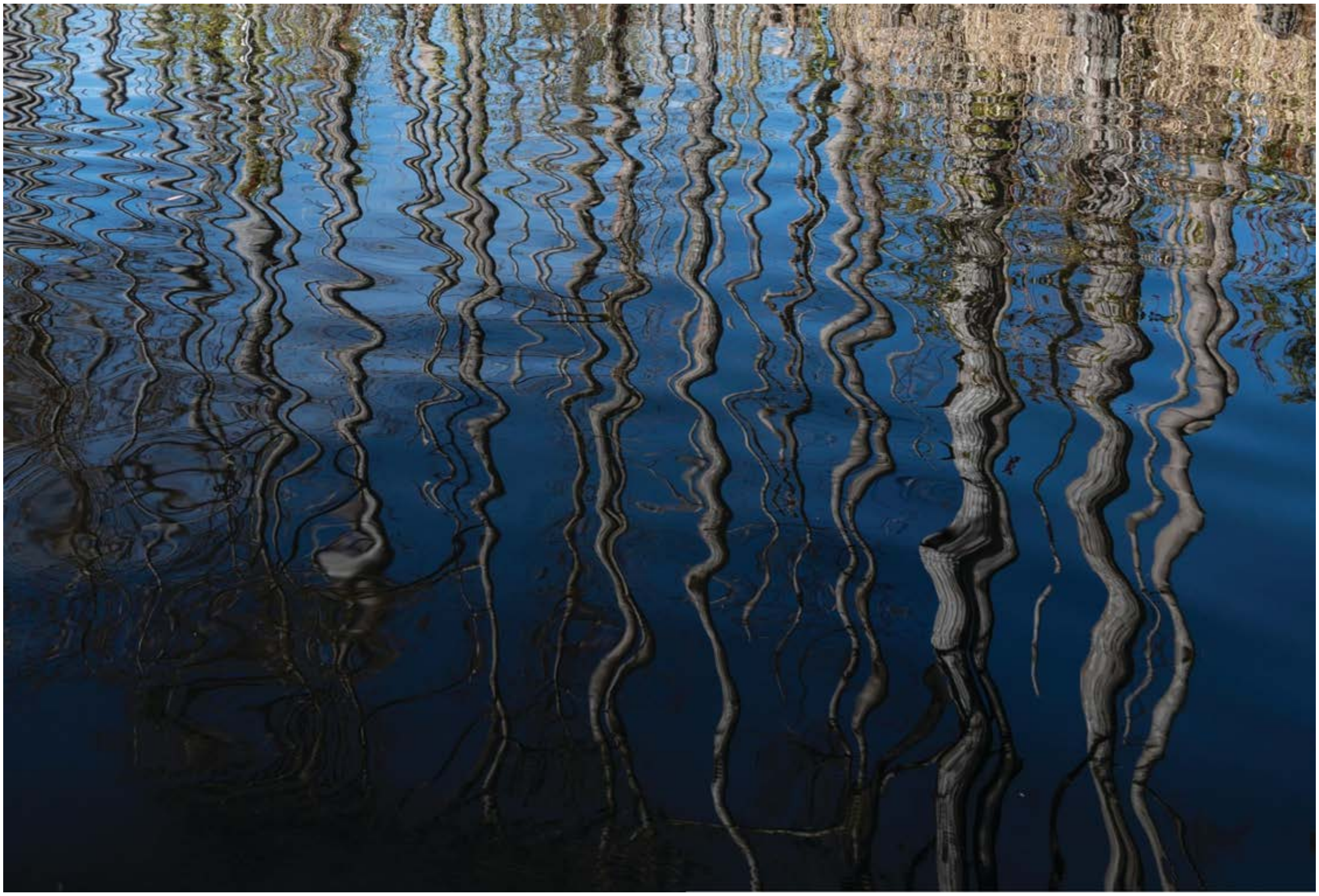
Still Waters Run Deep Will mining threaten the Okefenokee?

Rachel Garbus



Photography by Virginie Drujon-Kippelen »

MURKY WATER

AN ALABAMA COMPANY IS TRYING TO BUILD A MINERAL MINE JUST OUTSIDE ONE OF GEORGIA'S MOST MAJESTIC NATURAL SPACES, THE OKEFENOKEE SWAMP. BUT CRITICS WORRY: HOW CLOSE IS TOO CLOSE?

J. D. Corbett knows the ghosts he left behind in the swamp are still out there. It's been years now, but he feels them when he paddles through, drifting under the Spanish moss, between the knobby knees of the cypress trees. He first stumbled into the swamp as a young man, broken by the Vietnam War and buckling under the weight of marriage and fatherhood. Boating one day on the Suwannee River, he came across a series of gates covering a spillway. One was unlocked, so he slipped through, following the spillway until it opened, suddenly, onto something marvelous and strange: Corbett had found the Okefenokee.

He built himself a lean-to on an island, which became his refuge. “I’d stay there for a week at a time,” he told me. “Just clear my mind.” Eventually, in the heavy, peaceful silence, he wrestled free of the war that had followed him home. “The swamp is where I lost it all,” he said. “It just has that healing power.”

The largest blackwater swamp in North America, the Okefenokee stretches nearly 700 square miles across the southeastern corner of Georgia. Its immense scale—the swamp is bigger than all the boroughs of New York City combined—can only really be appreciated from the sky; from deep within its watery channels, it feels unmeasurable by the old reliable tools of space or time. It is a liminal space, where the land is not quite land and the water more than water. For thousands of years, the Okefenokee enchanted Native communities, who hunted game on its strange floating islands and harvested plants around its hinterlands. Later, it bedeviled white settlers, who fought like hell to master it, drain it, cut it down. That today the Okefenokee largely retains its precolonial ecology is a testament to its own stubborn intransigence: This is not a land ripe for the taking.

Even so, people have never stopped coveting its treasures. The swamp itself is a federal wildlife preserve now, protected from industry. But the ancient barrier island that protects its eastern flank, the remnant of a time when the oceans were much higher, is full of lucrative minerals. Easily visible on a topographical map, Trail Ridge is a narrow ribbon running about 100 miles from Southeast Georgia to North Florida. “Picture the lip of a bowl—that’s how Trail Ridge holds in the Okefenokee,” said Michael Lusk, manager of the Okefenokee National Wildlife Refuge. Run its sandy soil through your fingers and you’ll see small flecks of black rock filter through: titanium dioxide and other heavy minerals, laid down by wave after wave of receding sea. You can find titanium dioxide—a whitening agent used in toothpaste, paint, and plastics—all over the world, but it’s most concentrated in barrier islands. The Florida length of Trail Ridge has been mined extensively since the 1940s, but with deposits depleted there, the industry is hungry for new land—and what some think of as “the best mineral sand deposits known in Georgia,” said Rhett Jackson, a hydrologist at the University of Georgia.

Now, a company out of Alabama has gotten closer to approval—and closer to the Okefenokee—than any bidder before. The fight over the proposed Twin Pines Minerals titanium dioxide mine, which would operate less than three miles from the swamp, has engulfed the surrounding communities, spurring debate about the balance between economic development and environmental protection. The mine could bring much-needed jobs and tax revenue to Charlton County, but experts say it would almost certainly cause damage to the swamp and nearby St. Marys River, threatening the abundant plants and wildlife that survive there.

“IF YOU’VE BEEN THERE, YOU’VE SEEN IT. YOU KNOW WHAT WE MEAN WHEN WE SAY THIS IS A SACRED SPACE.”

It’s not the first time industry has threatened the Okefenokee. In the 1990s, the chemicals giant DuPont tried to build a similar titanium mine along Trail Ridge. The environmental campaign against it caught the world’s attention when U.S. Interior Secretary Bruce Babbitt visited the

Okefenokee and condemned the proposed mine. “Titanium is a common mineral,” Babbitt said in April 1997, “while the Okefenokee is a very uncommon swamp.” Caught in a public relations nightmare, DuPont withdrew its application and eventually donated the 16,000 acres it had purchased to the Conservation Fund. But a plan never materialized for the rest of Trail Ridge, said Sara Aicher, formerly the lead biologist for the Okefenokee National Wildlife Refuge: “It was kind of a ticking time bomb.”

When the botanist William Bartram visited the Okefenokee in the 1770s, the Creek people he met there told him of an island deep within the swamp—“the most blissful spot on earth”—where lived a reclusive tribe of Native Americans, sheltered in a terrestrial paradise that was impossible to find. Creek hunters had sought it out (its women were said to be incomparably beautiful), but to no avail: They had “never been able again to find that enchanting spot.”

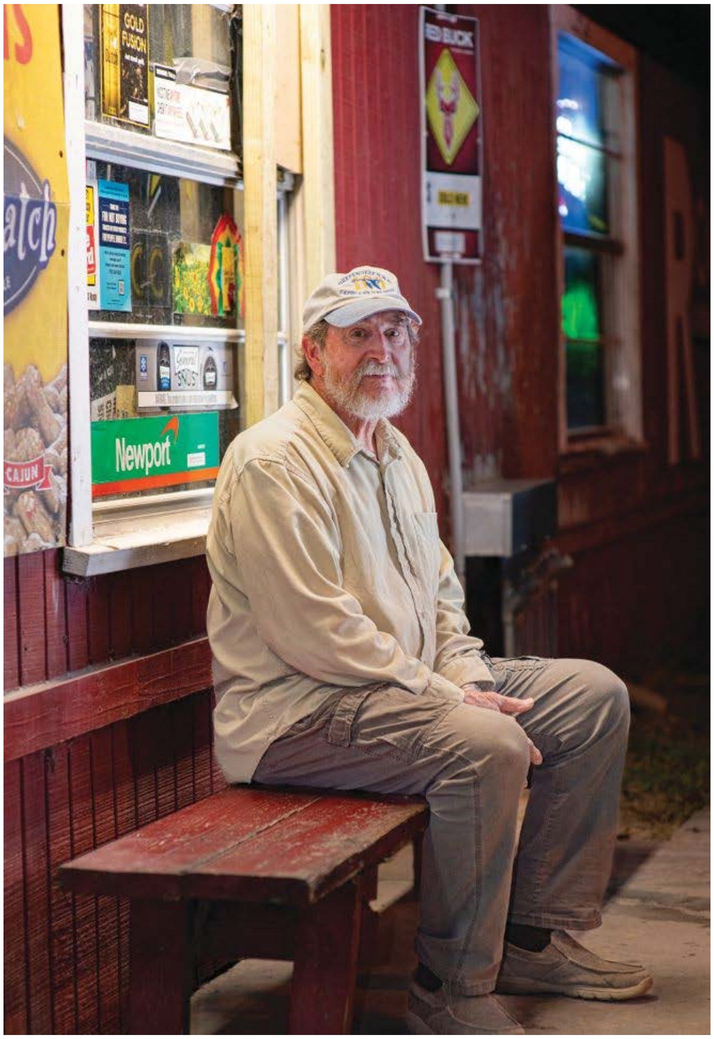
Indigenous communities have lived in and around the Okefenokee for thousands of years. Several burial mounds, still visible today, have been dated between 500 and 1000 CE. “It’s an important part of our history,” said Turner Hunt, preservation manager for the Muscogee (Creek) Nation. The swamp’s Muscogee name comes from words that describe the swamp’s “shaking water,” caused by methane bubbles from the underwater peat, and its “trembling earth,” the floating pieces of land, known as hammocks, formed by rising peat. “If you’ve been there, you’ve seen it,” said Hunt. “You know what we mean when we say this is a sacred space.”

Though the swamp is part of the Muscogee (Creek) ancestral homelands, most descendants have never seen it. In the 1820s and ’30s, Georgia’s white government forcibly removed nearly the entire Native population from the state; those who survived settled mostly in Oklahoma, where the Nation is now headquartered. “Today, there are no federally recognized tribes in the state of Georgia,” Hunt told me. In the wake of that forced removal, other Americans made the swamp their home. Enslaved people escaping nearby rice plantations often sheltered in the swamp, and Confederate deserters did the same during the Civil War. Throughout the 19th century, white working-class families carved out homesteads on the islands of the Okefenokee, raising children and building loose communities of “swampers,” as they still call themselves today.

Many swamper families arrived from nearby counties. Some were fleeing the law: Sheila Carter and Judy Drury’s great-great-grandfather ended up in the Okefenokee after he was accused of a crime in another county, although no one’s sure whether it was murder or hog stealing. “Or his sisters may have sued him when their daddy died,” Drury told me over sodas at a campground near the swamp, where the three of us talked. “I hadn’t heard that one,” Carter noted mildly.

The sisters are descendants of two swamper families, the Roddenberrys and the Chessers. Their mother was one of the last Chesser children born on Billy’s Island inside the swamp. “Our granddad was a timber cruiser for Mr. Hebard,” Carter said. During the heyday of the Hebard Cypress Company, Billy’s Island was a bustling town with a school and a movie theater, but when the company pulled out in 1927, most of the families moved to communities surrounding the swamp. Carter and Drury grew up in nearby Folkston, in a large family that returned to the swamp frequently to fish. “Daddy would take two or three of us at a time,” Drury said. “He was fishing for shiners, and they don’t care how much noise you make.”

The Hebard Cypress Company began timbering the Okefenokee's west side in 1909, felling up to 60 percent of the swamp's pine and cypress before the Great Depression cratered the timber industry. At President Franklin D. Roosevelt's direction, the U.S. Fish & Wildlife Service purchased the land, and workers from the Civilian Conservation Corps cleared out the detritus, transforming the swamp into a wildlife refuge that opened in 1937. While the cypress trees will take hundreds of years to return to their former sizes, much of the slash and longleaf pine are on their way to recovery, and the swamp's ecology is otherwise in remarkably good shape, uncorrupted by invasive plants or polluted water. "These are all the species that would have been here when European colonists got here," explained Lusk, the Refuge manager. "That's amazing—where else can you really see something like that on this scale?"



A Vietnam War veteran, J. D. Corbett found peace in the sw... »

The Okefenokee, a rare headwater swamp—it feeds both the St. Marys and the Suwannee Rivers—is home to thousands of species, including the threatened eastern indigo snake and red-cockaded woodpecker. It shelters the breeding populations of dozens of migratory birds, from roseate spoonbills to swallow-tailed kites. On a cool weekend in January, sandhill cranes swooped overhead in pairs, their rattly bugle calls echoing over the water. Alligators appraised our canoes lazily before slipping under the water; the swamp is home to at least 15,000 of them.

The latest fight over mining near the swamp began in July 2019, when Twin Pines Minerals submitted a proposal to the U.S. Army Corps of Engineers to mine 12,000 acres of Trail Ridge for titanium and zirconium, eventually coming within 400 feet of the Okefenokee. The following month, the company held a public meeting in Charlton County, which encompasses Folkston and other communities on the east side of the swamp. Twin Pines representatives touted the hundreds of jobs the mine would bring to the county, and said they could mine Trail Ridge without harming the swamp.

Many residents were immediately skeptical. "I gave them my opinion," said Drury, who used to work for the refuge. "I don't care how much you say you're not going to harm it—if you take that chance and you harm it, you can't repair it." She's seen what surface mining has done in other parts of the county, digging up wetlands and rendering the soil anemic. "Do we really want that parts of the county, digging up wetlands and rendering the soil anemic." Do we really want that beside the swamp?"

The meeting "was basically a dog and pony show," said Rena Ann Peck, the executive director of the Georgia River Network. "They were showing that they'd done research and they weren't going to hurt anything. But the research they'd done was incredibly limited." An ecologist by training, Peck helped form the Okefenokee Protection Alliance in 2020, and has been battling the mine ever since.

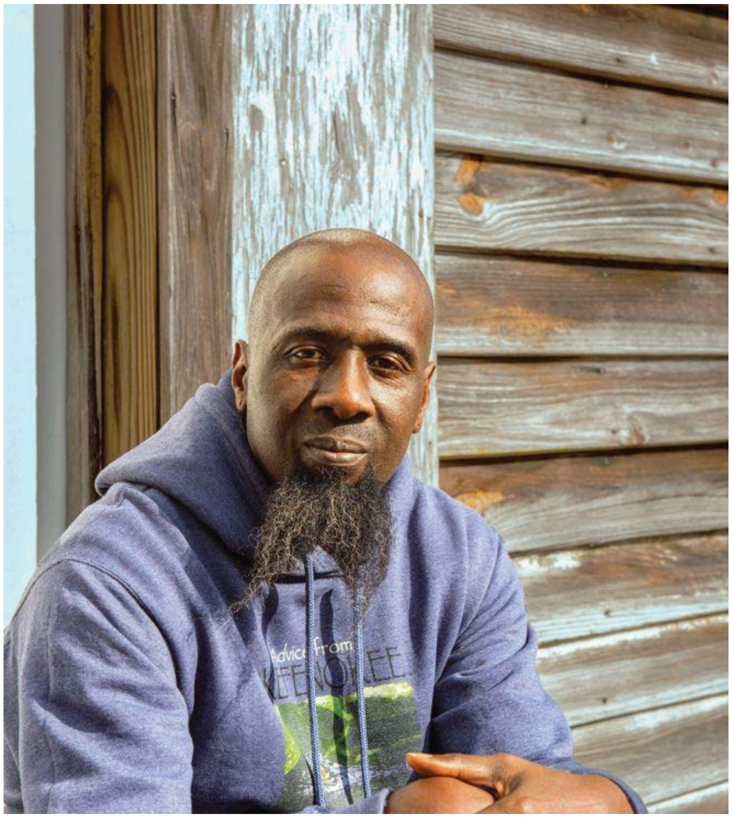
With local residents and environmental groups raising the alarm, the U.S. Environmental Protection Agency stepped in to warn the Army Corps of Engineers that the mine posed serious risk to the hydrology of the swamp. In response, the Corps asked Twin Pines to submit a full environmental impact statement, which would require the company to hire independent analysts to assess the mine's impact on the swamp. Twin Pines called that request "unacceptable" and withdrew its application.

In March 2020, instead, it submitted a revised proposal for only 1,000 acres: a "demonstration mine" to show that titanium dioxide could be extracted without harming the ecology of the area. The smaller footprint of the demonstration mine exempted Twin Pines from having to complete an environmental impact statement, but some worry the company still has bigger plans: "They're going to say, 'Look how great we did, let's get the next permit north of this one,'" said Emily Floore, riverkeeper for the St. Marys River. (Twin Pines declined to comment for this story.)

Since then, the proposed mine has been a political football, with regulatory oversight tossed between federal and state agencies. Twin Pines submitted its proposal following the issuance of a Trump administration rule that more or less did away with federal wetlands protections. That rule is currently being challenged in federal court, but the company successfully argued that it still applies to the Trail Ridge application; in October 2020, without any relevant regulations left to enforce, the Army Corps handed the permitting process over to the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources. The Army Corps took it back in early 2022, after the Biden administration argued that the review process should have included the Muscogee (Creek) Nation. But Twin Pines sued, and the Army Corps once again turned the permitting over to the Georgia EPD, which now has sole discretion over the mining permits. In January 2023, the EPD released a land-use plan for the Twin Pines mine concluding that "the water level in the swamp will be minimally impacted."

Despite extensive timbering around the turn of the 20th century, the Okefenokee's precolonial ecology is remarkably intact. Photography by Virginie Drujon-Kippelen »

The proposed mine's impact on Okefenokee water levels is of paramount concern to critics. The mining of mineral sands requires a lot of water: The pits dug to extract the heavy minerals will fill with groundwater, which Twin Pines will have to pump out. "Half of that water would have flown to the swamp," said Jackson, the UGA hydrologist, who's independently analyzed the impact the mine could have on the Okefenokee. "That's 0.87 cubic feet of water per second—every second, every day, all year long—that would have flown into the swamp that isn't going to go there." Water loss will be exacerbated by freshwater pumping, which Jackson found will cause more water to seep out from the swamp bottom to the aquifer below.



"The swamp is a drought-sensitive ecosystem," Jackson told me. Because the swamp is replenished by rainwater, mining-related water loss won't have much effect during normal conditions—it's during droughts when the impact will be felt, both in the swamp and the St. Marys River. Jackson found that for 3 percent of a 70-year study period, the swamp was too dry to feed any water into the St. Marys River. "If you take out that 0.87 cubic feet per second, that jumps," he said. "You basically triple the frequency and severity of severe drought in the swamp."

Occasional droughts, and the wildfires they can cause, are both normal parts of the swamp's ecology. Fire burns the

Reverend Antwon Nixon, a native of Folkston, outside of his ... »

surface vegetation, which sinks to become part of the thick peat layer under the water. Wetlands—peatlands especially—have tremendous carbon storage capabilities; globally, peatlands store twice as much carbon as all of the world's forests. "But if you expose that peat, it oxidizes and can also burn," said Rena Ann Peck. "It can go from being a carbon sequestration bank to a carbon bomb."

For the Charlton County Board of Commissioners, which passed a resolution in 2019 in support of the Twin Pines mine, the appeal was simple: jobs and tax revenue. The commissioners declined to comment for this story; an administrator referred me to the resolution, which states the mine would "result in economic development that is beneficial to all of Charlton County."

No one denies that the area needs more jobs and more money. The linchpin of a local tourist economy, the Okefenokee draws more than half a million visitors a year, generating $5.4 million in tax revenue for three surrounding counties and supporting 750 jobs, according to a 2019 analysis by the U.S. Fish & Wildlife Service. But the area is still struggling. Charlton County lost its only hospital in 2013, and a federal prison, which brought in money through water and sanitation contracts, shuttered in 2020. A U.S. Immigrations and Customs Enforcement facility brings in revenue, as does another titanium mine on a ridge beyond the Okefenokee, but about a quarter of residents live below the poverty line.

But for many in the community, the benefits of the mine, weighed against the risks to the Okefenokee, don't add up. "When you look at tourism—the swamp is one of the main sites on the list for Georgia. And if it's tampered with or destroyed, that will knock it off the list," said Elaine Bailey, a lifelong Folkston resident who grew up fishing in the swamp. Bailey's three sons, Champ, Boss, and Ron, all played football for UGA and went on to professional athletic careers. Football gave her kids opportunities outside of Folkston, but Bailey said she'd like to see more resources to keep families in town. Protecting the Okefenokee is key to that development, Bailey told me: "We have this swamp in our backyard. We can't take it for granted." With a little more investment, supporters say, the swamp could generate much more economic benefit than it's already providing.

Okefenokee Swamp Park opened in 1946 to attract curious tourists who began flocking to the area in the wake of the 1941 hit movie Swamp Water, part of which was filmed in the swamp. Its early years were light on conservation, said Kim Bednarek, the park's executive director: "You had your gator wrestling and your rattlesnake milking—it was basically a roadside attraction." Its sideshow days behind it, the park now runs educational and recreational programming, outfitting canoe trips and leading school tours.

Bednarek was brought on to transform Okefenokee Swamp Park into a vibrant conservation organization that could catalyze local economic development. An early objective: uniting the three park entrances in Folkston, Waycross, and Fargo, which have historically competed for visitors. With help from the Southern Environmental Law Center, Okefenokee Swamp Park and the National Wildlife Refuge devised the Okefenokee Experience, an initiative that brings together the three surrounding counties, bridging cooperation between the state, local, and national organizations that operate in and around the swamp. They've also partnered on a bid to get the Okefenokee designated an UNESCO World Heritage Site, which would draw worldwide attention the area.

By reframing swamp tourism as a shared regional value, the Okefenokee Experience has created buy-in opportunities for Ware and Clinch counties, which wouldn't get tax revenue from the Twin Pines mine but could be affected by any damage to the Okefenokee. "Tourism benefits everyone," said Michael-Angelo James, mayor of Waycross, the seat of Ware County. "People come to Waycross on the way to the Okefenokee; they stay in our hotels, stop for gas. There are different interests, but we want to make sure everyone gets a piece of the pie."

Swamp advocate Rena Ann Peck—who named her dog Okefenokee Photography by Virginie Drujon-Kippelen »

The initiative isn't explicitly antimine, Bednarek told me. It's about providing an alternative for economic development that puts the health of the local community at the heart of swamp conservation. "You can't take something away without anything to replace it," she said. "We're making a case for building a conservation economy at a time that you need it."

It’s a markedly different approach than the DuPont debacle of 20 years ago: After the mine was successfully blocked, a committee of environmental activists and DuPont executives proposed a $90 million plan to compensate the mining company, retire the mineral rights on Trail Ridge, and bring ecotourism to Charlton County. It never happened: “The funding never came through,” said Aicher, the former refuge biologist. The conservation groups and the DuPont execs went home, and Charlton County was left holding the bag.

This time, Bednarek said, it’s local businesses and organizations spearheading the plan, with deep ties to the community and lasting incentives to grow the economy. And perhaps for the first time, that community is sharing in the vision for a conservation economy. “We need the jobs, but is there a better way to get those jobs?” asked the Reverend Antwon Nixon of Mt. Carmel Baptist Church. A native of Folkston, Nixon now runs Sowing Seeds Outside the Walls, an organization that supports young people in the region’s underserved Black community. He’s been instrumental in nurturing support for economic growth built around the Okefenokee.

“I’m not against mining,” Nixon told me. “But if we can sustain the economy through financial investment in the swamp, you can support three different communities, and you find you don’t really need the mine.” For those who grew up in the area, protecting the Okefenokee is more than good economic sense—it’s an act of love . Ebony Garard, who works on Sowing Seeds with Nixon, visited the swamp on school trips every year. As an adult, she brings her family often. “The serenity it gives, it’s so peaceful,” she told me. “Like the Word says: ‘This peace that I give, the world can’t give you.’”

In recent years, the Muscogee (Creek) Nation has begun reconnecting with the lands stolen from the tribe . In 2022, Turner Hunt and other delegates joined a tour of the swamp, the first visit by representatives of the Nation in nearly 200 years. “It was life-altering,” Hunt told me.

Though the Biden administration tried to halt the mine permitting until the Muscogee (Creek) Nation could be consulted, Twin Pines’ lawsuit aborted that process. “From the beginning, we had major concerns because of the significance of this land, the amount of biodiversity in this water,” said RaeLynn Butler, manager of the Muscogee (Creek) Nation’s Historic and Cultural Preservation Department. She and Hunt are working to have the Okefenokee named a traditional cultural property, a National Register of Historic Places designation that will give the tribe a seat at the table during land-use negotiations. Most importantly, they want more of their people to see the land they once called home. “Our citizens need to have this experience,” Hunt told me.

Also in 2022, Interior Secretary Deb Haaland visited the Okefenokee, condemning the mining plans as her predecessor had 20 years before. Extracting minerals from Trail Ridge, she wrote Governor Brian Kemp, “poses an unacceptable risk to the . . . future of the swamp ecosystem.” Senator Jon Ossoff has also waged a steady campaign against the mine; when we spoke in February, he had just submitted his own public comment to the EPD. “It was our class camping trip in fourth grade,” Ossoff told me. “For me and for millions of Georgians, the Okefenokee is a precious place.”

As this story went to press, the EPD had already received nearly 32,000 public comments on the

Twin Pines titanium mine, and hundreds of Georgians weighed in at a virtual hearing held in late February; only a single attendee (the executive vice president of the Georgia Mining Association) spoke in favor. The bipartisan Okefenokee Protection Act was pending in the legislature. All around the Okefenokee, the fight over its future rages on. But deep within the trembling place, the swamp is as still as it's been for thousands of years.

With the swamp as a healing sanctuary, J. D. Corbett eventually broke free from the ghosts of war and found his way back to his wife and his children. His love affair with the Okefenokee never ended, however: He worked for the wildlife refuge for years, clearing trails and building platforms. It felt more like freedom than a job, Corbett said. “I worked a whole lot more hours than the rest of them,” he added with a chuckle.

He's a grandfather now; his granddaughters love the swamp, and he takes them whenever they visit. He showed me a picture of the oldest, bouncing on a floating patch of swampland, the sunlight catching her hair. “She wants to be a biologist,” he said. Corbett worries that if the mine is approved, future generations will lose the chance to experience the place he loves so dearly. “My grandkids, other people's kids, are going to come, but they'll see a whole lot less than what they should see.”

Better to leave it be, he thinks; let it stay mysterious and quiet, full of ghosts and egrets, with its weeping moss and its cypress knees. Let it remain a sacred place. Every time he leaves the Okefenokee, Corbett told me, he can't shake the feeling that he's going the wrong way. “We're entering a strange world,” he thinks as he emerges from the swamp. “Turn around! Go back!”