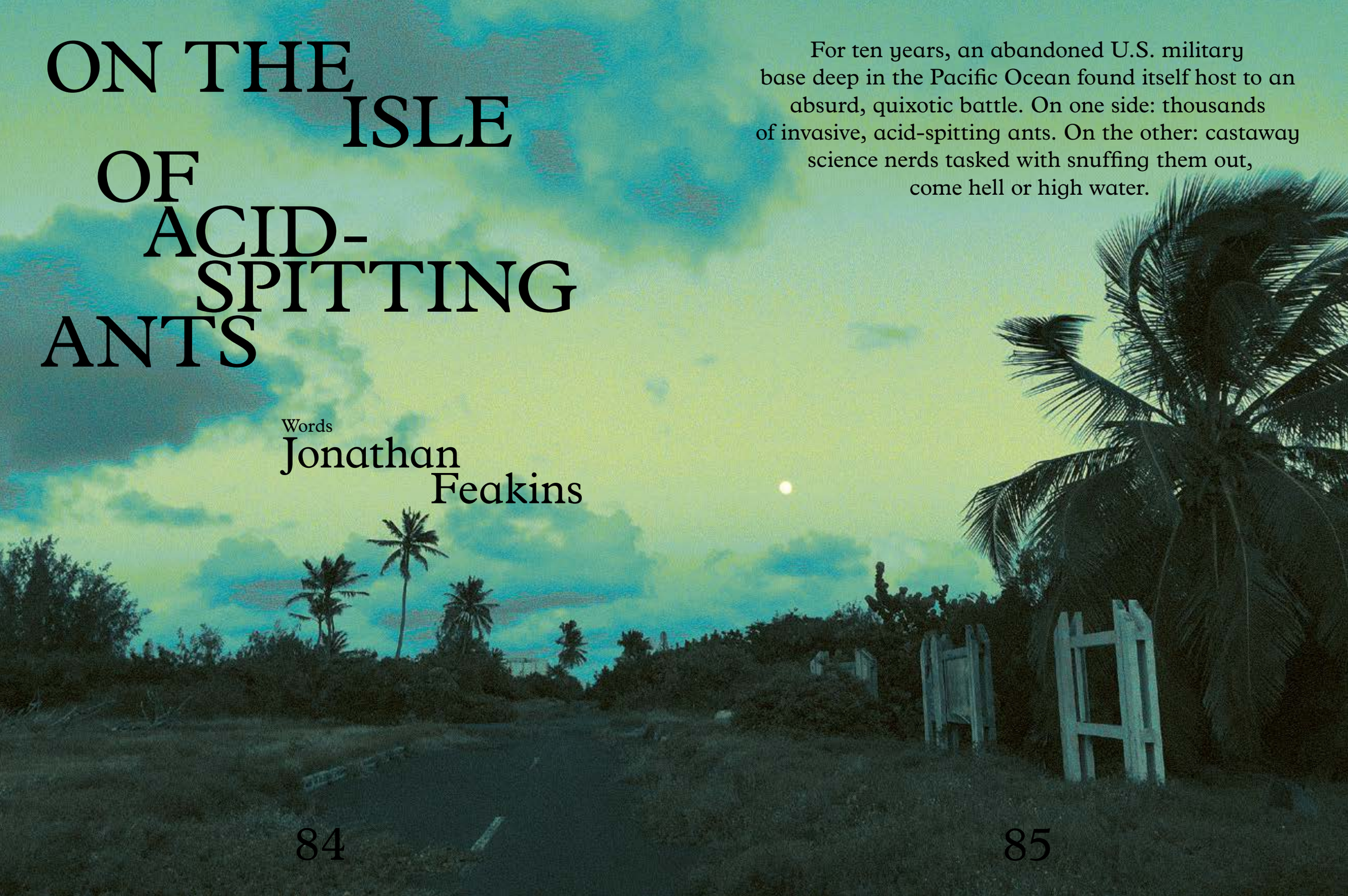
ON THE ISLE OF ACID-SPITTING ANTS

For ten years, an abandoned U.S. military base deep in the Pacific Ocean found itself host to an absurd, quixotic battle. On one side: thousands of invasive, acid-spitting ants. On the other: castaway science nerds tasked with snuffing them out, come hell or high water.

Words
Jonathan Feakins



Beginning in World War II, this isolated spit of land known as "Johnston Atoll" served as a runway for cargo planes, a depot for chemical weapons, and the site of multiple nuclear missiles that had a nasty habit of exploding prematurely. In 1962, the U.S. military aborted multiple malfunctioning launches via remote detonation; afterwards, clean-up crews would scour the island (including the surrounding coral reefs), dredging the waters for scattered bits of plutonium. They proceeded to dump the collected radioactive debris into the lagoon.

("Sea-disposal of radioactive waste for control of the radiological hazard was then considered expedient and proper," the Johnston Atoll Radiological Survey would later report, almost forty years later. "There was no effort made to analyze the magnitude and extent of the radiological hazard resulting from the destruction of a nuclear device on a launch complex." A service member stationed on Johnston at the time estimated that his crew—U.S. Naval Air Force, Navy Patrol Squadron Six—went on to suffer an 85% fatality rate from a smorgasbord of illnesses and cancers.)

After failing to sell the land at auction in 2005—where it was advertised as a potential "vacation getaway"—the military handed over the proverbial keys to the U.S. Fish and Wildlife Service (USFWS). Toxic or not, the land could finally return to its original calling: as the only seabird nesting site within a million square kilometers, host to countless terns, frigatebirds, and boobies (masked, sooty, *and* red-footed).

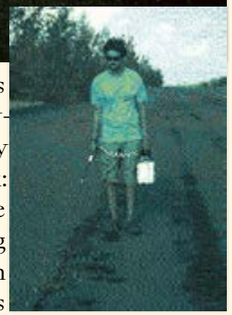
It took less than a decade, however, for the island to find itself invaded by a radically different army. *Anoplolepis gracilipes*—otherwise known as "crazy ants," for their chaotic movements—likely washed ashore on bits of driftwood, or via jettisoned ballast from passing ships. However they got there, these caustic pests soon began to scorch the earth in their own uniquely creepy-crawly fashion—namely, by invading every seabird nest they could find, and blinding newborn chicks with their acid spit.

The USFWS hatched a counterattack in the form of scientists deployed to stop the ants' spread. Over the course of a decade, the atoll welcomed twenty groups, each consisting of four or five researchers. They were known as CASTs, or "Crazy Ant Strike Teams."

Johnston is a three-day sail from Hawai'i, over seven hundred miles to the east. Docked ships would disgorge fresh CASTs onto shore with enough field equipment and shelf-stable provisions to survive the six months until their replacements arrived. These scientific castaways would set up shop in a former fallout shelter known as the "Ant Cave," spending their days carefully scouring the sands in hope that they might purge the land of this tiny, hellish army once and for all.

Internet access was funneled through a United States Geological Survey seismograph; a single email might take so long to send that it often prompted a half-hour trip to the beach. On clear nights, marooned members would watch the International Space Station as it passed 250 miles overhead, only to realize that the astronauts inside may be their closest neighbors.

After a decade of remote fieldwork—in which the invasive insects had been lured by pieces of spam, poisoned with a noxious cat food-pesticide cocktail dispensed via water gun, and painstakingly ID'd under microscope by the tens of thousands (often to the tune of countless podcasts and a concerning



amount of French press coffee)—the scientists' work finally bore conservationist fruit. In 2021, the U.S. Fish and Wildlife Service declared victory. The atoll was officially free of crazy ants.

But what about the humans? Almost a hundred of them answered this surreal call to action over the years, sustaining a species war that largely went unnoticed. Upon their arrival, however, they soon realized that the job may actually be the least interesting part of their work: instead, island life itself would prove to be far more transformative than a battle against acid-spitting insects ever could be. (Indeed, if there were even any ants left: one interviewed participant suspects that he found the very last crazy ant, years before the project officially declared victory.)

What compelled them to take these positions? Science? Adventure? Or something else? What convinced them to hang their hats in one of the most isolated, forgotten places on Earth, with a mere handful of other humans, legions of toxic insects, and a legacy of radioactive fallout?

What follows is an attempt to find out, via the perspectives of three CAST scientists.

SEAN JOHNSTON

I was a biology student at the University of Minnesota, doing mosquito control for the Minnesota Mosquito Control District, trying to think about what to do next with my life—and I stumbled across Johnston Atoll. Just saw it on a map! That's my last name. I think I just googled, "How to go to Johnston Atoll."

[Once on the island], one crew mate and I developed… a bit of a competition. We knew there used to be a golf course on the island, and the golf balls were spread all over. And so Tom and I would compete: whenever we saw a golf ball, we would just dive for it. We each had our collections—and then, at the end of the trip, whoever had the most balls would get to hit all of them at the loser.

I lost. (It was really, really close.) We'd wanted to do it from the JOC [Joint Operations Center, a four-story concrete and steel building formerly used by the U.S. military for nuclear decontamination], but that seemed a little dangerous. So Tom just went to the top of one of the island's many abandoned bunkers, and I sat on the basketball court in an Adirondack chair, and Tom whacked them all at me. I think he only got me with, like, one or two, on a ricochet.

There were these routines that you needed to do to stay alive and to thrive, in conjunction with nature. Like, being much more in tune with the level of rainfall, because that influences how careful you have to be with water use. Or the phases of the moon. I couldn't tell you what phase the moon is in right now. But back then? I always knew. I knew what the weather had been like for the last week. I knew the positions of all of the nesting birds. I knew practically every species of plant and animal. Me and one crew member had our own adventure

for a day. We went snorkeling. You didn't normally see a whole lot of fish. But we just sat there and floated for a few hours (maybe an hour, but time dilation and whatnot) and it seemed like there was ten times more wildlife than usual. We had just been sitting there floating, not moving, for so long that they got used to us.

We got out and sat on the seawall. And I remember thinking about how much this place meant to me. It was kind of a meta-thought loop—you know, thinking that I was going to be thinking about that moment when I was in a boring situation, like an office cubicle. And lo and behold, I did harken back to that moment, often when I was in a cubicle. It came true.

The first thing that I remember doing, when we got back to Honolulu, was going to Taco Bell. And I waited in a *line*. I remember standing there. And it was weird that there were… other people there? And I couldn't, just, banter with them? There were these social conventions that you don't talk, or be weird, to people that you don't know. Just standing there, waiting; I hadn't had to wait on the island. The concept of money didn't exist, either. We didn't have to worry about our next meal. Or rent.

On the island, I had a long time—a very, very, very long time—to just sit and think about what I actually wanted from life. And that was very helpful for me, to be forced to be with myself.

EDLYN NUNEZ

One evening our crew decided to go night swimming.

You have to remember that, when you go out at night on Johnston, it's pitch black. So we all grabbed our headlamps, and we jumped in the water. And I remember someone getting startled while we were in the water—you know, you can't really see anything, the visibility is not really that great, but we thought it was a jellyfish. And so we all ran out.

We stood out on the seawall, searching for whatever had been glowing in the water. And all of a sudden, we just started seeing a lot of speckles of light, bouncing around each time the tide came in. And then someone realized that it was bioluminescence.

On Johnston, you can't really google anything, and I had no idea what bioluminescence was. It was kind of cool to just experience all of this without knowing about it, or without having the capability to even research it. Just experience it.

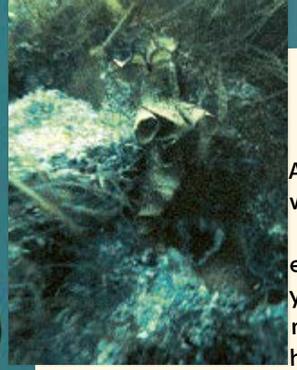
When that night happened, it was during the halfway point of my stay there. I thought I already had experienced everything that Johnston had to offer. But then a night comes in like that and surprises you.

I actually really remember missing the sounds of civilization, and people. As weird as that sounds. I think I missed the idea of knowing that I was close to others, or surrounded by people. Just knowing that I wasn't on this abandoned island in the middle of nowhere.

My tent was actually the closest to the ocean, so it was actually very loud at night. You can hear the ocean waves crashing, very loudly. I remember going to sleep and pretending that the ocean waves were actually the hustle and bustle of cars, going back and forth on a freeway.

I'd actually like to read you my second-to-last journal entry from Johnston, when I was riding back on the Kahana (the ship that took us to and from Johnston). This entry is dated June 11, 2017.

"Second day on the Kahana. The further we get from Johnston, the more distant of a memory it becomes. It almost feels as though that entire six-month experience was just me living in an alternate reality in a different dimension. And the time between the last changeover and this one has been pinched. Johnston feels like it was all a dream. A long, long dream. I remember when we saw the Kahana coming into view on the horizon and it didn't feel like it was real. I couldn't believe it was actually happening and the ship was finally coming for us. And now that I've left Johnston, and now on the Kahana, Johnston doesn't even feel like it was real at all."



Nobody

After college, I got a job as an aircraft dispatcher. I was working the midnight shift. I did that for almost two years.

The person with the next seniority had been there for eight years. The person ahead of them? 13 years. Then, 19 years. Some people were overweight; one of them wore a neck brace. I was like, "I'm gonna die in this office if I stay here." So I just quit.

I spent about six months at home, trying to find anything that had nothing to do with a desk. And that's when I started searching for these conservation jobs. And the requirement for the [Johnston] job was a bachelor's degree. It didn't specify in what!

The island seemed small when I first got here. But once we settled in? We realized how big it was. There were only five of us, so we split the island up; the beach called "Corner Beach" was mine. No one bothered me. I would spend hours there.

But it also kind of seemed… Chernobyl-ish. There was a sense of abandonment; the military pulled out in 2004, and tore down all the buildings except for one, the Joint Operation Center. But other than that? It was just humbling to see how nature took over. There was a tree growing in the middle of the taxiway, like right in the middle, right through the concrete, this twelve-foot tree. There was also a seawall where the sea turtles would come and eat the seagrass. I would sit there for hours, watching these turtles come up for air, and then back down. That was really peaceful.

The amount of history there is fascinating. Riding your bike past the plutonium dump. Or seeing signs for asbestos. Near the shark chute—where we dumped our food slop—they used to store Agent Orange barrels that had rusted and leaked all over the place. All the terrible things that happened to that land, and then seeing how the plant life came back and thrived.

Another one of my reasons [for going to Johnston]: I suffered from chronic pain. I was kind of convinced that, by the time I was forty, I was going to be in a wheelchair. I wasn't sure that I could make it to retirement, to do something fun—so I chose to do my retirement first. But being away from the real world—being close to nature—actually relieved a great deal of pain. I see remote fieldwork as a lifesaver.

When I got back from Johnston, I went back to work. But it just wasn't clicking. I remembered watching a documentary called *Antarctica: A Year on Ice*, about working in Antarctica. So I googled "cool jobs in Antarctica." I found a contractor, and applied. And I got it!

And now? By the time of this publication, I'll be on Kure Atoll for an eight-month stint.

Johnston changed my life. For the better. ✶