

Secrets Of The Ooze

ALGAL BLOOMS THREATEN OUR WATERWAYS, BUT INVENTOR ROB FALKEN HAS FIGURED OUT A WAY TO MITIGATE THE DAMAGE BY MAKING SURF GEAR FROM ALGAE

SEPTEMBER 28, 2016 BY JUSTIN HOUSMAN

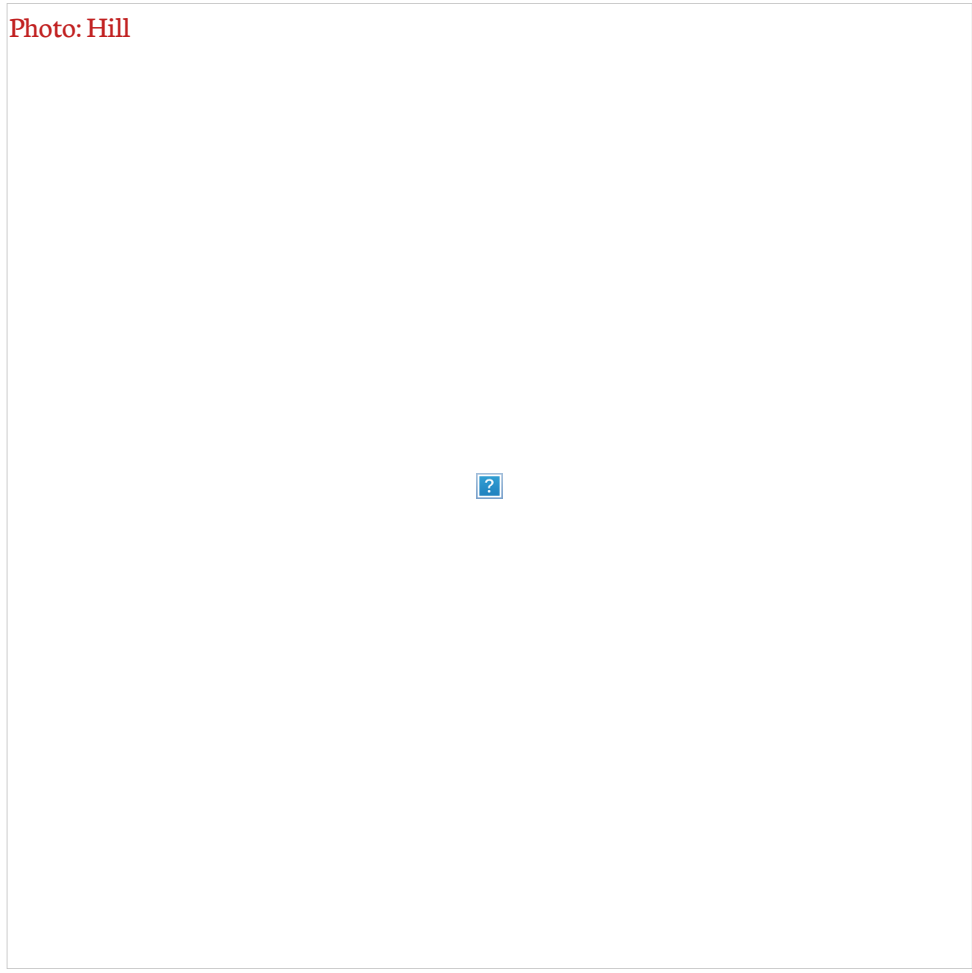


Photo: Hill

Not to be too alarmist, but algae is coming for all of us. Sure, a little algae may seem harmless, but it's increasingly showing up around the world in the form of enormous algal blooms that are toxifying the bodies of water we depend on for drinking, fishing, surfing, and gazing upon while thoughtfully pondering. **Florida's Lake Okeechobee**, for example, developed a 250-square-mile bloom this past May that devastated waterways along the Atlantic coast. Last summer, 600 miles of the Ohio River were coated in algae,

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and Lake Erie recently became so choked with algae that Toledo, Ohio's drinking water was threatened. Africa, Asia, and Europe are all fighting against algae's relentless encroachment.

What's the cause, you ask? Runoff, mostly, both rural and urban. Nitrogen and phosphorous from agricultural irrigation, as well as other kinds of nutrients, are increasingly finding their ways into bodies of water everywhere. Climate change isn't helping either, as algae just love the warmer air and water of our sweltering 21st century environment. "It is likely that toxic blooms will continue to increase and expand as these features of climate change continue," Kathi Lefebvre, a biologist at NOAA's Northwest Fisheries Science Center, told *The New York Times*.

But there's a surprising way we can fight back against the slimy tides: algae-based traction pads brought to you by surfer and sustainability-minded inventor Rob Falken.

Falken's North County San Diego laboratory is filled with eco-friendly tinkering—everything from bio-based foam blanks to super-strong leashes to clever big-wave safety equipment. His newest creation is a brilliant bit of green alchemy. Falken's fledgling company BLOOM turns algae into a rubbery foam that can be used to make shoe linings, yoga mats, and many other practical items, including traction pads. And this isn't algae he's on growing himself, mind you. BLOOM harvests the nasty stuff already strangling our waterways and starving our fish and crustaceans of oxygen.

The process is ingeniously simple: BLOOM backs up a mobile harvesting vehicle to the offending body of water. Water and algae are pumped into a tank where the algae clumps together and then gets skimmed from the water and collected. The water is filtered and returned to the source, and the algae is carted away to a processing facility where it's dried out, then transformed into pellets that are polymerized and made into flexible foams. The algae foam is exactly the same, performance-wise, as foams made from toxically nasty petrochemicals. And unlike petroleum-based foams and plastics, algae is about as sustainable a feedstock as it gets, especially as more and more blooms erupt across the globe.

"Nobody else has the capability to process the blue-green algae [the particular kind of algae—technically a cyanobacteria—prone to toxic blooms] and turn it into a useful material," Falken says of the bloom currently oozing across Lake Okeechobee and nearby Floridian waterways. "There are other groups that can break down the algae, but with negative impacts for the lake. We can turn the algae into a commercial benefit from a sustainable product."

This isn't the first time somebody has turned algae into surf equipment.

Scientist/surfers at UC San Diego have learned to make surfboard blanks from algae foam, for example, but they have to grow their genetically engineered algae in tanks. Falken's process is unique because it actually removes encroaching algae from lakes, rivers, estuaries—wherever it's problematic, basically—helping to clean up an ecosystem while at the same time providing a green alternative for the flexible foams we use every single day.

Which is where the humble traction pad comes in. BLOOM has paired with surfboard manufacturer Firewire to produce tail pads from their algae foam. The pads have even attracted the interest of noted surfing enthusiast Kelly Slater. Slater's ridden boards with the algae pads at a few contests, including the 2016 Volcom Pipe Pro, so it's safe to say they work. Plus, each pad is that much less algae clogging up a waterway somewhere.

Though it would admittedly take a whole lotta tail pads to make much of a dent in the algal bloom problem worldwide—BLOOM pulls tens of millions of pounds of algae out of China's Lake Taihu alone—Falken's company has figured out a clever, simple way to draw at least a little bit of positivity out of a messy environmental problem.

Ed. note: Since this article was originally published, the Army Corps of Engineers has announced that they'll be releasing up to a billion gallons of water per day from Lake Okeechobee into the Atlantic to deal with lake overflow. That release will again spread toxic algae throughout Florida's Atlantic coast, a problem that would be greatly lessened if the algae was mitigated at the source.

#agents of change #Algae #algal blooms #Cobian #justin housman
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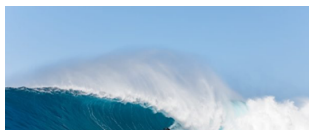
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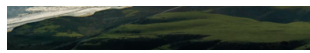


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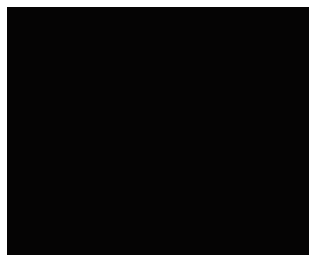
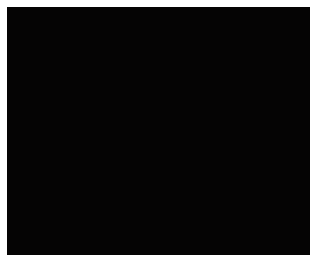
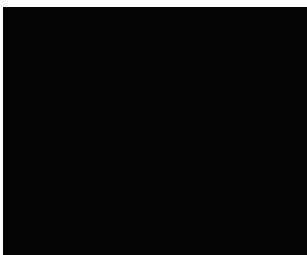


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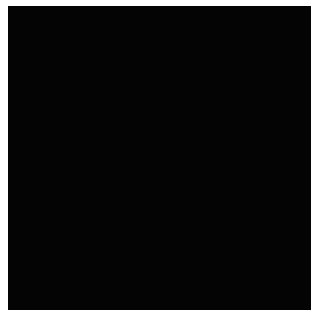


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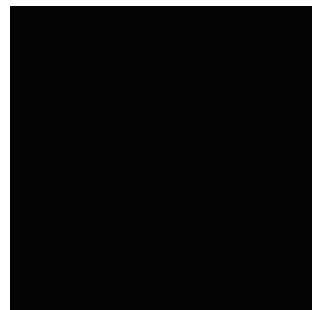


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