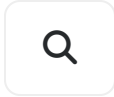


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Environment

'Devil Weed' Threatening Hawai'i Is Hitching A Ride In Turtles

Honu love to eat the aggressive seaweed smothering reefs in the Northwestern Hawaiian Islands. That's raising hopes, but also concerns closer to home.

By Marcel Honoré / April 29, 2026

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Last summer, researchers at Midway Atoll captured never-before-seen footage of three Hawaiian green sea turtles [feasting on the mysterious, invasive algae](#) that's wreaking havoc across the Papahānaumokuākea Marine National Monument.



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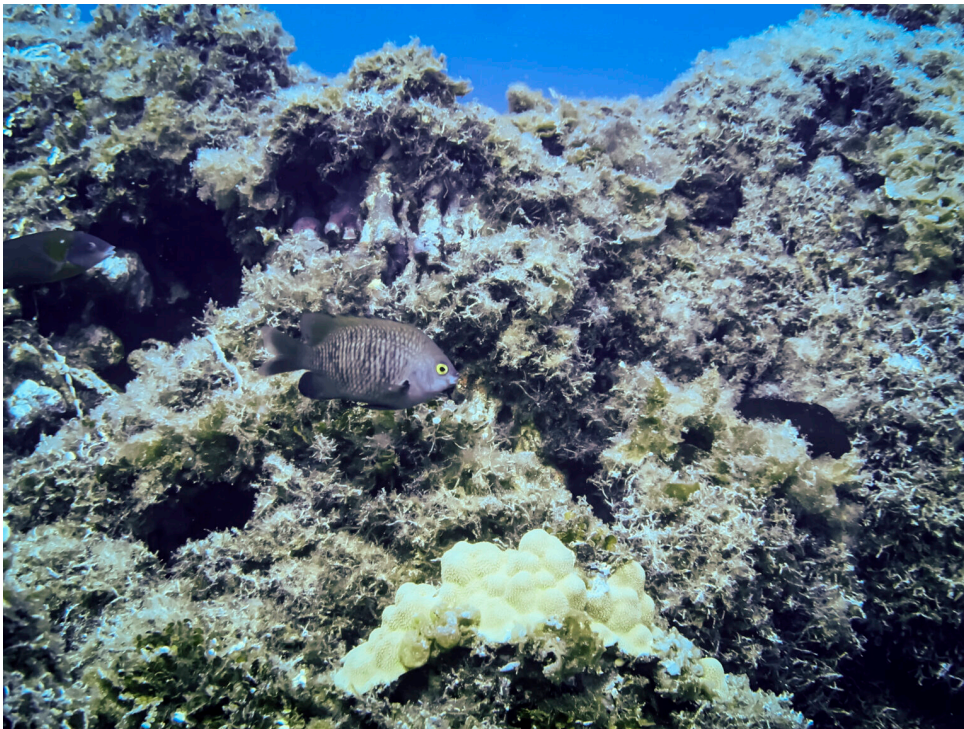
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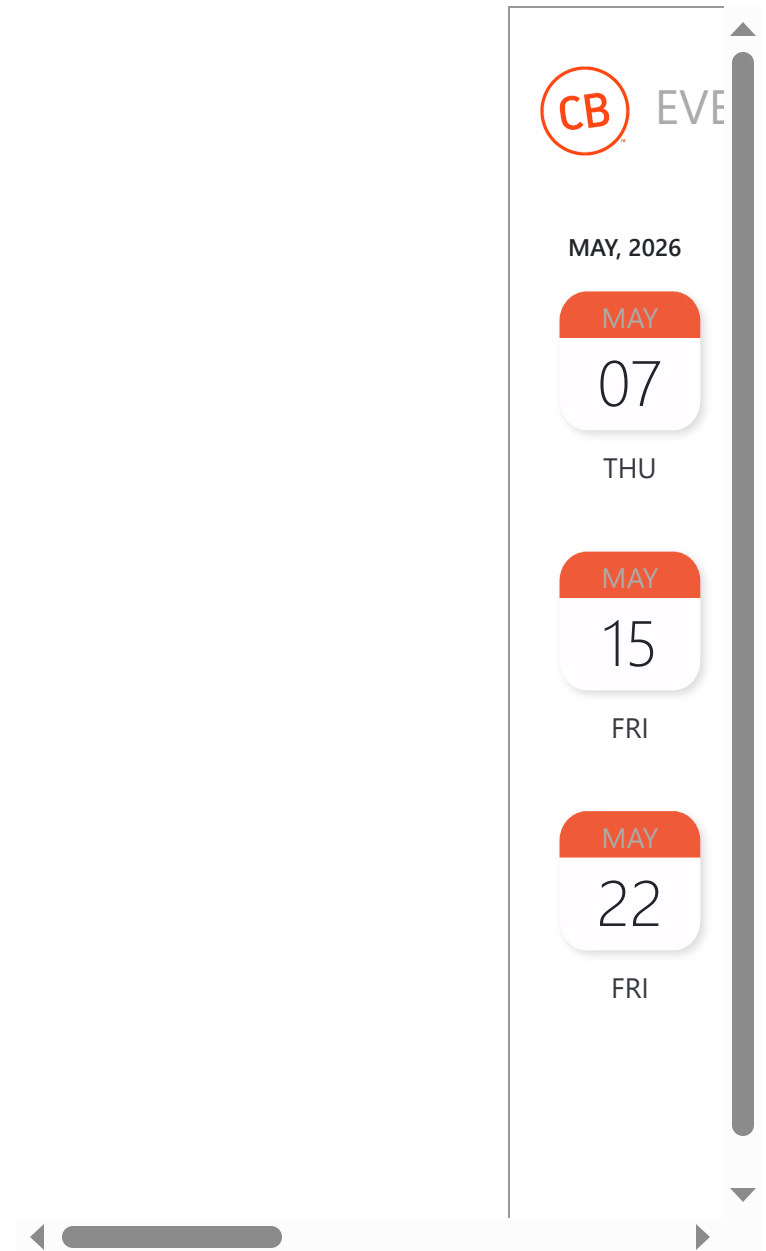


The discovery that honu will heavily graze on *Chondria tumulosa* could be encouraging in the fight against the aggressive red algae, which in the past decade has smothered massive swaths of pristine reef in the remote shoals and atolls several hundred miles northwest of the Main Hawaiian Islands.

However, in their recent report on the findings, researchers also caution that the turtles' behavior could put the main islands at greater risk of exposure to the so-called "devil weed" because the turtles migrate south after nesting.



Chondria, an invasive seaweed, has smothered parts of the reef at Manawai, also known as Pearl and Hermes, in the northwestern part of



Papahānaumokuākea Marine National Monument. (Nathan Eagle/Civil Beat/2024)

If Chondria reaches Hawai'i's main islands and blankets its reefs, researchers say, the economic and ecological effects would be devastating.


“Many of the fish that we recreationally fish for like weke, ‘oama, ‘ō‘io – they’ll all go away,” said Randy Kosaki, a retired research ecologist who served as the National Oceanic and Atmospheric Administration’s deputy superintendent for Papahānaumokuākea. “It would affect our local lifestyle in every way you could imagine. It would be a major disaster.”

More: A ‘Devil’ Seaweed Is Spreading Inside Hawai'i's Most Protected Place

Once a marine invasive species arrives, he added, it's virtually impossible to eradicate. “Really, prevention is the only practical step.”

The concern raised in the report, published in the [journal Coral Reefs](#), is that the honu might eat the invasive Chondria where it's smothering reefs in the Northwestern Hawaiian Islands and later spread it down the island chain via tiny, undigested fragments of the algae left in their feces.

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Samples of Chondria, an invasive seaweed, were collected at Manawai in 2024. A research expedition the following summer showed that honu will heavily graze on the algae, raising both hopes and concerns. (Nathan Eagle/Civil Beat/2024)

Key questions remain, local turtle and seaweed experts say, to determine just how big of a risk the honu migrations pose.

Would the fragments in the turtle poop be able to plant more Chondria after spending days in the honu's stomach and digestive tract? Would they be viable after a migration to the Main Hawaiian Islands that could take [up to several weeks](#)?

“Those are all things that we need in order to get a sense of the risk,” said marine botanist and University of Hawai‘i Mānoa professor Celia Smith, one of the report’s authors. “All of these are questions that we wanted to call out so that we could start to frame the scientific questions that would allow us to test this.”

Limu Connoisseurs

Hawaiian green sea turtles are Hawai‘i’s largest marine herbivores, and they’ve been found to eat [more than 100 types of seaweed and seagrass](#) including invasive species that have spread across the islands’ reefs.

“A turtle will try just about anything,” said Karla McDermid, a marine botanist and professor at UH Hilo’s Marine Science Department. “They’re gourmands.”

In the past decade, as thick mats of Chondria started to envelop the shallow coral reefs across Papahānaumokuākea,

researchers noticed the fish there didn't seem interested in grazing on the invasive algae.



A green sea turtle cruises off Kahe Point on O'ahu. A new study shows the honu will forage on an aggressive invasive algae plaguing parts of the Northwestern Hawaiian Islands. It also raises concerns the animals could potentially bring the algae back to the Main Hawaiian Islands. (Craig Fujii/Civil Beat/2024)

During more recent visits, however, they noticed turtle-bite-sized holes in those mats. That prompted Smith and her co-researchers from the U.S. Fish and Wildlife Service to station

a GoPro camera in the waters off Midway last summer for several hours at a time during their summer expedition.

They set the camera so it would record after they left the area but ran into a few challenges: The GoPro could only record for three hours at a time. It overheated in the sun at one point despite being underwater and shut off. Another time, the camera was knocked out of place — possibly by a fish — and filmed an area off the reef for about an hour.

Still, the research team found what they were looking for: nearly an hour of footage of honu scarfing down the Chondria, kicking up sediment as they dug into the mat with their beaks.

One female honu, their report says, took a “remarkable” 18 bites out of the mat in 95 seconds.

“Nothing of the fish community appears to be able to take the same kind of whack at it that the turtles have,” Smith said.

The research team conducted a necropsy of a separate dead female found stranded on Eastern Island, off of Midway Atoll, and found the Chondria made up 25% of the plant material in its digestive tract.

“I’m not surprised that they are trying the Chondria,” McDermid said, “now that it’s in enough abundance and they can find it.”

The Worst-Case Scenario

Chondria tumulosa has burst into an invasive menace since researchers first spotted an algae they didn’t recognize in 2016, then found mats of it smothering the reefs off Manawai, or Pearl and Hermes, three years later.

Still, its origins remain unclear. Was it native to the Northwestern Hawaiian Islands but stayed undetected until some ecological change caused it to go berserk? Or, did it arrive from abroad?

One of the main arguments supporting the theory it’s an alien, Kosaki said, is that the local fish seemed unwilling to graze on it. However, Smith said the GoPro footage also shows fish for the first time interested in foraging fragments, at least, of the Chondria kicked up by honu beaks.

“There’s very few fish that are just going to munch through a thick mat,” McDermid said. “Their mouths aren’t made that way.”



A complex network of reefs encompasses Manawai, also known as Pearl and Hermes Atoll. In recent years that network has been battered by *Chondria tumulosa*, a highly invasive algae. (Nathan Eagle/Civil Beat/2024)

“A turtle,” she added, “doesn’t care.” McDermid said she wasn’t aware of any previous studies on whether honu had helped spread invasive plants across the islands via their feces.

The thought of *Chondria tumulosa* landing in the Main Hawaiian Islands, Smith said, is scary. So far, researchers have witnessed the algae spread and blanket areas with relatively few nutrients in the water to support such aggressive growth.

More: [Guardians Of The Deep](#)

Imagine what the Chondria might do, Smith said, if it lands in a nutrient-rich environment such as Kāneʻohe Bay, where manmade runoff has helped fuel coral-killing outbreaks of invasive algae such as [Euchema](#).

“It so just knocked my socks off,” Smith said.

Typically, she and McDermid said, the ocean currents push to the northwest and could help keep the Chondria in place. But other vectors such as marine debris and, possibly, the honu could push it farther south.

When researchers travel to and from the Northwestern Hawaiian Islands, Kosaki said, they soak their diving gear in bleach and take other measures to try and prevent any spread of invasive species.

One hope, he said, is that the aggressive Chondria growth in Papahānaumokuākea might simply dissipate on its own the way other native and invasive algae has done in Hawaiʻi. Then, if it reaches the main islands, Kosaki said, it might repeat that pattern.

“I think that’s the best-case scenario,” Kosaki said. “I wouldn’t call that necessarily a likely scenario.”

The state Board of Land and Natural Resources [approved a permit](#) last month for a team of scientists to go to Papahānaumokuākea this summer for additional Chondria research.

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