



# the weekly anthropocene



dispatches from the wild, weird world of humanity and its biosphere

By Sam Matey, May 20, 2020



**Philippines.** For centuries, hawksbill sea turtles (*Eretmochelys imbricata*) have returned year after year to lay their eggs on a stretch of coastline on the Philippines island of Mindanao. Now, hawksbill turtles are critically endangered (with one estimate finding that their population had decreased by 80% in the past hundred years), but one brave little village on that coastline is doing their utmost to protect them. Since 1999, the people of Candiis, a *barangay* (village) in the Misamis Oriental province, have been building fences to protect nesting sites from poachers and stray dogs for years, on their own initiative and with no external funding. Now, even while limited by community quarantine measures, they've managed to safely deliver 144 hawksbill hatchlings (pictured) to the sea on May 1 and a second batch of 155 on May 13. A third batch, of about 100 eggs, is expected to hatch around the third week in May. "Yesterday at around 5 in the afternoon while I checked the nesting ground and make sure the protected barriers are in place, I saw several turtle hatchlings were slowly crawling out of the sand," said village council member and turtle conservation leader Rolando Pagara on May 13. "We [the community] immediately gathered, checked and counted them; the eggs are around 155 before releasing them into the sea at around 6:30 in the evening." This batch was especially good news, as it was the first time in several years that none of the eggs were spoiled. (Rising sea levels have led to more eggs being damaged by saltwater inundation). As hawksbill sea turtles are such an imperiled species, dependent on a few ancestral nesting sites for reproduction, the villagers of Candiis' selfless labors are incredibly important. This is an extraordinarily honorable thing for this community to be doing: helping save the young of a critically endangered species out of the goodness of their hearts. For more on this incredible story, including a video, see [tinyurl.com/PhilippineTurtleSaviors](https://tinyurl.com/PhilippineTurtleSaviors).



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**Belgium.** For the past few decades, as disused agricultural lands revert to forest, wolves have been recolonizing Western Europe. The last wolf in Belgium was shot in 1898, but in 2018, a verified sighting of a wolf confirmed that the species had returned. In 2019, wolf sightings increased, with multiple individuals spotted. Now, two of the wolves who arrived in 2019, named “Noella” and “August,” are expecting cubs! “Thanks to recent images from the



Agency for Nature and Forests, I am proud to announce that wolf Noëlla and wolf August are expecting wolf cubs,” wrote Zuhail Demir, Minister for Environment of Flanders (a region of Belgium). Pictured is the pregnant Noella-note the rounded belly. If all goes well, Noella should give birth to 4 to 5 cubs within a month, forming the first multi-generation pack of wolves in Belgium for over a century. In historical context, this is quite an extraordinary development: the archetypal predator, a species that humans have hunted and hounded for centuries, is returning to and thriving in one of the most urbanized and population-dense countries on Earth. This is great news, symbolizing the bright possibilities of human-wildlife coexistence in the Anthropocene! For more, see [tinyurl.com/BelgianWolves](https://tinyurl.com/BelgianWolves).

**United Kingdom.** The white stork (*Ciconia ciconia*), was once common across Europe, but declined greatly in recent centuries. In the last few decades, though, conservation and reintroduction programs have brought back thriving populations across much of the continent, and this month, for the first time since the year 1416, wild white stork chicks have hatched in Britain. The parents’ chosen nesting place (pictured) was an oak tree on the famed Knepp Estate, in Sussex, a revolutionary



project that combines rewilding with sustainable agriculture. Notably, this success is not at all due to the coronavirus. It took years of dedicated work to restore Knepp (as chronicled in the superb book *Wilding* by Isabella Tree) and reintroduce the storks, an endeavor now paying off magnificently. (For more, see [knepp.co.uk/white-storks](https://knepp.co.uk/white-storks) and [tinyurl.com/KneppStorks](https://tinyurl.com/KneppStorks)). In other signs of regeneration from the UK, Wales is planning to connect existing forests with new tree planting to form a country-spanning, walkable network (see [tinyurl.com/WalesForest](https://tinyurl.com/WalesForest)) and the nation just saw its first month (and counting) of going completely coal-free, burning no coal for power, since its electricity grid began in 1882! (See [tinyurl.com/CoalFree](https://tinyurl.com/CoalFree) for more on the recent welcome worldwide decline of the dirtiest fossil fuel). Great news-and signs of a more ecologically balanced civilization in the Anthropocene!



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**Coral Reefs.** Corals are having a terrible Anthropocene, with multiple human-caused threats potentially threatening the worldwide collapse of the coral reef ecosystems. Oceanic heatwaves force them to eject their vital, colorful symbiotic algae (leaving bleached and deeply damaged corals behind, a danger known as “coral bleaching”), ocean acidification erodes their calcareous skeletons, and new threats seem to be found every year, from plastic waste carrying coral diseases to sunscreen from human tourists being poisonous to corals. Now, an innovative team has come up with an inventive way to help inoculate corals against today’s threats. Coral geneticist Madeline van Oppen and her team spent 4 years raising over 100 generations of a common coral-symbiote algae species, *Cladocopium goreaui*, in water kept at 31°C, about the temperature of a heatwave on the Great Barrier Reef (which just recently suffered its third massive coral-bleaching heatwave in 5 years). The team then squirted 10 strains of the hot-water algae into coral larvae (which absorbed them into their cells), did the same for “normal” algae as a comparison, and put the different larvae with their different algal strains into 31°C. The results were mixed, with some of the hot-water algae not working well with the coral, and many larvae died. But for three strains, cell density rose by 26%, indicating that they were positively thriving in heatwave conditions-and saving their host larvae along the way. “Some of these [algae] can decrease coral thermal bleaching,” said Dr. van Oppen. “So that is very exciting.” These results aren’t a silver bullet: there are a lot of potential problems yet to face. It’s unknown how the new algae strains would react with adult coral, or in the complex environment of a wild reef, or if their genetic superpowers would even stick around after uncontrolled breeding in the wild. However, if it pans out and is further developed, it could become a fascinating new example of “assisted evolution,” the cutting-edge conservation field working to help wild creatures adapt their bodies to the new conditions of the Anthropocene. Fascinating news! For more, see [tinyurl.com/LabGrownCoralAlgae](https://tinyurl.com/LabGrownCoralAlgae).

**Bees: Florida.** Living only in fragments of the Lake Wales Sand Ridge in Central Florida, and dependent on also-rare Ashe’s calamint plant as a pollen source, the ultra-rare and little-known blue calamintha bee (*Osmia calaminthae*, pictured held still for photography purposes) was first discovered in 2011 and was thought possibly extinct soon after. This spring, a researcher from the Florida Museum of Natural History rediscovered the species, working from Archbold Biological Station in the town of Lake Placid. While research has been disturbed somewhat by COVID-19, work continues to learn as much as possible about the bees’ lifestyle, range, and behavior, in order to help determine whether it can be protected under the Endangered Species Act. Great work! For more, see [tinyurl.com/BlueCalaminthaBee](https://tinyurl.com/BlueCalaminthaBee).





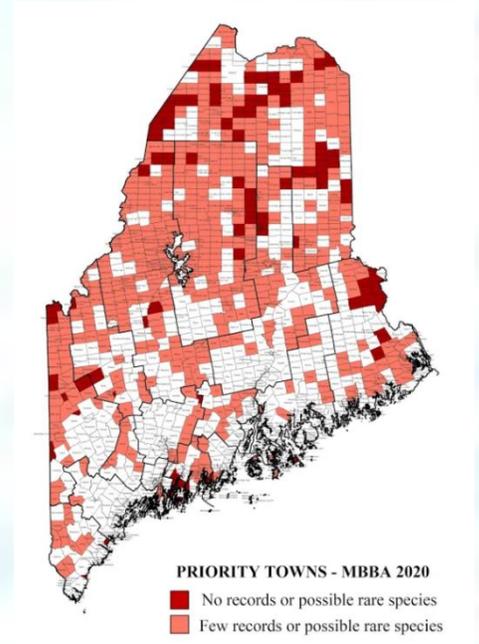
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**Bees: Maine.** The state of Maine is engaged in a fascinating multi-year citizen science project: the Maine Bumblebee Atlas (MBBA). With the goal of documenting the diversity, distribution, and abundance of bumblebees in Maine, the project began in 2015 and is ending in December 2020. In this final year of the survey, the MBBA is looking for citizens' help for fill gaps in the data, particularly in "Priority Towns" where there are few bumblebee records, possible rare bumblebee species, or both. Few people know (this writer didn't, until this week) that Maine is home to no less than seventeen bumblebee species, from the Common Eastern Bumblebee (*Bombus impatiens*) to the Indiscriminate Cuckoo Bumblebee (*Bombus insularis*) to the hilariously named Confusing Bumblebee (*Bombus perplexus*). A particular point of interest is the rusty-patched bumblebee, (*Bombus affinis*), the first-ever bee to be protected under the Endangered Species Act. If you're looking for a fun, productive, socially distanced outdoor activity, the MBBA is positively craving new photographs of bumblebees, especially from Priority Towns. Grab a phone or camera, drive to a suitable wildflower meadow, and get going! To join this fascinating project, and for all the details, please check out [mainebumblebeeatlas.umf.maine.edu/](http://mainebumblebeeatlas.umf.maine.edu/), particularly their "2020 Priorities" page. The iNaturalist app, at [inaturalist.org/](http://inaturalist.org/), is also a great way of collecting and sharing research-worthy photos of bumblebees and other wildlife.



**Coda.** This edition of the Weekly Anthropocene has focused on stories of humans and wildlife coexistence. Beyond coexistence, even: from corals to hawksbill sea turtles to white storks, people around the world are working to care for and support these creatures, often with gratifying success. The common thread here is people caring, being good neighbors in an ecological sense, working to aid the wondrous life-forms they share the planet with. As a (possibly apocryphal) quote from St. Francis of Assisi puts it, "Not to hurt our humble brethren the animals is our first duty to them - but to stop there is not enough: we have a higher duty - to be of service to them whenever they require it." That may seem like too great a task, but in the Anthropocene, humanity effectively determines what life will be like for Earth's multitude of animals. As our civilization grapples with the COVID crisis and makes the decisions that will determine the magnitude of the climate crisis, we are undergoing profound structural shifts, from the way we work to the way we get energy. Perhaps we can use this opportunity to work towards a truly ecological civilization, that maintains the diversity of the biosphere and allows modern human settlements to live alongside our "humble brethren."