



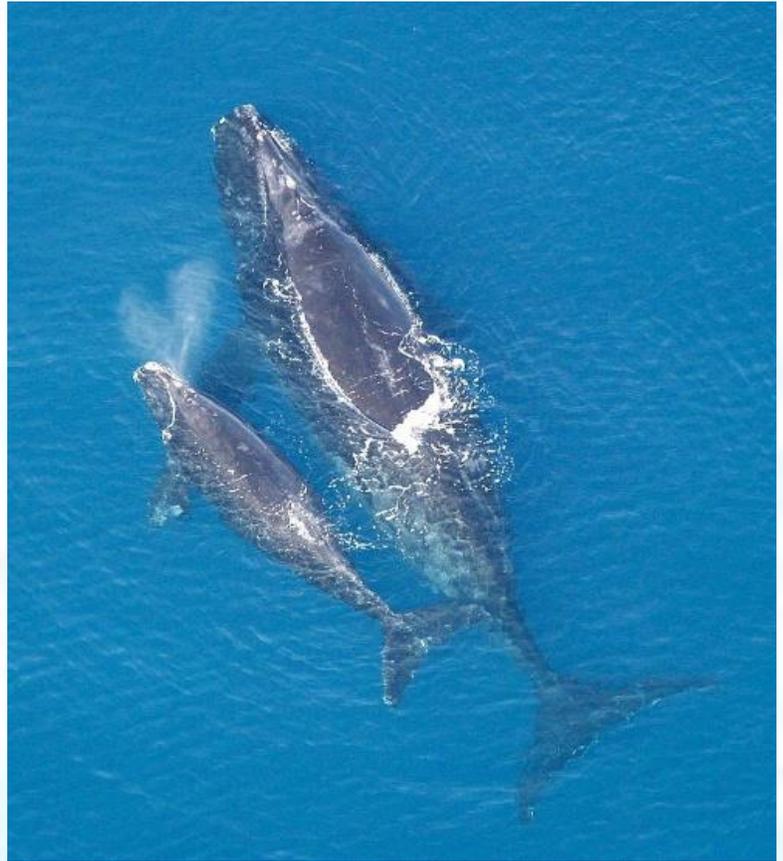
the weekly anthropocene



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

By Sam Matey, March 11, 2020

North Atlantic Right Whales. The North Atlantic right whale (*Eubalaena glacialis*, pictured) is critically endangered, with only about 400 individuals left in the world. The primary threats to the species are collisions with ships and entanglement in fishing nets, as their home waters off New England and the Canadian Maritimes have heavy marine traffic. Now, the Canadian government has unveiled an array of new regulations to protect the whales. A mandatory speed limit of 10 knots will be imposed for ships in the western Gulf of St. Lawrence, season-long fishery closures will be imposed in areas where whales are plentiful, new management areas with other ship speed and fishing restrictions will be created, and trials of new rope-free fishing gear will begin soon. This is a welcome move by Canada to protect these



priceless creatures. (Disturbingly, the Trump Administration is moving in the opposite direction: NOAA scientists recently reported that they were pressured into recanting their findings that seismic blasts for oil exploration would be harmful to the whales). For more, see tinyurl.com/NorthernRightWhales.

Animals and Wildfires. A fascinating new review paper has chronicled the many ways in which animals affect wildfires. Corridors formed by elephants trampling down plants can serve as firebreaks preventing the spread of a blaze. Malleefowl birds gather huge piles of leaves to incubate their eggs, helping to clear the ground of flammable leaf litter. "One of the most amazing examples is from savanna ecosystems with termites," said Dr. Claire Foster, first author of the new paper. "They create massive structures where a huge variety of other animals choose to live. These 'nutrient islands' attract large herbivores that preferentially graze around the termite mounds, making them less likely to burn and creating a safety zone during moderate-severity bushfires." In the Anthropocene, as climate change makes fires more likely and more dangerous, understanding these ecological linkages is vital-and could lead to using targeted wildlife conservation as a method of fire suppression. For more, see tinyurl.com/AnimalsandWildfires.



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Cloning Coast Redwoods. Coast redwoods (*Sequoia sempervirens*) are the tallest trees on Earth, pillars of a unique ecosystem. They're also brilliant at sequestering carbon in their massive forms, with the potential to sequester 250 tons over one tree's lifetime. Now, a nonprofit called the Archangel Ancient Tree Archive is cloning the "champion trees" of this species, the 3,000-year old giants that grew older and larger than any others-and thus sequestered the most carbon. The group gathers genetic material from trees known to have grown to gargantuan size-sometimes by taking tiny cuttings from branch-tips in the canopy of giants, sometimes by sampling redwoods that were cut down years ago, as leftover living tissue in the roots can provide enough DNA for cloning.

They then grow them to seedling-hood through a micropropagation technique (pictured, above). Some of the cloned champions have already been planted in a remote area of San Francisco's Presidio (pictured) and are being carefully monitored to see exactly which lineages do best. This is a truly extraordinary story-cloning ancient giants with the potential to be a part of the solution to a problem threatening all of humankind. Awesome! For more, see tinyurl.com/CloningChampions and tinyurl.com/ArchangelTrees.

