

July Eco Newsletter

Please pray for those preparing for COP 26 BBC News

51 countries' climate ministers attended a meeting last weekend in London; some progress was made, but there is a long way to go, particularly on phasing out coal. Please pray for all the scientists, economists and politicians preparing for COP 26, and that the recent spate of floods, heatwaves and wildfires would concentrate minds into swift and largescale action.

Chemical Pollution needs to be tackled with urgency, argues a main feature article in New Scientist 24 July.

In particular:-

Asbestos The damage it causes to our lungs if inhaled was recognised in the 1890s, but the first bans weren't put in place until the 1960s. Most countries still allow its use, including the US.

Heavy metals These include lead, mercury, chromium, arsenic and cadmium. All of them can be toxic in certain forms, are widely used in industry, and are released by the combustion of fossil fuels. A recent report by the UN Environment Programme, for example, flagged "lead in paint" as an ongoing concern. That same report also highlighted the dangers of cadmium and its compounds, which are highly toxic and carcinogenic at very low levels. Cadmium has myriad industrial uses including in batteries, alloys, pigments, solar cells and as an additive in PVC. It can also be a contaminant in food because it is found in phosphate-rich rocks used to make fertiliser. Some countries and regions try to restrict its use. Global exposure to cadmium hasn't fallen over the past decade, however.

Highly hazardous pesticides In 1962, Rachel Carson drew the world's attention to pesticide toxicity in her book Silent Spring. Back then, the World Health Organization estimated that about a million tonnes of pesticides were being used annually; that figure is now six times higher. Compounds designed to kill or disable undesirable organisms have often turned out to be more widely toxic. A list of more than 300 "highly hazardous pesticides" is maintained by the global Pesticide Action Network. Earlier this year, it called for an urgent phase-out of these chemicals by 2030.

CFCs Action against chlorofluorocarbons (CFCs) and other ozone-eating chemicals, used principally as refrigerants and aerosol propellants, is a rare success story showing what international action on chemicals can do.

Endocrine disruptors Defined as chemicals that interfere with hormonal signalling, endocrine-disrupting chemicals or EDCs are a broad class. Some endocrine disruptors, including PCBs and PFOA, also belong to a list of "persistent organic pollutants" that are known to be carcinogenic and toxic to the reproductive, nervous and immune systems.

Environmentally persistent pharmaceuticals Many drugs administered to humans, pets and livestock are by design highly bioactive and resistant to breakdown, and can adversely affect wildlife once released into the environment. The veterinary anti-inflammatory drug diclofenac, for example, is poisonous to vultures that scavenge on dead livestock and has almost wiped them out on the Indian subcontinent. The most common "environmentally persistent pharmaceutical pollutants" are certain painkillers, antibiotics, lipid-lowering drugs, epilepsy drugs and oestrogens from oral contraceptives. As yet, there is no global framework to assess their risks or restrict their use.

Halt the Mineral Rush argues Helen Scales in an article in New Scientist 24 July.

The Pacific island state of Nauru has licensed a Canadian owned company to start deep-sea mining in 2 years' time; countries such as the UK, France, Belgium, Jamaica, Russia, China and Japan all have their sights set on the metals inside coal-sized nodules scattered across a vast abyssal plain, called the Clarion Clipperton Zone, 5000 metres underwater in the Pacific Ocean. If seabed mining were to go ahead, it could unleash an environmental disaster. Nodule mines could wipe out unique species and populations. Sediment plumes could choke animals, including those living far from the mines. Mining wastewater could pollute deep open waters. From tardigrades to tuna, octopuses, corals and whale sharks, nodule mining could harm a huge array of ocean life.

However, deep-sea mining isn't inevitable. That is why Helen has joined hundreds of other scientists and policy experts in calling for a global moratorium. Our Deep-Sea Mining Science Statement outlines a case for a pause on mining until we understand what the full impacts would be, and is open for additional signatures from anyone who wishes to show their support.

Achieving such a move before the two-year period is up will be challenging, but we are optimistic it can happen. A promising avenue looks to be through the UN General Assembly, which has precedent. Its non-binding resolution on high seas drift netting led to a moratorium on this fishing technique, which kills huge numbers of dolphins, whales, sea turtles and seabirds. An equivalent UN resolution for a seabed-mining moratorium could also encompass a wider mining strategy to responsibly meet the demand for minerals needed by the rise in green technologies.

“The insect Apocalypse – Our World will grind to a halt without them”

Dave Goulson Professor of Biology at Sussex University writes in the 25/7/21

Observer: <https://www.theguardian.com/environment/2021/jul/25/the-insect-apocalypse-our-world-will-grind-to-a-halt-without-them>

Insects have declined in abundance by 75% in the last 50 years. Habitat loss, budget cuts and climate change have created a perfect storm for their decline. Few people seem to realise how devastating this is, not only for human wellbeing – we need insects to pollinate our crops, recycle dung, leaves and corpses, keep the soil healthy, control pests, and much more – but for larger animals, such as birds, fish and frogs, which rely on insects for food. Wildflowers rely on them for pollination. **As insects become more scarce our world will slowly grind to a halt, for it cannot function without them.**

Increasingly, most of us live in cities, and grow up seeing few insects other than houseflies, mosquitoes and cockroaches, so the majority of us don't much like insects. Many people are terrified of them. They are often referred to as “creepy crawlies” or “bugs”; unpleasant, scuttling, dirty creatures, living in filth and spreading disease. Few therefore appreciate how vitally important insects are to our own survival, and fewer still how beautiful, clever, fascinating, mysterious and wonderful insects are.

Aside from their role as food, insects perform a plethora of other vital services in ecosystems. For example, 87% of all plant species require animal pollination, most of it delivered by insects. The colourful petals, scent and nectar of flowers evolved to attract pollinators. Without pollination, wild flowers would not set seed, and most would eventually disappear. There would be no cornflowers or

poppies, foxgloves or forget-me-nots. But an absence of pollinators would have a far more devastating ecological impact than just the loss of wild flowers. **Approximately three-quarters of the crop types we grow also require pollination by insects, and if the bulk of plant species could no longer set seed and died out, then every community on land would be profoundly altered and impoverished, given that plants are the basis of every food chain.**

To save them, we need to act, and act now. We can do this in several ways; some simple, others harder to achieve. First, we need to engender a society that values the natural world, both for what it does for us and for its own sake. The obvious place to start is with our children, encouraging environmental awareness from an early age. We need to green our urban areas. Imagine green cities filled with trees, vegetable gardens, ponds and wild flowers squeezed into every available space – in our gardens, city parks, allotments, cemeteries, on road verges, railway cuttings and roundabouts – and all free from pesticides.

There are things that individuals can do to help insects more locally.

This is very different from a lot of these big environmental issues where people feel completely helpless. With climate change, if you walk rather than drive, you don't notice the planet getting any better. But plant some flowers in your garden and you can actually see butterflies turning up. It may be tiny, but you've done something positive, and it's worked. If we want to save the planet, start with what's right under our noses.