

THE OCEAN HOME UNDER ATTACK WHALE NEWS Spring 2017

Here are just a few of the latest reality-check news items that we regret to report, which are impacting whale species around the world. One cannot separate news of the oceans from news of whales. Today we are witnessing the earth's 6th mass extinction. There are some 90 cetacean species out of millions of flora and fauna, up to 300 per day, disappearing. These iconic, well-studied and beloved whales mean so much to us, symbolizing looming issues we all face on the Blue Earth today. What's happening in the seas?

EXTINCTION REPORT

A shocking new study has revealed that 2/3 of the world's animals will be extinct by 2020. An extensive report by the London Zoological Society and WWF examined thousands of organisms and found that 58% of all species have been wiped out since 1970. They predict that by 2020, over a span of 50 years, 67% or 7 in 10 mammals, birds, reptiles, amphibians and fish will be gone.

Extinction rates are now running at 100 times their natural level because of deforestation, hunting, pollution, overfishing and climate change. The largest ever analysis of 14,152 populations of 3,706 species of vertebrates from around the world showed a 58 per cent fall in animals between 1970 and 2012 - with no sign that the average two per cent drop in numbers each year will slow. <http://www.telegraph.co.uk/science/2016/10/27/world-facing-biggest-mass-extinction-since-dinosaurs-warn-expert/>

News of these dire findings was even picked up by mainstream media, including BBC and CNN, although critics decried the results as an exaggeration.

But hang on, says National Geographic explorer and conservation scientist [Stuart Pimm](#) of Duke University, who was not involved with the report. "Trying to take all those different data sets, from all over the world, and putting that in a blender and trying to break that down into one number is irresponsible," Pimm says. "That's disingenuous and not helpful." Pimm says there is far too much variability across different regions, from the land to the sea, and too much uncertainty to predict a dire crash of all species. Further, the report "depresses people to no end, and suggests there is no hope," he says. <http://news.nationalgeographic.com/2016/10/living-planet-index-world-lose-two-thirds-animals-2020-conservation-science/>

Taking a less extreme position, just last month, biologists and scientists gathered at the Vatican declared that 50% of species will be gone by the end of the century.

“The living fabric of the world is slipping through our fingers without our showing much sign of caring,” say the organisers of the [Biological Extinction](#) conference held at the Vatican this week.

<https://www.theguardian.com/environment/2017/feb/25/half-all-species-extinct-end-century-vatican-conference>

Prof Ken Norris, director of science at ZSL, said: "Human behaviour continues to drive the decline of wildlife populations globally, with particular impact on freshwater habitats. (*Ibid*, World Wildlife Fund. "Global wildlife populations: 58 percent decline, driven by food and energy demand."

www.sciencedaily.com/releases/2016/10/161027113306.htm).

CETACEANS IN TROUBLE

Today we are watching one of the world’s smallest cetaceans, the vaquita, in a battle for survival. Just 30 vaquita remain in the Gulf of California, their only habitat, where they are victimized as bycatch of illegal poaching. It has been just over a decade since we painfully witnessed the small, nearly blind white dolphin, the baiji, declared extinct. A few striking examples of cetaceans in trouble: the Taiwanese Humpback: <75 (Center for Biological Diversity); Maui’s dolphin: just 63 individuals over one year of age (New Zealand Department of Conservation) Mekong River Irawaddy dolphins: <150 (IUCN); the Yangtze River dolphin ~500, down from 1100 six years ago (IUCN); the Arabian Sea Humpback whale: <100 (IUCN); Western Pacific Grey Whale: <150 (IUCN).

We now have a government that has removed fundamental science from most of its agencies, freezing research grants, in effect dismantling the cornerstone science needed to create sound public policy and protect the public health and environment. The blatant ignorance of the Trump team who govern by a regressive denial of science bodes poorly for the future.

NORTH ATLANTIC RIGHT WHALE RECOVERY OR EXTINCTION?

Researchers at the Anderson Cabot Center for Ocean Life at the New England Aquarium have concluded that the North Atlantic Right Whale birthrate has fallen by 40% since 2010, postulating that fishing gear and debris may be involved. “Imagine a whale with rope around its tail for a few weeks or months with cuts six centimeters deep,” he said. “Now it has to recover and devote metabolic resources to do so, and it may have been unable to travel and feed and isn’t putting on enough fat. That actually interferes with reproduction in females.”

<http://www.takepart.com/article/2016/09/06/endangered-whales-baby-bust-linked-fishing-gear-entanglement>

The researchers challenge an earlier report by NOAA scientists that “significant progress” is being made in reversing the decline of the species. They also note that entanglement risks are increasing as prey species move north to escape

warming waters, bringing the Right Whale in pursuit. More travel puts the whale at higher risk of entrapment with derelict fishing debris.

<http://www.telegraph.co.uk/science/2016/10/27/world-facing-biggest-mass-extinction-since-dinosaurs-warn-expert/>

MORE WHALE WOES

The Investment Blogwatch's Fukushima update is reporting that 50,000 trillion Becquerel's of Fukushima radiation have already leaked out with 300 tons of radioactive water seeping daily into the Pacific "with no known technologie to fix it". According to scientists, radiation levels are approximately 530-560 Sieverts per hour. Translation: one Sievert will cause fatal cancer in approximately 5% of people, and a dose of five Sieverts will kill 50% of people exposed to it within a month.

<https://investmentwatchblog.com/fukushima-update-50000-trillion-becquerels-of-radiation-leaked-300-tons-of-radioactive-water-leaking-daily-into-the-pacific-no-known-technologie-to-fix-it/> A really good question is: what's the impact of all this on the dozens of species of cetaceans and their food supply in the Pacific Ocean?

Speaking of cancers: sea lions in the eastern Pacific Ocean basin are washing up severely malnourished with mysterious cancers.

The disease starts in the reproductive organs of adult males and females. By the time they die, tumors have sometimes infiltrated their backbones and turned vertebrae to "mush," Norris says. She describes examining one dead animal whose spine she could simply slice through.

[\(https://ww2.kqed.org/science/2016/08/29/scientists-investigate-a-mysterious-cancer-plaguing-california-sea-lions/\)](https://ww2.kqed.org/science/2016/08/29/scientists-investigate-a-mysterious-cancer-plaguing-california-sea-lions/)

What about the fish? Is radiation affecting the prey species of cetaceans? Noting the spread of radiation throughout the Pacific Ocean:

These currents are spreading the radioactive material from Japan. "As of June, 2015, the radiation in the Pacific Ocean reached the US West Coast; the seafood you've been eating from the Pacific ocean is loaded with Cesium-137 and Strontium-90. Both radioactive. Strontium-90 mimics calcium. It ends up getting deposited in human bones, where the radiation wreaks havoc with bone marrow, causing bone cancers and blood cancers like Leukemia. The radiation in the fish is so terrible that wild-caught Alaskan Salmon, Pacific Herring and Canadian white fish are being found bloody, with cancerous tumors throughout their bodies."

[\(https://www.davidwolfe.com/fukushima-radiation-tumors-fish-seafood/\)](https://www.davidwolfe.com/fukushima-radiation-tumors-fish-seafood/)

REVELATIONS FROM THE ARCTIC

NOAA's annual Arctic Report Card, a peer-reviewed source of the status and trends of the Arctic environment found that extensive changes due to the persistent temperature increases and decline in sea ice.

Observations in 2016 showed a continuation of long-term Arctic warming trends which reveals the interdependency of physical and biological Arctic systems, contributing to a growing recognition that the Arctic is an integral part of the globe, and increasing the need for comprehensive communication of Arctic change to diverse user audiences.
<http://www.arctic.noaa.gov/Report-Card>

NOAA also found that Arctic Ocean is more prone to acidification due to its water temperatures than more southern bodies of water. As the Arctic warms, permafrost thawing allows methane locked in formerly frozen methane hydrates to escape. Scientists estimate that a 50 (to 500)-Gigaton burst of methane is poised to hit the atmosphere from the thawing Arctic. 5,000 methane-bubbling craters (also called pingos) have been counted across Siberia's Arctic tundra. (Methane is a 100+ times more potent greenhouse gas than CO₂.) Entire towns and villages are at risk: as permafrost melts, buildings and housing once on solid footings are shifting, wavering, even collapsing.

Shortly after the Fukushima event, the US stopped monitoring for radiation levels on the west coast (or at least that's what we the people were told.) Thanks, Obama. Didn't we just hear that the current White House administration recently forbid the use of the term "climate change" in meetings and by the Department of Energy? Weren't NOAA's climate change web pages were taken down after the January 20, 2017, inauguration? Wasn't a media blackout ordered at the EPA? I guess we'll next be told to believe the earth is flat. "Tremendously flat. Really, really flat."

FISH SPECIES COLLAPSE AROUND PACIFIC

What do killer whales, sea lions, puffins and common murrens have in common? 300 puffins washed up emaciated (January, 2017). Sea lions starving. Orcas don't have enough to eat. Salmon fisheries collapsing; lowest salmon runs in recorded history. Up to half a million seabirds on the beaches from California to Alaska, dead from starvation.

Following last year's massive die-off of Alaskan seabirds, scientists still looking for answers. Heather Renner, a supervisory wildlife biologist with Alaska Maritime National Wildlife Refuge, agrees. "About 30,000 carcasses were counted in some way or another, but we know only a small percentage of those that die actually make it to the beach.... I would say possibly hundreds of thousands were killed..." There are still subsistence communities that rely on seabirds for a certain portion of the year's harvest, both adult birds and eggs. Whale population could also be affected, as the seabirds find fish, and then whales hone in on these feeding flocks.

Kuletz also mentioned that the tourism industry benefits from abundance of sea birds found in Alaska. "The abundance of bird life we have here, people

come from all over the world to see them," Kuletz said. ... "Almost always it's been starvation... Sea birds are top predators.... They're sort of sentinels for our environment. They have definitely let us know that there's change going on in the ocean ecosystem." ([KTUU](http://www.ktuu.com/content/news/Following-last-years-massive-die-off-of-Alaskan-seabirds-scientists-still-looking-for-answers-413757753.html), Feb. 15, 2017).

<http://www.ktuu.com/content/news/Following-last-years-massive-die-off-of-Alaskan-seabirds-scientists-still-looking-for-answers-413757753.html>

Top predators include whales (species from orcas to blues and bowhead), walrus and sea lions; what affected the birds may be rippling through entire ecosystems. Sharon Atkinson of the University of Alaska Fairbanks presented information about the mass deaths at the Alaska Marine Science Symposium in January:

The seabirds that died by the hundreds of thousands last winter in the Gulf of Alaska appear to be the latest victims of what they're calling "the blob," a huge body of warm ocean water that dominated North Pacific marine systems during the last few years... "The birds were underweight to the point of starvation," Atkinson said. <http://kyuk.org/post/massive-murre-die-last-winter-caused-warm-water-disrupting-food-chain-and-causing-starvation>

It's likely about the fish, and by consequence, everything that preys on them:

A year after tens of thousands of common murrelets, an abundant North Pacific seabird, starved and washed ashore on beaches from California to Alaska, researchers have pinned the cause to unusually warm ocean temperatures that affected the tiny fish they eat.

Elevated temperatures in seawater affected wildlife in a pair of major marine ecosystems along the West Coast and Canada, said John Piatt, a research wildlife biologist for the U.S. Geological Survey. Common murrelets are an indicator of the regions' health.

"If tens of thousands of them are dying, it's because there's no fish out there, anywhere, over a very large area," Piatt said.

Common murrelets eat small forage fish [which] were largely absent when the National Marine Fisheries Service conducted surveys in summer 2015... A conservative extrapolation indicates 500,000 or more common murrelets died, Piatt said. Nearly all were emaciated... "

http://www.chronline.com/news/warm-ocean-water-triggered-vast-seabird-die-off-experts-say/article_97d9fe30-efc3-11e6-b9e9-d3f2b9a09af5.html. AP)

"It's all interrelated — from the smallest harmful algal blooms and phytoplankton issues to whale die-offs and loss of sea ice," she said. "It's absolutely all connected, and I think we're so far past the point of needing some kind of conservation and management action — before it's too late to

give the ecosystem a fighting chance." (<http://kucb.org/post/puffin-die-st-paul-island-may-point-larger-ecosystem-problems>)



St. Paul residents have seen 300 puffin carcasses wash ashore since mid-October. Scientists say seabirds are good indicators of overall ecosystem health, which means the die-off could be a sign of trouble for all sorts of species. (CREDIT COAST ISLAND SENTINELS)

THE SNAKE RIVER DAMS HAVE TO GO

Like many other species in the northern Pacific, the Southern Resident Killer Whale population is showing signs of starvation. Biologists and advocates are calling for the removal of dams that are decimating Chinook salmon and their spawning habitat. They are warning that there's not enough fish for the whales, and they are emaciated and starving to death. Two members of the J Pod, J-28 and her calf J-54, both died of "apparent starvation" in October, after being observed in an emaciated condition. J-14, went missing and J-55, a calf, also passed in January. The J pod has just 26 members, while the K and L pods have just 19 and 35 individuals as of the count in September.

Meanwhile the Southern Resident population as well as the transient killer whales in the region are still contending with industrial pollution that has made them some of the most contaminated marine mammals on earth.

<https://www.kcet.org/redefine/southern-resident-killer-whales-are-dying-of-starvation>

OCEAN IRON FERTILIZATION DILEMMA

Geoengineering critics have been discussing iron ocean fertilization as one of the latest ill-advised attempts to rein in global warming. Iron is a nutrient that stimulates phytoplankton growth in the oceans. The hope is this growth will be

followed by an uptake in CO₂. "Seeding" the oceans has been going on recently but with mixed and unpredictable results. According to a presentation by Woods Hole Institute, "There are numerous biochemical and biophysical 'side effects' [to this form of geoengineering]. Some may help combat climate change, some exacerbate it." (Andrew Watson- Univ. East Anglia] <http://www.whoi.edu/fileserver.do?id=28863&pt=2&p=32449>

Researchers found that adding iron increased chlorophyll (phytoplankton) biomass but did not necessarily enhance carbon sequestration. They noted that most algal carbon doesn't reach the target location, the deep sea. The process is influenced by many variables including temperature, winds, biota, currents, even light, as well as mixing by horizontal diffusion and mass stretching by horizontal flows. The effects of algal blooms across the earth's water bodies are well-known: after fertilization (often from farming or residential fertilizer runoff), massive algal growth in the water blocks sunlight, killing unfortunate light-dependent organisms beneath. The death of the short-lived algae removes oxygen from the water, adding to the number and size of hypoxic "dead zones" throughout the seas.

Another relevant question: what is contained in the "seed" material being sprayed over the oceans? Most of us have seen the criss-cross geo-engineered cloud cover which spreads out into a thin veil overhead. There is much concern that materials used in the solar radiation management (SRM) to thwart incoming UV light is toxic; patents reveal the mixtures contains aluminum, barium and strontium, and we are breathing this in when the "cover" disintegrates and the particulates fall. In the case of ocean iron fertilization, concerns that steelmaking slag is part of the mixture is based on published works including "Continuous Supply of Bioavailable Iron for Marine Diatoms from Steelmaking Slag," from the Iron and Steel Institute of Japan, who hails the byproduct as one that stimulates diatom growth. (https://www.istage.jst.go.jp/article/isijinternational/51/3/51_3_513/article).

However, critics are stating that the material is full of other toxins and should not be injected into our oceans.

In the case of ocean fertilization, bioavailable iron is the primary material needed. Is it possible that the toxic waste material from steel processing (called "slag") could be used for engineering our oceans? Have scientific studies been done to study using this industrial processing waste for ocean fertilization? Yes. Is this waste "slag" material toxic? Yes again. If we for the moment ignore the fact that iron slag is toxic, does ocean fertilization hold any potential benefit for the planet under any circumstances? Available independent studies say no.

[http://www.climos.com/imo/Other/Other_greenpeace_iron_fert_critiq_Sep_2007.pdf]

Any perceived benefit from short-lived CO₂ uptake is far outweighed by the long list of consequences. In spite of the known negative effects, there will always be those who attempt to profit from environmental devastation by trying to sell ocean fertilization as a "cure" to excessive CO₂.

(<http://www.geoengineeringwatch.org/geoengineering-with-industrial-waste/>)

WHALES TO THE RESCUE, PLEASE!

Numerous studies have confirmed that iron is a byproduct of cetaceans' digestion. Their excretion naturally fertilizes a vast area where they defecate: the photic zone, the region near the surface where light penetrates and where phytoplankton feed. The iron-rich fecal matter leads to phytoplankton growth, which, like all flora, uptakes CO₂ from the atmosphere. These organisms in turn feed the zooplankton and krill that sustain whales and then support the entire complex food web. The whales' ability to "kick start" the marine food web and lower CO₂ levels in the atmosphere by their iron-rich "whale poo" has been documented. Why do we need risky, ocean iron fertilization with its likely toxic side effects - including creating even more dead zones - when we can get the same effect by keeping whales in the oceans! In these perplexing times of mass extinctions, we must stop all cetacean hunts and support whale protections and reproduction. It has been said, "Whales can save the planet!" This could not be truer today, but we must support them, letting them flourish and allowing them to do what comes naturally for them: removing CO₂ from the atmosphere through their biological processes!

This urgency is a major reason to support CSI in its work to stop whaling and support populations of cetaceans everywhere! At the IWC, in Washington, through decades of litigation, CSI has been a strong voice for whales and dolphins!

FRACKING THE OCEANS

Despite the catastrophic deluge of oil and BP's masking cover-up chemical, Corexit, during the 2010 Deepwater Horizon disaster in the Gulf of Mexico, the EPA has been quietly allowing unlimited dumping of fracking wastewater and chemicals into the Gulf. Fracking, usually thought of as a land-based industry, has all along been a booming offshore business, along with the mess that it spews. Between 2010 and 2014 1500 offshore fracks in 630 different wells were approved in the Gulf of Mexico by the Obama administration.

To add insult to an already injured region, the wells received permits exempting them from comprehensive environmental reviews. This is thanks to "Cheney's loophole," enacted in 2005, which permanently exempts fracking fluids from the Clean Water Act. This means the EPA cannot and will not regulate fracking wastewater despite independent findings of cancer-causing chemicals including benzene, formaldehyde and hydrogen sulfide. In just one year, 75 billion gallons were dumped into the gulf, the home of 28 cetacean species, including endangered sperm whales and the North Atlantic Right Whale. Frail deep sea ecosystems, along with marshes, corals, mangroves and the marine life that live there must contend with a constant struggle against the sins of the fossil fuel attack, relentless assaults and degradation. The current administration has shown no empathy for non-human species; marine life is perhaps just "collateral damage", placed utterly at the mercy of its unapologetic exploiters. The oceans should not be bottomless sewage pit of fossil

fuel extraction activity; this kind of environmental treachery cannot be just “flushed away” – for the ongoing apocalyptic loss of life there is the consequence.

For more read <http://www.truth-out.org/news/item/37710-epa-plans-to-allow-unlimited-dumping-of-fracking-wastewater-in-the-gulf-of-mexico> and dev.trueactivist.com/oil-and-gas-companies-dump-fracking-wastewater-directly-into-oceans-with-epa-approval/+&cd=10&hl=en&ct=clnk&gl=us

THE NAVY'S UNSPEAKABLE NEGLIGENCE

You may remember the battles against the Navy's electronic and sonar war exercises off the coast of Washington and beyond. Explosions, acoustic weapons, sonar, unthinkable takes of millions of marine mammals and seabirds? Truthout has reminded us in a report from March 15, 2017: by the year 2037, the Navy will have injected trillions of pieces of plastic debris to the oceans off the coast of Washington and Oregon. Those unnecessary war games, which the navy (as usual) assures the public will have “no significant impact” on the environment, people, or well, anything, seem unstoppable. What does the navy consider non-impactful? Half a million pounds of flares - which contain hexavalent chromium (highly carcinogenic when ingested even in small quantities), billions of metal-coated glass fibers, and trillions of microfibers of radar-blocking chaff – dumped into the oceans. Chaff fibers, which the navy acknowledges is an “ingestion stressor” are roughly the size of a human hair, up to 3 inches long. (Chaff has been compared to fiberglass on the skin.) In a single year, 43.7 tons of chaff were released over a 2.7 million acre range.

Moreover, according to the Navy, the use of chaff in the Pacific Northwest will increase from the current 2,900 "events" per year to 5,000 events. The maximum number of chaff canisters that the Navy says it would drop in one place is 360, or about 160 pounds of chaff containing 5.3 billion fibers. Thus, it is challenging to figure out how the military came up with its "worst-case scenario for environmental concentration" estimate for all that chaff dropped in one place: only 0.02 fibers per square meter. That figure assumes the chaff plume spreads out evenly over 200 square miles, and it does not count multiple chaff events that occur in one location (in this case, within the Pacific Northwest naval training region). Multiply those 360 canisters by 5,000 events and, at a minimum, the Navy is injecting 26.5 trillion chaff fibers -- or 400 tons of chaff -- per year into the environment. The chaff is being dropped quite near the shoreline -- sometimes as close as 12 miles off Washington's coast.

"Does chaff drift inshore to more sensitive habitats?" asked Sullivan.

"Absolutely. What are the chemical and physical impacts of chaff on soil functioning? What are the implications to human and wildlife health, from so much aerial deposition? What happens if the water body where chaff lands is not the ocean, but an enclosed inland lake, where concentrations of metals build up?" <http://www.truth-out.org/news/item/39846-naval-exercises-add-trillions-of-pieces-of-plastic-debris-to-oceans>

Let's not forget the 20,000 tons of heavy metals and explosives hitting the seas. No significant impact? Tell that to the whales who collide with drifting chaff. Tell that to seabirds who are swallowing plastic pieces and building nests out of chaff. The staggering impacts to our marine life and our oceans, as well as to all of us who may be harm's way, is yet another assault on the blue planet that defies justification.

WE WERE WAITING FOR THIS

Does the loss of wildlife benefit anyone?

The Navy's own so-called environmental impact statement (EIS) claims the potential for impacts from military-expended materials like flares and chaff to sea turtles are low, in part because there are so very few sea turtles. *Ibid.* and <http://nwtteis.com/default.aspx>

Of course, if the species affected are gone – extinct - why even do an environmental impact statement? We predict we will see this justification to skip the entire review process, especially within this current political climate, in countless scenarios with the military, Big Oil, Big Telecom, Big-Pharma, Big-Ag, Big-Anything that pollutes and destroys our environment.

We are living in a bizarro-world of environmental destruction, unfathomable losses and equally confounding apathy. These are only a handful of threats to our entire planet. There's more. Pick your issue, and work on it. Whales – and all life on earth - are at stake.