



We Are The Rock

By Jay Mallonee

Imagine for a moment that we found life on another planet.

To find something so rare and revered would be the most amazing discovery and achievement in human history. Yet, on our own planet, humanity treats life as if it were a disposable resource which has been placed here for our personal use. Such an attitude has culminated in our current global environmental problems. Albert Einstein once said, “We shall require a substantially new manner of thinking if mankind is to survive.” His statement has never been more relevant.

Currently, over 7 billion people inhabit this planet. Our ability to modify the environment to suit our needs has made us the dominant species on earth and the world’s number one

environmental problem. Fueled by thousands of different cultures, belief systems, and political and economic agendas, humans have taken what they consider theirs with little thought to the ecological consequences. And, we have done so in a haphazard, chaotic manner. Now we are faced with solving environmental issues we don’t completely understand, mostly because we weren’t paying attention to how we arrived at this point. For example, the removal or depletion of predators from any ecosystem on earth has been shown to be a major cause of environmental degradation (Estes et al. 2011). From atop all food chains, predators produce far-reaching effects that ripple downward throughout

ecosystems and influence what diseases will be expressed, what grass species will grow, and the quality of both fresh and salt water. The cause of this mistake was our inability to perceive, or acknowledge, that we are only one part of a much larger system: the earth. As a result, we have violated some of the basic processes of life.

The Evidence

For life to occur around the globe, there is a particular chemical reaction that must be maintained, mostly by life itself. The reaction is reversible. In one direction, known as photosynthesis, plants use light energy to combine water and carbon dioxide (CO₂) to make more of themselves. In doing so, oxygen is released as a byproduct. Other life forms, including us, run photosynthesis in reverse and use oxygen to operate the processes necessary for maintaining themselves, such as growth and reproduction. These organisms release CO₂ as their byproduct, usually by exhaling. Life is literally connected with every “breath” it takes. Human beings have altered this reaction which so far has maintained life for billions of years. We have set in motion a cascade of extinction level events, potentially equal to the occasional asteroid strike.

We no longer need to wait for such a cosmic rock to appear. We are the rock. Here’s why:

Superpredator (Darimont et al. 2015)

Our ability to exploit the surrounding environment is different from other terrestrial predators. We kill adult prey at exceptionally high rates, up to 14 times greater than our competitors. Adults are the age group that reproduce to ensure future populations. Other predators tend to focus on juveniles, whose loss does not have such an immediate effect on population levels. Destroying adults at unnaturally high rates, i.e., commercial hunting and fisheries, are producing unsustainable populations of the very species we need to survive. The ecological interactions of these species within food chains have become altered so that nutrients and energy are less available to the organisms that need them. This process degrades ecosystems. We compound this effect by killing predators, whose dwindling numbers have diminished their mediating influence throughout all ecosystems of the world.

Sixth mass extinction (Ceballos et al. 2015)

Human activity has caused extinction rates to soar, up to 100 times higher than what nature produces. This has

resulted in a rapid loss of biodiversity over the last few centuries which indicates a sixth mass extinction is now occurring. Why is biodiversity so important? The more complex an ecosystem is the more it can withstand sudden change. If a city's economy, for example, depended solely on one industry, say a lumber company, the city's economic health would hinge on the fluctuating demand for wood. If its economy was more diversified, the city would be more flexible and less vulnerable to change. The same concept applies to the environment, in this case the sustainable production of oxygen, nutrients and other resources necessary for life. The evidence shows that if the current elevated extinction rate continues, the biodiversity necessary to support human life will soon no longer exist, and in as little as three human lifetimes.

Carbon dioxide

Thousands of scientific, peer-reviewed studies have demonstrated that human activity is causing a change in global climate, most notably from our unending release of CO₂ into the atmosphere, as a result of burning fossil fuels and deforestation. There is little doubt that humanity is responsible. The consensus that humans are causing climate change is

shared by 90 - 100 percent of publishing climate scientists (Cook et al. 2016), depending on how this consensus is measured. The overabundance of CO₂ has the direct effect of retaining heat in the atmosphere and oceans, thus raising their temperatures. As a result, a chain of interconnecting global events is underway.


Many of these changes have occurred to some extent in the past, but not at the unnaturally high rates at which they're occurring now, and all at once. Melting polar ice caps and glaciers are releasing large amounts of fresh water into the world's oceans. This has resulted in rising sea levels and has begun to slow some oceanic currents (Rahmstorf et al. 2015). These currents are the conveyor belts that distribute heat and nutrients to support all life on earth. The melting of permafrost in northern latitudes has begun to release methane into the air (Parmentier et al. 2015), which has a much greater ability to retain heat than does CO₂, thus compounding the problem. In addition, as the Arctic melts at an unprecedented rate, algal blooms have caused the snow to darken, therefore, the snow absorbs more heat and melts even faster (Lutz et al. 2016), eventually increasing the

release of methane from the ground. When rising CO₂ levels cross a certain threshold, even the unfathomable can occur.

The cumulative effects of all these issues, especially rising CO₂ levels, can cause the death of phytoplankton in the oceans (Sekerci and Petrovskii 2015). These microscope marine plants produce about 70 percent of atmospheric oxygen. When they die so does most of life on earth. Perhaps we'll know in about three human lifetimes.

What Needs To Happen

Through fear, apathy, conflict and denial we have postponed finding global solutions that counter our destructive power and have stunted the implementation of the solutions we do have, i.e., solar and wind power, etc. There is no one solution. There needs to be many of them, all implemented simultaneously. To accomplish this, we must change the basis of our behavior from one of selfishness to that of accountability: turn off the flow of CO₂, create fast-acting conservation efforts that maintain biodiversity through increased habitat and reduced overexploitation, and implement real solutions based on science and the

current evidence rather than on agenda and emotion. In other words, if we don't stop releasing CO₂ into the air and prevent the massive killing of species, we will soon terraform the planet into one that cannot support human life. 

*Citations within the text can be found online at:

<http://www.wolfandwildlifestudies.com/paperdownloads.php>

Therefore, the original peer review publications can be found in one place, making the evidence easily accessible. The published papers can be viewed or downloaded as PDFs.

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