

## Alarming Biodiversity Loss and Species Reduction

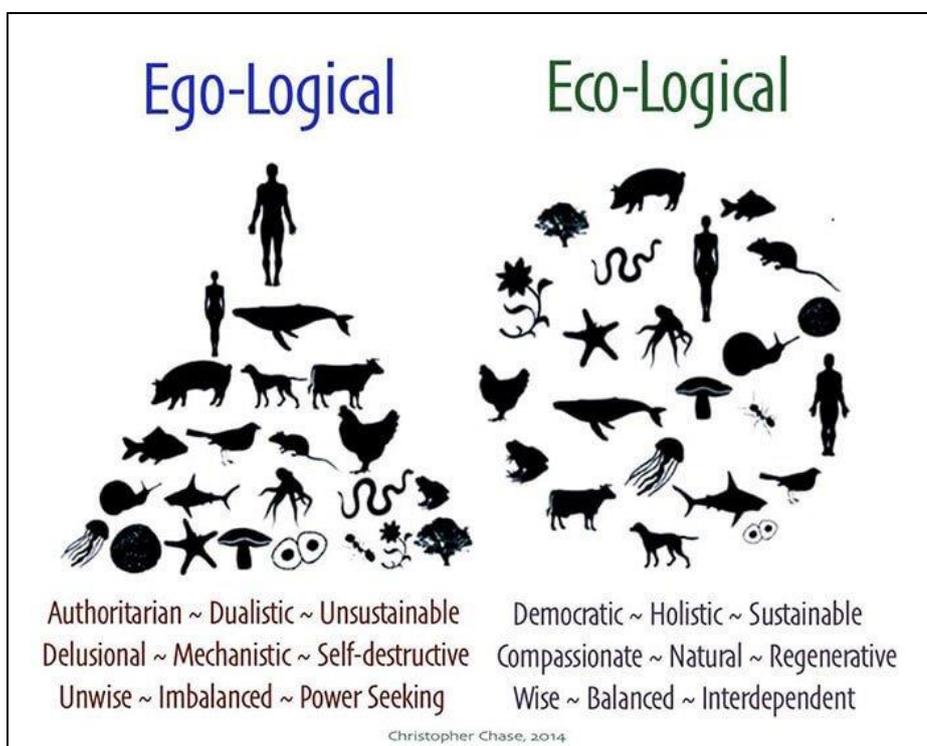
This is the second of five study articles on Biodiversity for Thrive’s 2019 inter-schools Enviro Quiz and Art Competition, which will take place on Friday September 6<sup>th</sup> at Kronendal Primary School, Hout Bay. All primary and high schools are invited to register to participate by emailing [enviroquizart@thrive.org.za](mailto:enviroquizart@thrive.org.za). Entry is free.

Please see Sentinel Article link:

<https://www.sentinelnews.co.za/news/biodiversity-loss-and-species-reduction-alarming-22403925>



Last week, April 22<sup>nd</sup> was Family Day, a public holiday in South Africa. It was also the 49<sup>th</sup> Earth Day, this year focused on protection of species, a timely reminder that human activity is responsible for the climate and habitat change which threatens many endangered and vulnerable species with extinction. For 49 years, there has been growing awareness and understanding of the need to better protect our biodiversity (biological diversity) and to care for our collective home, planet earth. And despite rallying calls to “act or die”, not much has changed in the worlds of policy-makers ... except now, the odds have changed. Human activity is accelerating the decline of biodiversity at such an alarming rate, termed the 6<sup>th</sup> Mass Extinction, that scientists and environmentalists have never before been more aligned to the urgent need to intervene. Sir David Attenborough’s new series, “Our Planet”, is a chilling collation of evidence as to the extent of the damage that is being inflicted on the natural world, of which we humans are a part. So to what extent are humans really part of nature’s family? Or are humans above nature?



With time comes deeper knowledge and scientific understanding as to how our planet works. As Rachel Carson wrote in 1962 in her now famous book “Silent Spring”, which documented the adverse environmental effects caused by the indiscriminate use of pesticides, “in nature, nothing exists alone.” The adverse impact of our human activity – including oil spills, pollutions from factories and power plants, raw sewage, toxic dumps, pesticides, the loss of wilderness, air pollution and more – takes time to really become evident. But this doesn’t mean that the impact isn’t real and with negative consequences for us all.

**Measurement of species reduction** is standardised through The International Union for Conservation of Nature (IUCN) Red List, established in 1963, to objectively categorise the extinction risk for every species on the planet. Assessments are carried out through vast networks of scientists, conservationists and other stakeholders pooling their knowledge. Red Lists have become the backbone of global conservation as a unified and standardised tool to measure biodiversity loss and inform policy and conservation planning.

**South Africa leads the way**, being the first megadiverse country to fully assess the status of its entire flora, with a comprehensive Red List for its mammals and its plants. Check out the work of proactive organisations such as The Endangered Wildlife Trust and South African National Biodiversity Institute. Whilst threats to mammals such as rhinos and the Western Cape Leopard Toad are quite well known, alarmingly, one in four plant species in SA is of conservation concern. The biggest threat to plants is loss of habitat which includes the irreversible conversion of natural vegetation for infrastructure development, urban expansion, crop cultivation, timber plantations and mines. Other threats include invasive alien plant species outcompeting indigenous plant species; habitat degradation from e.g. livestock over-grazing; pollution and climate change. But all is not doom and gloom. South Africa boasts some real conservation success stories, often driven by cooperation between conservationists and the private sector. The Bontebok, for example, was saved from the brink of extinction by a few proactive landowners in Bredasdorp, and today both the Cape Mountain Zebra and the South African populations of African Lion have been listed as Least Concern, due largely to their expansion on private protected areas. Innovative interventions such as the Badger Friendly Honey Programme, livestock guarding dogs and biodiversity stewardship schemes are beginning to have a positive impact on many species.

## IUCN RED LIST CATEGORIES



THERE ARE 9 IUCN RED LIST CATEGORIES (OF WHICH 7 ARE ILLUSTRATED ABOVE):

1. **EXTINCT (EX) – NO KNOWN INDIVIDUALS REMAINING**
2. **EXTINCT IN THE WILD (EW) – KNOWN ONLY TO SURVIVE IN CAPTIVITY, OR AS A NATURALIZED POPULATION OUTSIDE ITS HISTORIC RANGE**
3. **CRITICALLY ENDANGERED (CR) – EXTREMELY HIGH RISK OF EXTINCTION IN THE WILD**
4. **ENDANGERED (EN) – HIGH RISK OF EXTINCTION IN THE WILD**
5. **VULNERABLE (VU) – HIGH RISK OF ENDANGERMENT IN THE WILD**
6. **NEAR THREATENED (NT) – LIKELY TO BECOME ENDANGERED IN THE NEAR FUTURE**
7. **LEAST CONCERN (LC) – LOWEST RISK (DOES NOT QUALIFY FOR A MORE AT-RISK CATEGORY; WIDESPREAD, ABUNDANT TAXA ARE INCLUDED IN THIS CATEGORY.)**
8. **DATA DEFICIENT (DD) – NOT ENOUGH DATA TO MAKE AN ASSESSMENT OF ITS RISK OF EXTINCTION**
9. **NOT EVALUATED (NE) – HAS NOT YET BEEN EVALUATED AGAINST THE CRITERIA**

All living things have an intrinsic value, and each plays a unique role in the complex web of life. Ask yourself, in this year ahead to the 50th Earth Day on April 22nd 2020, what you can do to protect any endangered and threatened species: bees, coral reefs, elephants, giraffes, insects, whales, orangutans and not forgetting the many plants. For more ideas and information go to <https://www.earthday.org/campaigns/endangered-species/earthday2019/>.

QUESTIONS

1. What is the international system for measuring loss of biodiversity?
2. Name 4 different species that are endangered?
3. What is the term given to today's rapid loss of biodiversity?
4. Can you name 3 South African success stories, for species recovery and biodiversity protection?
5. What will be celebrated on 22<sup>nd</sup> April, 2020?
6. Who is the famous author of "Silent Spring" published in 1962?
7. Name 3 threats or detrimental activities to biodiversity
8. What does SANBI stand for?
9. How many plants in South Africa are endangered?
10. Name 3 defining adjectives for "ecological"

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**IUCN RED LIST CATEGORIES**

Extinct (EX) Threatened (EW, CR, EN, VU) Least Concern (LC)

EX - EXTINCT (NO KNOWN INDIVIDUALS REMAINING)  
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Other threats include invasive alien plant species; competing indigenous plant species; habitat degradation from e.g. livestock overgrazing; pollution and climate change. But all is not doom and gloom. South Africa boasts some real conservation success stories, often driven by cooperation between conservationists and the private sector.

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See answers on page 7

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