Ecological Integrity refers to the ability of an ecosystem to support and maintain ecological processes and a diverse community of organisms. Ecological Integrity is measured as the degree to which a diverse community of index organisms is maintained and is used as a proxy for ecological resilience, defined as the capacity of an ecosystem to adapt in the face of stressors, while maintaining the functions of interest.

For example, the presence of a diverse portfolio of species increases the probability that at least some of these species have the traits required to survive and maintain a suite of ecosystem functions in the face of climate change. This is the case for an intact coral-reef system that can better withstand the effects of ocean acidification than an impacted reef, while maintaining functions such as productivity.

HOW WAS IT MEASURED?

The Ocean Health Index measured Ecological Integrity as the relative condition of assessed species in a given location. This was calculated as the weighted sum of the International Union for Conservation of Nature (IUCN) assessment of species. Weights used were based on the risk of extinction for the following: Critically endangered (0.2), Endangered (0.1), Vulnerable (0.05), Least Concern (0.01). For primary coral reefs, the spatial average of these per-pixel scores was based on a 3 km buffer for reefs derived from all core maps; the spatial average was computed for the entire OHI.

IUCN periodically reports the results of assessments of new species, and the Ocean Health Index incorporates the latest information available. Newly reported population trends produced by IUCN for more than 3,500 species were added in 2018, and approximately 330 species were added in 2017.

Ecological Integrity is a Resilience measure used in calculating scores for the Goals. It measures the impacts on Ecological Integrity within the context of terrestrial, coastal, and marine systems and is expressed as a percentage of baseline.

See Raw Data

REFERENCES

