Indicator Proposal Summary Template

Note: This document is provided as a template for the 1-2 page summary that should accompany your Indicator proposal for the 2020 Comprehensive review

Additional information/documentation that should accompany the summary include:
- Draft metadata *(Word file only please)*
- Available data and/or link to where data can be located-
- Any methodological documents and/or links to these documents

Full name of the Indicator: Living Planet Index

Custodian Agency(ies): UNEP-WCMC

Goal and target addressed: Goal 15, Target 15.5: Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species

What type of proposal (replacement, refinement, adjustment and addition), for replacement, refinement and adjustment, please list the original indicator and its number: Addition of a *Tier II* indicator

1. Background and rationale for the indicator proposal

The Living Planet Index tracks changes in wild species abundance over time. The index is an aggregate of 25,000 population trends of vertebrate species globally and the database underlying the trends is continuously augmented. These building blocks are time-series of population sizes (or a proxy measure) from terrestrial, freshwater and marine habitats around the world.

A decrease in the Living Planet Index represents an overall reduction in species population size, meaning that on average there has been a greater population decline among species than population increase. This implies that diversity will have reduced, even if none of those species populations has declined to extinction.

Species population data are considered a sensitive metric of biodiversity change (Buckland et al 2011; Gregory et al 2010; Santini et al 2017), which means that the Living Planet Index can detect pressures on habitats and the consequent loss of biodiversity even if species have not yet been assessed as threatened with extinction. The Living Planet Index is often used as a complementary indicator to the Red List Index (Indicator 15.5.1) in other indicator frameworks (CBD, IPBES).

We propose that the Living Planet Index is uniquely placed to provide a measure for the degradation of natural habitats and the loss of biodiversity as part of Target 15.5 and can provide updates at greater temporal frequency than the Red List Index, more rapidly reflecting important changes to ecosystems. This indicator also provides trend data for other vertebrate groups, fishes and reptiles, which are not included in the Red List Index.

The Living Planet Index can be disaggregated in a number of ways according to region, habitat and species groups, which means that there are linkages from this indicator to SDG targets 6.6, 14.2,

14.4, 15.1, 15.2, 15.4, 15.7 and 15.8. The Living Planet Index fulfils the criteria for inclusion as a Tier 2 indicator as it is regularly produced by some, but not all countries.

2. Information on how and when the methodology has become an international standard and who is the governing body that approves it

The Living Planet Index was initially developed as a global indicator to measure the state of the planet (Loh et al 2005), subsequently as one of the suite of indicators towards the Convention on Biological Diversity 2010 target (Collen et al 2009; Butchart et al 2010) and most recently to monitor progress for the Convention on Biological Diversity Aichi targets 5,6,7 and 12 (Tittensor et al 2014; McRae et al 2017).

Beyond the Convention on Biological Diversity, the global Living Planet Index has been used in the IPBES global assessment, IPBES regional assessment, GEO-6, Global Wetlands Outlook, GBO4.

The methodology has been adopted at a sub-global (Arctic Species Trend Index, Mediterranean wetlands) and national (Canada – part of the Canadian Environmental Sustainability Indicators, Netherlands, Uganda, Sweden, China, Belgium- in progress) level, as well as for selected groups of species and habitats (Arctic migratory birds, migratory fish, forest species). The method has been further adapted to monitor trends in habitat extent for wetlands (Dixon et al 2016; Darrah et al 2019) instead of species. The indicator has also recently been used to explore how biodiversity trends in developing countries vary with other SDG indicator trends (Ament, et al. in press). The method has been peer-reviewed (Loh et al 2005; Collen et al 2009; McRae et al 2017) and each iteration of the global Living Planet Index in the Living Planet Report passes through approval at WWF and ZSL before publication. The estimated reach of the Living Planer Report is 100 million people.

3. Data sources and data availability

The database is hosted and accessible online (www.livingplanetindex.org) and has a search interface that registered users can operate to access and download the data. As soon as new data is entered, it is available in the database. The data sources are listed for each data sets and come primarily from scientific papers and national species monitoring schemes.

Data are currently available for 195 countries and guidelines to develop a national level LPI are available on the Biodiversity Indicator Partnership website. At present the Living Planet database contains at least 40 population trends for 60 (32%) of the 192 countries (often many more) and these datasets continue to grow. As the amount of data varies for each country, where insufficient data are available to calculate a Living Planet Index at the national level, techniques have been developed (Spooner et al 2019; Leclère et al) to calculate extrapolated values.

LPI data analysis follows a robust and peer reviewed method (Loh *et al*, 2005 and Collen *et al*, 2009 for the unweighted version; McRae *et al*, 2017 for the diversity-weighted version), which is publicly available R package for using the LPI method on GitHub.

4. Confirmation/explanation of joint submission with other partner/co-custodian agencies (if applicable)

This proposal is a joint submission between WWF and ZSL who develop and maintain the Living Planet Index in partnership. WWF initially developed the Living Planet index in 1997 and ZSL became the scientific partner in 2006 to maintain the database and continue the technical development of the method and applications.

5. Conclusion

We propose the Living Planet Index as an additional indicator for Target 15.5 and recommend its listing as a Tier 2 indicator. The Living Planet Index can measure components of Target 15.5 that are not covered by the existing indicator and can offer a time sensitive measure of biodiversity change for threatened as well as non-threatened species.

References

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