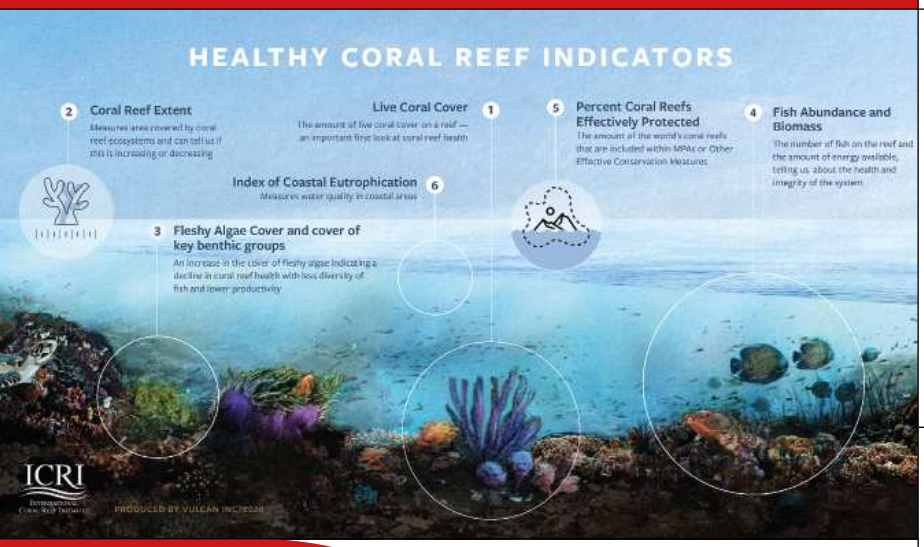
POST
BIODIVERSITY FRAMEWORK
EU SUPPORT
2020

TOWARDS POST-2020 MOBILIZATION OF #27

CORAL REEFS: A VULNERABLE ECOSYSTEM CRITICAL TO LIVING IN HARMONY WITH NATURE



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Ensuring coral reefs are at the core of biodiversity action and supporting wide mobilization for ambitious decisions at CBD COP15 will be a critical step for nature and people.

"CORAL REEFS AND ASSOCIATED ECOSYSTEMS ARE VITAL FOR MARINE BIODIVERSITY. THEY PLAY A CRUCIAL ROLE IN PROTECTING COASTAL AREAS AND ARE CRITICAL FOR THE HEALTH AND WELLBEING OF MANY SPECIES. SAVING CORAL REEFS IS ALSO ABOUT SAVING US AND FUTURE GENERATIONS."
Virginijus Sinkevičius, Commissioner (2019-2024), Environment, Oceans and Fisheries, European Commission

Global assessments show coral reefs to be on a catastrophic trajectory [1]. Almost 50% of living coral has been lost since 1870 and these losses are accelerating [2]. In light of predicted global population growth, consumption rates, and global climate change scenarios, the direct and indirect pressures on coral reefs will continue to increase over the next 30 years up to 2050 and beyond.

Retaining and improving the health and function of coral reefs is a key to realizing the Sustainable Development Goals of Agenda 2030, as these ecosystems support over a billion people globally with services valued at USD2.7 trillion per year [3]. The Post-2020 GBF provides a unique opportunity at a critical time to bring coral reefs back from the brink, take actions that will slow down their decline and set us on a path for recovery. A robust monitoring framework represents a critical step in ensuring coral reefs are part and parcel of the path to the 2050 Vision.

The suite of indicators recommended by ICRI [4] provides tools to measure progress, ensure that the right actions are being taken, hold ourselves accountable and adjust course where necessary.

Cover photo
The six healthy coral reef indicators recommended by ICRI for inclusion in the GBF monitoring framework. @ICRI/ Vulcan Inc.

Bleaching of coral reefs in response to increasing sea surface temperatures caused by changing climatic conditions.
@Ocean Image Bank/ The Ocean Agency

1. A FLAGSHIP ECOSYSTEM ON THE BRINK

Coral reefs are critical for the persistence of biodiversity and provide important economic, social, and cultural benefits. Although they only cover 0.2 percent of the ocean floor, they support 25 percent of marine species and provide trillions of dollars in economic services.

Our global coral reef ecosystems are threatened due to drivers identified by the International Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) global assessment [5]: warming waters, overfishing and destructive fishing, pollution, and habitat degradation in addition to threats such as unsustainable tourism, invasive alien species, or crown of thorns starfish plagues.

The Intergovernmental Panel on Climate Change (IPCC) projects up to 90 percent of reefs will experience further decline with a 1.5-degree °C increase in temperature. Further, IPBES reported that almost half of the live coral cover on reefs has been lost since the 1870s, with accelerating losses in recent decades due to climate change exacerbating other drivers; putting the safety, wellbeing, cultural heritage, and economic security of at least one billion people at risk.

Coral reefs play a fundamental role in the health and function of our planet, impacting us all in many different aspects of our lives, whether we live near a reef or not - these services, some examples of which are provided below and for which providing alternatives may be either extremely costly or impossible, will be lost as coral reefs continue to degrade and lose their integrity:

+ More than one billion people benefit directly from coral reef resources for food and as a source of income through activities related to fishing and tourism [6];
+ 70% of the protein in diets of Pacific Islanders come from reef-associated fisheries [7];
+ About 830,000 species of multi-cellular plants and animals are estimated to occur on coral reefs, of which ~13% are unnamed and ~74% undiscovered [8];
Nearly 3000 new marine natural products have been isolated from corals for use in developing medicines in the past two decades [9];
+ At least 94 countries and territories benefit from reef tourism [10];
+ A healthy reef can reduce coastal wave energy by up to 97% [11], protecting people, businesses and property; nearly 200 million people depend on coral reefs for protection from storm surges and waves [12];
+ Charismatic and stunningly beautiful coral reefs continue to feature as the totem of many climate protests worldwide [13];

2. THE GBF, A UNIQUE OPPORTUNITY TO ENSHRINE CORAL REEFS AS INTEGRAL FOR NATURE AND PEOPLE

The 5th Global Biodiversity Outlook (GBO5) reported that Aichi Target 10, relating to safeguarding coral reefs and that was due to be achieved by 2015, demonstrated the worst outcome of all the Aichi Global Biodiversity Targets [14]. This is illustrated by declines in live coral cover, an increase in pressures and little data collection about the function and integrity of coral reef ecosystems. But the lessons learnt during the decade-long implementation of this Target can be put to use to ambitiously protect the value of our reefs and move forward into the new Global Biodiversity Framework.

"CORALS SUPPORT A HIGH LEVEL OF MARINE LIFE THAT MOST OF US DON'T EVEN KNOW ABOUT. MONITORING OF THE REEF STATUS FOR DATA-DRIVEN ACTIONS SHOULD BE AMONG THE PRIORITIES OF THE POST-2020 GBF, TO REVERSE DECLINING TRENDS OF CORAL REEFS & CHARACTERISE THE SCIENCE WE NEED FOR THE OCEAN WE WANT. Esther Maina, Youth4Marinelife Coordinator, Kenya Youth Biodiversity Network

ICRI is a partnership between countries and organisations. It is currently co-chaired by the Governments of Australia, Indonesia, and Monaco. 43 of its country members are Parties to the CBD. Together they are custodians of 75% of the world's coral reefs. ICRI plays a unique and central role in convening the diverse stakeholders that comprise the global coral reef community (including coral reef States, non-coral reef countries, the private sector, NGOs, IGOs, foundations, and the scientific community). It provides a significant platform to coordinate, develop consensus and cooperation in action across member countries and organisations. In February 2021, the European Union became a member of ICRI. Representing the EU at the ICRI general assembly, the European Commissioner for Environment, Oceans and Fisheries, Virginijus Sinkevičius, said: "Coral reefs are emblematic of rich marine life. Yet, the rapid degradation of these beautiful underwater worlds is also a very stark reminder of the pressures that human activity puts on our planet, not least on our oceans. The protection of these vital marine ecosystems is of great importance to biodiversity, sustainable food supply and the global climate system." In 2020, the EU proposed a Biodiversity Strategy for 2021-2030, which includes the aim to strengthen the protection

[1] See webinar Resources mobilization for biodiversity, 31 March 2021: https://cutt.ly/SbwMLmW

[1] IPBES Global Assessment 2019 https://cutt.ly/dnQxxjh
Living Planet Report (2018) https://cutt.ly/6nQxzki
IPCC 2018 https://cutt.ly/EnQxltr

[2] IPBES Global Assessment 2019 https://cutt.ly/PnQxkf4

[3] Spalding et al., 2017 https://cutt.ly/GnQxji6

[4] ICRI Recommendation https://cutt.ly/znQxhpA

[5] IPBES. 2019. Summary for Decision Makers https://cutt.ly/xnUsdat

[6] UNEP. 2004. https://cutt.ly/anUszvd

[7] Pacific-Australia Climate Change Science and Adaptation Planning Program

[8] Fisher et al., 2015. Species Richness on Coral Reefs and the Pursuit of Convergent Global Estimates

[9] Ocha, J. et al. 2011

[10] Burke et al., 2011

[11] The Nature conservancy, 2020

[12] WWF (2020) Living Planet Report 2020 - Bending the curve of biodiversity loss. Almond, R.E.A., Grooten M. and Petersen, T. (Eds). WWF, Gland, Switzerland.

Monitoring the extent and integrity of the reef is critical for accountability against commitments of the GBF. @ Ocean Image Bank/ Shaun Wolfe

of marine ecosystems and restore them to a "good environmental status".

In 2018, the ICRI General Meeting concluded there was an urgent need to contribute to the post-2020 Global Biodiversity Framework development process to ensure coral reefs and related ecosystems would be sufficiently addressed within the post-2020 GBF[15]. In 2020, a "Recommendation on the inclusion of coral reefs and related ecosystems within the CBD Post-2020 Global Biodiversity Framework" [16] was adopted by consensus.

In the Recommendation, ICRI is asking world leaders to adopt a goal, target and indicators at COP15 in Kunming, China, which will incentivize global action to conserve coral reefs - making sure there is a focus on the integrity and size of ecosystems.

CBD parties should agree to monitor, with standard metrics, the health, function, and integrity of reefs – to make sure there is a way to track progress and hold countries accountable to achieve the new global target, supported by existing mechanisms, partnerships and organisations.

3. MEANINGFUL MONITORING: THE KEY TO SUCCESS IN CORAL REEF PROTECTION

Included in the ICRI recommendation are a set of available and actionable indicators that can inform progress against the ambitious goals and targets that emerge from the negotiations, ensuring the visibility of coral reefs as central ecosystems for the GBF's implementation. Having a globally accepted set of indicators will also serve to build capacity to assess coral reefs into the future and strengthen the evidence base for decision-making. Each indicator covers a facet of coral reef health and integrity:

+ **Live Coral Cover** — provides a snapshot of overall coral reef health;
+ **Coral Reef Extent —** determines whether the area of coral reef systems is increasing or decreasing;
+ **Fleshy Algae Cover and Cover of Key Benthic Groups —** indicate coral reef health, increases in algal cover can show declining health;
+ **Fish Abundance and Biomass —** marks the function and productivity of coral reefs;
+ **Percent Coral Reefs Effectively Protected —** measures commitment to protecting coral reefs;
+ **Index of Coastal Eutrophication —** signals water quality impacts in coastal areas.

Each indicator has been thoughtfully considered for its scientific validity, usefulness at national, regional and global scales, and widespread availability to reporting parties as noted below. Why are these indicators vitally important? How can they make a significant difference?

The Coral Reef Indicators...

ARE ACCESSIBLE — These are not lofty, esoteric indicators that no one can measure. They are already being widely used.
CREATE ACCOUNTABILITY — Together, these indicators will ensure our global commitment can be tracked and our progress measured.
HOLISTICALLY ASSESS PROGRESS — The coral reef indicators provide a holistic snapshot of coral reef health status. They measure the most important elements of the vitality and integrity of coral reef systems.
GUIDE ADAPTIVE ACTION — If conservation and management plans are not on track, the indicators will help guide alternate routes to improve coral health.
GENERATE ALIGNMENT — These indicators will provide global alignment and consistency, including measurement standards, which are critical as we seek to understand the status and changing dynamics of our coral reefs.

4. THE POST-2020 GBF AND THE INCLUSION OF CORAL REEFS: WHERE ARE WE NOW?

The CBD's draft monitoring framework includes ICRI's six recommended indicators, a critically important milestone on which to build momentum around prioritizing this flagship ecosystem. There is broad recognition that the monitoring framework needs to be strengthened in relation to the ocean, including the need to prioritize indicators for marine and coastal biodiversity. Despite the continued decline of coral reef and increased pressures they are subjected to, ICRI's Recommendation, if included in the final outcome of the post-2020 process, will prompt governments, managers, planners and other stakeholders to take strong actions to preserve and restore this critically important ecosystem.

We must remember the lessons learnt from the attempts to implement the Aichi Biodiversity Targets – one being that late adoption of indicators affects the implementation of the Target.

The adoption of indicators at the same time as the GBF is critical to set a realistic monitoring foundation and allow rapid uptake of these indicators in national implementation and reporting through inclusion in the National Biodiversity Strategy and Action Plans, to achieve even greater success than the original Aichi Target 10.

[13] Morrison et al., 2020

[14] Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5 – Summary for Policy Makers. Montréal.

[15] https://cutt.ly/dnUdUYQ

[16] https://cutt.ly/GnUdJ4b

Coral reefs support a quarter of known marine life.
@ Ocean Image Bank/ Warren Baverstock

There is no time to waste as we elevate the discussion and secure strong indicators. There is a need to craft a strong monitoring framework for all new goals and targets within the GBF. ICRI and its partners are mobilized to encourage CBD Parties to ensure that the relevant goals, targets, and indicators are adopted with high ambition towards the valued and vulnerable coral reef ecosystems.

5. ENSURING SUCCESS IN IMPLEMENTATION

The transformative nature of the GBF will come about through its successful implementation. To reverse the decline of coral reefs, this requires strengthened capacity, availability of and access to appropriate resourcing and innovation.

Capacity: There are existing mechanisms relating to coral reef actions that should be mobilized to support the implementation of the Global Biodiversity Framework, to build on the processes and capacities already in place. ICRI facilitates extensive work on coral reef monitoring through its role overseeing the Global Coral Reef Monitoring Network (GCRMN) [17], encouraging indicator uptake, developing and promoting best practice as well as strengthening local and global monitoring capacity. The GCRMN status of coral reef reports [18] underpin analyses of data that help measure progress towards global targets relating to coral reefs under the CBD, IPBES and other fora and is, therefore, an important stakeholder in this future implementation of the 2030 Action Targets, and as regards coral reef ecosystems.

Building human and technical capacity to collect, analyse and report biophysical and socio-economic data on coral reefs is an important function of the GCRMN both as a network of contributors and partners as well as an expert technical body. This approach aims to maximise data submission to the GCRMN, and cover as much reef area as possible regionally and globally, from as broad a range of stakeholders as possible. The GCRMN will work on identifying capacity-building needs at local, national, and regional levels, and support the network members in meeting these needs.

Availability of and access to adequate financial resources will be required to strengthen capacity and ensure the achievement of ambitious commitments stemming from the GBF. If these needs are to be met, one important element will be for critical, vulnerable ecosystems such as coral reefs to be explicitly referenced in the work plans for the new Global Environment Fund (GEF) replenishment.

A complement is the Global Fund for Coral Reefs (GCRF) [19], a demonstration fund that provides actors with tools to work towards the protection of coral reefs and the transformation of reef-dependent communities. The GCRF was launched in September 2020 to mobilize public and private resources to support developing countries in achieving their commitments under the new post-2020 Global Biodiversity Framework. Its target is to mobilize at least USD500 million by 2030. It will also offer critical risk equity capital and grant funding to deliver on exciting projects that offer solutions to climate change related to coral reefs.

Innovation is the third key element of realising the GBF's ambition of transformative change. There are a number of new and emerging technologies to be explored and harnessed to make stepwise and possibly dramatic improvements to coral reef monitoring and facilitate improved policy decisions and management actions within the coming decade [20]. Examples include the increased use of robotics and Artificial Intelligence, high-resolution imagery (e.g., the Allen Coral Atlas [21]; underwater robots developed by the Australian Institute of Marine Science). Other developments could support conservation and restoration efforts through sequencing technologies and increasing the knowledge of the importance of genetic diversity to maintain healthy coral reefs.

"WE NEED TO FOCUS ON CORAL REEF CONSERVATION AND MANAGEMENT FOR THE SUSTENANCE OF AGRICULTURE, FISHERIES AND TOURISM INDUSTRIES IN THE MALDIVES. OUR SOLUTIONS AND OUR FUTURE DEPEND ON CORAL REEFS."
Abdulla Naseer, PhD, Minister of State for Environment, Republic of Maldives

[17] https://gcrmn.net/

[18] The Status of coral reefs of the world - 2020 is due to be published in 2021.

[19] https://cutt.ly/OnUfuPj

[20] Obura DO, Aeby G, Amornthammarong N, Appeltans W, Bax N, et al. (2019) Coral Reef Monitoring, Reef Assessment Technologies, and Ecosystem-Based Management. Front. Mar. Sci. 6:580. doi: 10.3389/fmars.2019.00580

[21] https://cutt.ly/TnUfHrw

ICRI is working through many channels to support Parties in making sure the Post-2020 Global Biodiversity Framework can help safeguard our coral reef ecosystems and those who depend on them.

For more information visit: coralpost2020.org, and follow #ForCoral on Twitter.

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