



Guidance on coral reef indicators for inclusion in the GBF Monitoring Framework (February 2022)

The [ICRI Recommendation](#) encourages explicit inclusion of coral reef indicators within any monitoring framework. Even meaningful targets can fail to deliver if they are not accompanied by appropriate indicators. The Recommendation identifies a set of coral-related indicators for inclusion in the monitoring framework.

It is essential that these indicators support our monitoring of ecosystem specific progress against the goals and targets of the post-2020 global biodiversity framework and work to fill any gaps in capacity or capability. The table below sets out how those [ICRI-recommended indicators](#) that are currently in the proposed monitoring framework meet key indicator criteria.

Indicator Name & Number	What does it measure?	Are the data & metadata publicly available?	Has the methodology been peer-reviewed?	What is the baseline? How often are updates?	Useful at national and global scales?	What entity facilitates reporting?
Global coral reef extent (A.0.1; A.15)	Extent of coral reef ecosystems (Goal A, Component A.1.)	Yes, via Allen Coral Atlas .	Yes, see: Li et al. 2020 .	Global baseline available via GCRMN in 2021 , will be part of regular assessments.	The Allen Coral Atlas can produce maps to support reporting at national, global scales.	The Allen Coral Atlas can support national and global reporting.
Live coral cover (A.13)	Integrity of coral reef ecosystems (Goal A, Component A.2)	Data access on request to the data providers. GCRMN can support regional, global syntheses.	Yes, see e.g.: Obura et al. 2019 . Indicator also approved by CBD Parties and the BIP .	Global baseline available via GCRMN in 2021 , will be part of regular assessments.	Data from agencies or scientists can be aggregated at national and global scales.	Reporting via the GCRMN national/regional nodes, supported by tools like MERMAID .
Hard coral cover and composition (A.14)	Integrity of coral reef ecosystems (Goal A, Component A.2)	Data access on request to the data providers. GCRMN can support regional, global syntheses.	Yes, see GOOS Essential Ocean Variables website for this indicator.	See GOOS Essential Ocean Variables website.	Data from agencies or scientists can be aggregated at national and global scales.	
Cover of key benthic groups (A.20)	Integrity of coral reef ecosystems (Goal A, Component A.2)	Data access on request to the data providers. GCRMN can support regional, global syntheses.	Yes, for key groups. See: Obura et al. 2019 . Approaches being standardized for other groups.	Local and national baselines are available. Global baselines forthcoming through future GCRMN reports.	Data from agencies or scientists can be aggregated at national and global scales.	
Fleshy algae cover (A.21)	Integrity of coral reef ecosystems (Goal A, Component A.2)	Data access on request to the data providers. GCRMN can support regional, global syntheses.	Yes, see: Obura et al. 2019 .	Global baseline available via GCRMN in 2021 , will be part of regular assessments.	Data from agencies or scientists can be aggregated at national and global scales.	
Fish abundance and biomass (A.46)	Integrity of coral reef ecosystems (Goal A, Component A.2)	Data access on request to the data providers. GCRMN can support regional, global syntheses.	Yes, see: McClanahan et al. 2019 . See also GOOS Essential Ocean Variables website.	Local and national baselines are available. Global baselines forthcoming through future GCRMN reports.	Data from agencies or scientists can be aggregated at national and global scales.	

Proposal: Combine A.13, A.14, A.20 & A.21 to become "Cover of live coral and other key benthic groups" supported by GCRMN analysis (Launched 7/9/21)

(Continued from previous page)

Indicator Name & Number	What does it measure?	Are the data & metadata publicly available?	Has the methodology been peer-reviewed?	What is the baseline? How often are updates?	Useful at national and global scales?	What entity facilitates reporting?
Red List of Ecosystems (applied to coral reefs) (A.8)	Area and Integrity of coral reef ecosystems (Goal A, Components A.1, A.2)	Data sourced from GCRMN (available via data providers on request) and public sources.	Yes, see: Keith et al. 2013 , Bland et al. 2017 , Bland et al. 2019	RLE uses a window of 50 years, which may be historical, future or a mixture. Updates on 10 year basis possible.		IUCN Red List of Ecosystems Unit & RLE Partnership are the custodians, data system is under development.
Live coral cover in restored coral reef areas (t2.x)	Area of coral reef successfully restored. Contributes to Target 2: Component 2.1 Area of freshwater, marine and terrestrial ecosystems restored	Live coral cover: as above; CRC Coral Restoration Database (Appendix 3), and 2) An Evaluation Tool for Coral Restoration (modified from Lirman et al., 2017).	Coral Reef Restoration Monitoring Guide An Evaluation Tool for Coral Restoration (modified from Lirman et al., 2017).	Live Coral Cover baseline (GCRMN, 2021); Area under restoration - Possible to construct as of 2020; based on available data from ICRI Coral Restoration database	Live coral cover used at multiple scales; RRAD is suitable for application at multiple scales	ICRI/ GCRMN / CRC Potential tools: Allen Coral Atlas
Protected area coverage of coral reefs (t3.4)	Area, representation of coral reefs under protection. Contributes to Target 3 Headline indicator 3.0.1 Coverage of Protected areas and OECMS (by effectiveness)	Yes via both WDPA and Allen Coral Atlas .	Yes, see: UNEP-WCMC, WorldFish Centre. WRI, TNC (2018) .	Current baseline available via World Database on Protected Areas (WDPA) .	Yes, data on protected and conserved areas is submitted by national authorities.	Reporting via the GCRMN national/regional nodes, supported by WCMC .
Index of coastal eutrophication (7.0.1)	Pollution from excess nutrients (Target 7, Headline indicator)	Yes, the metadata is available here .	Yes, see here (in review) . SDG 14.1.1a	No current baseline.	Remote sensing of chlorophyll-a concentration in surface waters is proxy indicator.	UN Environment is the custodian working closely with UNESCO-IOC and Regional Seas.

Note: The [ICRI Recommendation](#) also highlights an additional five indicators for priority development, all of which are particularly helpful to provide an enhanced understanding of coral reef ecosystem integrity, function, intactness, resilience.

Please visit coralpost2020.org for more information or contact Francis Staub (fstaub@icriforum.org) and Emily Corcoran (emily.e.corcoran@gmail.com) with any questions