The Mangrove Breakthrough

Tools by the Global Mangrove Alliance to support succesful mangrove action

Mangroves and needlefish off Mansuar Island, Raja Ampat ©Burt Jones and Maurine Shimlock

The Mangrove Breakthrough is a Community of Action dedicated to sustainably managing and increasing mangrove cover by 2030 by catalyzing a USD 4 billion shared global goal. The Community will exchange and collaborate to foster successful mangrove interventions and address implementation challenges. To fill knowledge gaps, promote science-based approaches and best practices, the Global Mangrove Alliance has developed a set of tools to support governments, investors and practitioners in enhancing and scaling up their mangrove conservation and restoration work.

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Mangrove tools supporting the Mangrove Breakthrough

Global Mangrove Alliance Tool	How it supports the Mangrove Breakthrough Community of Action
Global Mangrove Watch (GMW)	**Planning** **Global Mangrove Watch will be used as the planning tool for the Mangrove Breakthrough, providing the most up to date information on mangroves as a basis for the development of strategies and investment plans:** • GMW can be used to prioritize, plan and monitor conservation and restoration action on-the-ground, with high-resolution maps and information on a large range of parameters, including tree height, mangrove species, calculate biomass, blue carbon stocks, protected area information, and information on topography, soil conditions, hydrology, mangrove restoration potential and ecosystem service benefits that will accrue for restoration in different locations. • The GMW's mangrove alert system enables the mobilisation of rapid action to threats such as illegal logging or to pinpoint other causes of local mangrove die back, such as conversion to other land uses, upstream disturbances, coastal erosion or storm damage. As of 2023, this functionality is currently available for some countries in Africa, North and South America and Asia, but it will soon become available for other regions. • Governments, investors and international bodies can use GMW to inform and asses collective global progress on mangrove conservation and restoration. • Governments can also use GMW to inform their national climate and development policies and plans and report on them under international frameworks (e.g., NDCs, NBSAPs). • GMW can also inform the priorities for investment at national and international levels, for instance on areas with the highest potential for restoration.
Global Best Practice Mangrove Restoration Guidelines	**Implementation** **The Mangrove Restoration Guidelines will be used to inform and implement mangrove restoration projects that contribute to the Mangrove Breakthrough. Governments members can adopt the Restoration Guidelines in their national mangrove restoration strategies, plans and policies. Investors can endorse them in their investment policies, and practitioners can use them for the development of their restoration projects:** • The guidelines contribute to successful implementation of mangrove restoration globally by providing guidance on best practices of physical restoration, and traditional and local knowledge and experiences, as well as on the externalities that can make or break a restoration project. • The guidelines are built on a set of joint principles for successful mangrove restoration, which serve as guardrails for endorsers of the Mangrove Breakthrough. By following the principles, endorsers of the Mangrove Breakthrough commit to science-based mangrove restoration in a fair and equitable way. • Successful mangrove restoration will help mitigate climate change, conserve vital biodiversity, enhance coastal protection, food security and human well-being. As such, these guidelines will support the implementation of multiple targets set by governments, development banks, investors, and coastal managers that have signed up to the Mangrove Breakthrough.
Mangrove Restoration Tracker Tool (MRTT)	**Tracking** **The Mangrove Restoration Tracker Tool will be used to monitor and track the outcomes from mangrove restoration projects under the Mangrove Breakthrough:** • This tool will quantify how specific conservation actions lead to outcomes for biodiversity, mangrove resilience, management effectiveness, communities, and governance. • This will enable the Community of Action to improve mangrove conservation implementation and support more effective mangrove restoration projects.

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Global Mangrove Watch – Planning

The Global Mangrove Watch (GMW) is an online remote sensing data and monitoring platform to catalyse action to protect and restore mangroves.

Without easily accessible, up-to-date information on mangrove conditions and threats, it is a challenge for governments and conservation groups to plan effective mangrove conservation and restoration efforts.

With the GMW users have universal access to near real-time information on the location, extent, status and values of mangroves across the world. The GMW maps are highly accessible and free to use for all policymakers, investors, researchers, land managers and conservationists.

GMW uses consistent satellite data and mapping approaches. The platform is being continually updated with new datasets and because of a consistent mapping approach it allows for direct comparisons between regions and through time.

The data can be combined with reports from staff on the ground and other tools to get to an even higher accuracy level and to get further insight on the causes of loss and degradation, to inform decision making.
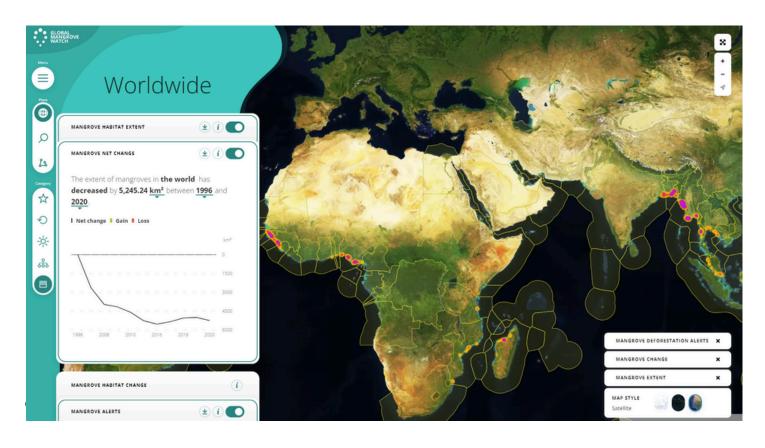
www.globalmangrovewatch.org

At the global level, governments, investors and international bodies can inform their policies and investments under international frameworks:

As many countries do not have their own national mangrove monitoring systems, GMW is recommended to be used as a basis for including mangroves in climate mitigation, adaptation and sustainable development plans and policies and for reporting on them. Users can also use GMW to asses collective global progress on mangrove conservation and restoration and to inform on the priorities for investment at national and international levels, for instance on areas with the highest potential for restoration.

At the local level, mangrove practitioners, such as coastal and park managers, policy makers, project developers, conservationists and experts can use GMW to prioritize, plan and monitor conservation and restoration action on-the-ground.

With the GMW practitioners can easily observe tree height, mangrove species, calculate biomass, blue carbon stocks, explore protected areas, and explore the potential for mangrove restoration and ecosystem service benefits that will accrue for restoration in different locations. GMW also offers mangrove alerts, soon available at global level which detects deforestation on a monthly basis, which enables rapid action to address problems.

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Best Practice Mangrove Restoration Guidelines – Implementation

The Mangrove Restoration Guidelines, developed and endorsed by the global mangrove community, provides best practice guidance to support successful mangrove globally.

The guidelines are going beyond providing best practices of physical restoration based on the latest science as well as traditional and local knowledge and experiences to include the externalities that can make or break a restoration project. It provides:

- Best practice guidance facilitating goal setting, feasibility analysis, project design, implementation planning, stakeholder engagement, monitoring, and adaptive management of mangrove restoration, geared towards achieving desired targets and objectives.
- Access to existing high-quality guidelines that are of use in different parts of the project cycle or in different geographies and contexts. As such, the guideline complements and discloses existing information, and provides pathways to decide which guidance are appropriate for a specific restoration context and specific restoration goals and objectives.
- Practical tools and templates that support your restoration efforts along the way.
- Regular updates of the guidelines to allow for continuous improvement and uptake of innovative approaches.

The process of successful mangrove restoration is nuanced and complex, and in some regions up to 80% of planting efforts have failed. Following a set of six principles for successful mangrove restoration, the guidelines are steering away from large-scale monoculture tree planting towards more inclusive ecological restoration approaches that result in mangrove ecosystems with multiple species, natural hydrological flows, and natural zonation and enabling socio-economic conditions for mangroves to thrive.

Best practices include community-based restoration, ecological restoration, and nature- based engineering within a context of integrated land and seascape management. These result in sizeable, biodiverse, functional, and self-sustaining mangrove that provide multiple goods (timber, fodder, honey, fruits, and fish) and services (enhanced coastal protection, carbon storage, water purification, fisheries enhancement).

As such, these guidelines will support achieving multiple targets set by governments, development banks, investors, and coastal managers to mitigate climate change, conserve vital biodiversity, enhance coastal protection, food security and human well-being.

https://www.mangrovealliance.org/best-practice-guidelines-for-mangrove-restoration/

Restoration by facilitating enabling conditions: natural widening of breached embankment and reappearance of tidal creeks in Cacheu National Park, Guinea Bissau ©Menno de Boer, Wetlands International

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Mangrove Restoration Tracker Tool - Planning

The Mangrove Restoration Tracker Tool (MRTT) is a globally accepted reporting framework to track and record mangrove restoration projects.

The MRTT was developed by the University of Cambridge, WWF, Wetlands International and the Global Mangrove Alliance in collaboration with 80 conservation practitioners and scientists from around the world. It has a flexible structure designed to capture field and desk-based data on mangrove restoration projects in a standardized format.

The tool has three overarching sections to record information through the lifetime of a mangrove restoration project:

- Pre-restoration site baseline
- Restoration interventions and project costs
- Post-restoration monitoring incorporating socioeconomic and ecological aspects.

Users can record both historical and current restoration projects with the MRTT. The tool can also be viewed as a guide to the type of data that should be collected to plan and monitor mangrove restoration projects efficiently and effectively. The MRTT data can be exported to standard field reports and can be used to create graphs or other reports.

The MRTT will be suitable for all different restoration approaches, and for projects covering single or multiple outcomes across the full array of ecological and socio-economic benefits mangrove forests provide.

By enabling learning and information exchange between practitioners, it will encourage the use of best practice mangrove conservation and restoration, to support more effective mangrove restoration projects.

It will underline the success of inclusive and ecological mangrove restoration approaches over mass tree planting, as mangroves restored in this way generally survive and function much better.

As such, the tool will aid the mangrove conservation community in quantifying how specific conservation actions lead to outcomes for biodiversity, mangrove resilience, management effectiveness, communities, and governance.

The data entry portal and global restoration project database is hosted on the Global Mangrove Watch platform. Some aggregated information will also be available in a widget under the Restoration and Conservation category.

https://mrtt.globalmangrovewatch.org

Monitoring mangroves in Demak, Indonesia. ©Kuswantoro, Wetlands International