Selection of restoration guidelines (of relevance to protected areas)

DRAFT - Compiled by Stephanie Mansourian (with input from TF members), 14 March 2024

Name of guidelines	Year	Lead organization/author	Biome/ecosystem	Purpose
Standards of Practice to Guide Ecosystem Restoration	2024	FAO, SER and IUCN-CEM (Nelson, C.R., Hallett, J.G., Romero Montoya, A.E. et al.)	All	To provide recommendations for the entire restoration process, which can be applicable across all sectors of society, land or sea uses, ecosystems and regions, and to different ecosystem restoration activities.
International Principles and Standards for the Practice of Ecological Restoration (2nd ed.)	2019	SER (Gann, G., McDonald, T., Walder, B., et al.)	All	The Standards on Ecological Restoration present a framework for restoration projects to achieve intended goals, while addressing challenges, and navigating trade-offs associated with land management priorities and decisions. It is based around 8 principles that underpin ecological restoration.
Ecological Restoration for Protected Areas. Principles, Guidelines and Best Practices.	2012	IUCN (Keenleyside, K., Dudley, N., Cairns, S., et al.)	All (protected areas)	This document provides guidance for terrestrial, marine and freshwater protected area managers at both system and site

				levels on the restoration of natural and associated values of protected areas. It offers principles and best practice, using case studies.
Implementing Forest Landscape Restoration. A Practitioner's Guide	2017	IUFRO (Stanturf, J., Mansourian, S., and Kleine, M. (eds.))	Forests	The guide is made up of separate modules, from broad FLR policy to local implementation activities, including getting started with forest landscape restoration (FLR) implementation, governance, FLR project design, implementation activities, monitoring and evaluation, climate change mitigation and adaptation methods, and communication.
Biodiversity guidelines for forest landscape restoration opportunities assessments, First edition.	2018	IUCN (Beatty, C.R., Cox, N.A., Kuzee, M.E.)	Forests	Thes guidelines provide context, resources and fresh perspectives to the ongoing global interaction between biodiversity conservation and forest landscape restoration.
Technical Guidelines for the Restoration, Management and Rehabilitation of Degraded and Secondary Tropical Forests	2002	ITTO	Tropical forests	These guidelines provide a set of principles and recommended actions to promote and encourage the management, restoration, rehabilitation and sustainable utilization of degraded and secondary forests in the framework of sustainable social and economic development.

Guidelines for Forest Landscape Restoration in the Tropics	2020	ITTO	Tropical forests	These guidelines are linked to the six globally recognized FLR principles and provide guiding elements and recommended actions for each (and also include case studies).
Restoring Tropical Forests. A Practical Guide.	2013	Royal Botanic Gardens Kew (Elliott, S., Blakesley, D., and Hardwick, K.)	Tropical forests	This book provides generic concepts and practices that can be applied to revive tropical forests and includes case studies that illustrate a diversity of successful restoration projects from around the world.
Global Guidelines for the Restoration of Degraded Forests and Landscapes in Drylands	2015	FAO (Berrahmouni, N., Regato, P. and Parfondry, M.)	Dryland forests	Targeting both policymakers and other decision-makers, and practitioners, these guidelines present the key components for the design, implementation and sustainability of restoration initiatives in drylands to build ecological and social resilience and generate benefits for local livelihoods.
Standards for Native Seeds in Ecological Restoration	2020	Pedrini, S., Dixon, K.W. and Cross, A.T.	Forests and mines (seeds)	These guidelines provide the underlying principles and guidance statements for stages in the seed supply chain from source to restoration site

International Principles and Standards for the Ecological Restoration and Recovery of Mine Sites	2023	SER (Young, R., Gann, G, Walder, B. et al.)	Mines	The standards outline how to minimize the recovery gap by implementing best practice and future practice that builds a company's social licence to operate and minimizes closure risks.
Global Guidelines for Peatland Rewetting and Restoration	2021	Ramsar (Joosten, H.)	Peatlands	These guidelines summarize the state of knowledge and identify principles for restoring drained peatlands.
Peatland Restoration Guide – Planning Restoration Projects	2020	Peatland Ecology Research Group, Université Laval (Quinty, F., LeBlanc, M.C. and Rochefort, L.)	Peatlands	Although this guide is mainly for the horticultural peat industry, it may also be useful for broader peatland restoration.
Stream Habitat Restoration Guidelines	2012	Washington State Aquatic Habitat Guidelines Program (Cramer, M.)	Streams	The guidelines employ an integrated approach to marine, freshwater, and riparian habitat protection and restoration. They aim to protect and restore the structure and function of whole ecosystems, considering projects in their landscape and watershed contexts. Although intended for a specific US context, they provide much substance of use elsewhere.
Best Practice Guidelines for Mangrove Restoration.	2023	Global Mangrove Alliance (Howard, J.,	Mangroves	These guidelines provide a stepwise approach to mangrove restoration using the project cycle,

		Lovelock, C., Beeston, M. et al.)		from feasibility through to implementation and long-term maintenance.
Principles and Guidelines for Wetland Restoration.	2002	Ramsar	Wetlands	These guidelines provide the foundation of a successful wetland restoration project as well as a step-by-step process guiding the identification, development and implementation of a restoration project.
Reef Rehabilitation Manual	2010	CRTR (Edwards, A.J. (ed)).	Coral Reefs	This manual provides detailed hands-on advice, based on lessons-learnt, on how to carry out coral reef rehabilitation in a responsible and cost-effective manner.
Reef Restoration: Concepts and Guidelines	2007	CRTR (Edwards and Gomez)	Coral Reefs	These guidelines provide advice on coral reef restoration for coastal managers, decision makers, technical advisers and anyone involved in community-based reef restoration.
Coral Reef Restoration as a Strategy to Improve Ecosystem Services	2020	UNEP (Hein MY, McLeod, I.M., Shaver, E.C, et al.)	Coral reefs	This document presents an overview of the best-available knowledge in coral reef restoration and provides recommendations for the use of restoration as a management strategy for coral reefs.
Restoration Guidelines for Shellfish Reefs	2019	SER and TNC (Fitzsimons, J.,	Shellfish reefs	This document provides guidance for decision-making in establishing

		Branigan, S., Brumbaughg, R.D., et al.)		shellfish reef restoration projects and examples from diverse geographic, environmental and social settings. It includes novel techniques applied in different countries, management frameworks reflecting different social and political settings.
European Native Oyster Habitat Restoration Handbook	2020	Native Oyster Restoration Alliance (NORA) Europe. Preston J., Gamble, C., Debney, A., et al. (eds.)	Oyster reefs in Europe	Provides guidance and examples of oyster reef restoration in the context of Europe.
European Guidelines on Biosecurity in Native Oyster Restoration	2020	Native Oyster Restoration Alliance (NORA) Europe. zu Ermgassen, P.S.E., Gamble, C., Debney, A., Colsoul, B., et al., (eds.)	Oyster reefs in Europe	Provides guidance on biosecurity considerations when planning and undertaking oyster reef restoration in Europe.
European Native Oyster Habitat Restoration Monitoring Handbook	2021	Native Oyster Restoration Alliance (NORA) Europe (zu Ermgassen, P.S.E., Bos, O., Debney, A., et al. (eds.))	Oyster reefs in Europe	Details minimum monitoring requirements for oyster reef restoration in Europe and provides details on optional monitoring to facilitate comparison between restoration projects in the region.
Setting objectives for oyster habitat restoration using ecosystem services: A manager's guide.	2016	TNC (zu Ermgassen, P., Hancock, B., DeAngelis, B., et al.)	Oyster reefs - Global	Provides guidance on the benefits of oyster reef restoration from the marine resource management perspective.

Other tools/guidelines

Chazdon, R.L. and Guariguata, M.R., 2018. *Decision support tools for forest landscape restoration: Current status and future outlook* (Vol. 183). CIFOR.

GIZ, 2024. Tools and Applications for Ecosystem Restoration Monitoring .Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH(GIZ)