BRIEFING NOTE

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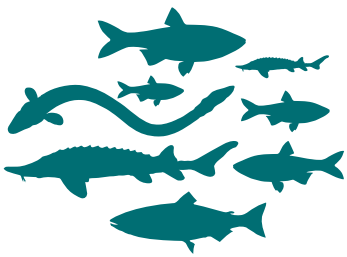
THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK PROPOSAL ON TARGET 2 ON ECOSYSTEM RESTORATION FOR INLAND WATERS

KEY MESSAGES



- **Natural inland waters only make up roughly 2% of the Earth's surface yet they are home to at least 10% of known species[1].**
- **Loss and degradation of natural inland waters are more rapid and severe than for other ecosystems, with wetlands declining in extent by 35% since 1970[2], and a significant proportion of remaining inland water ecosystems degraded.**
- **Restoration Target 2 of the Global Biodiversity Framework needs to drive the restoration of a proportion of inland waters already lost, as well as the restoration of inland water ecosystems that remain but are in a degraded condition.**
- **As Target 2 will be more effective if expressed in absolute numbers, it is suggested that it includes "at least 350 million hectares of inland water ecosystems" among other ecosystems for restoration by 2030.**
- **Ensure that at least 30 percent of areas of degraded terrestrial, freshwater, coastal and marine ecosystems, including at least 350 million hectares of inland water ecosystems and 300,000 km of rivers are under restoration, to enhance ecological integrity and connectivity within and among ecosystems supporting equitable and rights-based governance.**

KEY TERMS AND CONCEPTS

Inland waters
Inland waters are aquatic-influenced environments located within land boundaries and include fresh, saline or brackish environments. They include inland waterbodies like rivers, lakes, ponds, marshes, swamps, peatlands and other wetlands, including those located in coastal areas and adjacent to marine environments[3].

Within this document, non-coastal inland waters refers to 92.8% of the total area of inland waters, which excludes coastal inland waters. Coastal waters refers to inland waters found on the coast (only 7.2% of the total area) such as tidal flats, mangroves and salt marshes.

Natural versus human-made inland waters
Natural inland waters include all habitats that naturally occur through physical, chemical and ecological processes. These are distinct from human-made inland waters that have been purpose-built by humans for a specific purpose such as water storage, water treatment or recreation.

Wetlands or inland waters
The use of the term inland waters in the Convention on Biological Diversity corresponds to the definition of wetland in Article 1.1 of the Ramsar Convention: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres." Under both Conventions, the depth limit applies only to marine areas. The terms wetlands and inland waters can therefore be used interchangeably.

WHY IS RESTORING INLAND WATERS CRUCIAL FOR THE 2050 VISION FOR BIODIVERSITY

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Although accounting for a small fraction of global land area, the diversity of life sustained by wetlands is disproportionately high, with approximately 10% of all known species living or breeding in inland waters.

Despite their importance, inland water ecosystems have seen the greatest loss of the three realms, with more than 80% wetlands lost compared to 70% of terrestrial area transformed, and 60% of oceans impacted. Regarding biodiversity loss, freshwater species populations have seen a decline on average of 83% since 1970, more than twice the average decline in terrestrial and marine species as the new Living Planet Index shows[4].

Inland waters have been lost through infilling and drainage for conversion to agriculture and urban settlements and have been heavily degraded due to pollution, alterations to hydrological regimes, and over extraction of natural resources.

To achieve the overall goal of reversing biodiversity loss, it is crucial to highlight the role played by natural inland waters in maintaining global processes which underpin biodiversity. These processes include hydrological, biogeochemical, and primary productivity and energy flow. Natural inland water processes provide physical, chemical and ecological transfers and connectivity to support biodiversity in all ecosystems.

To avoid known issues with defining the current extent of degraded, 'transformed' or 'converted' areas, draft text for Target 2 is moving away from a percentage target and toward the expression of a restoration target in terms of an area (billions of hectares). Targets for natural inland waters have to date not been produced. This briefing proposes to address this gap by proposing a global target and indicator to define and track area extent of natural inland waters restoration under the post-2020 GBF.

Ships © Justin Jin / WWF-US, Woman collecting water © Jonathan Caramanus / Green Renaissance / WWF-UK, Man by irigation canal © WWF / Simon Rawles, Rice paddies at sunset © Michel Gunther / WWF, Mekong delta © WWF Vietnam

The proposed restoration target considers both the loss of inland water ecosystem area (inland waters extent), and the degradation of remaining inland water ecosystems (inland waters condition).

Restoring inland waters area lost

The Wetland Extent Trends (WET) Index is the most recent and accurate data source for understanding inland waters loss[5]. This collates information using over 2,000 time-series data from 1970 to 2015, subdivided by region and habitat type. Average trends are aggregated and analysed and in 2017, the extended global analysis illustrated a continuing progressive decline[6].

Earlier analysis of published sources of natural inland waters area change information is important to note, even though less accurate. These found that, since 1900, there had been a long-term loss of natural inland waters of between 54-57%. An extrapolation of area changes in different time-periods suggested a loss, since 1700, of possibly 87%, with significant loss in Europe and parts of North America[7].

The WET Index analysis suggests a decline of about 35% in natural inland water area studied between 1970 and 2015, with a decline in average extent in all regions. In 2015, remaining non-coastal natural inland waters were approximately 1125.3 million hectares whilst natural coastal waters were 84.7 million hectares suggesting a loss of 669.9 million hectares of non-coastal natural inland waters and 54.2 million hectares of natural coastal waters. The analysis was published as a part of the Ramsar Convention flagship Global Wetland Outlook 2018. The 2021 special edition of the Global Wetland Outlook gives an insight into the trends in inland waters condition (through reporting on wetland ecological character), indicating a general widespread degradation of inland waters, with more recent rates of degradation higher in Asia, Latin America and the Caribbean[8].

To develop an inland waters sub-target for loss restoration, the WET Index was extrapolated until 2022, assuming the rate of decline over the last ten years of the

trend index (2006-15) (14% for non-coastal natural inland waters and 10% for natural coastal waters) continued. For 2022 it was calculated that 1,210 million hectares of inland waters remain, with a loss of 949.2 million hectares. A restoration target that reverses 30% of the inland waters area that have been lost equates to restoring 285 million hectares.

Restoring existing inland waters that are degraded

The main sources of data regarding area of degraded inland waters are two Global Wetland Surveys undertaken in 2017 and 2020. These found that 24.2% and 22.8% of inland waters were in a poor state[9] [10]. These surveys mostly covered different wetlands, with only 9% of those featuring reported on in both the 2017 and 2020 surveys. This demonstrates that the poor state percentage has remained broadly consistent across different wetland examples.

To develop a target for restoration of degraded inland waters, an average of the two surveys of 23.5% was used, to indicate the percentage of inland waters that would be classed as degraded. Using the 2022 area data from the WET Index calculations, this equates to a total degraded area of 229 million hectares. A 30% target for restoring degraded inland waters equals 69 million hectares.

The target for inland water restoration

Combining both sub-targets for inland waters loss and degraded inland waters we are proposing an ecosystem restoration target for inland waters of at least 350 million hectares. We believe this is the bare minimum the world should do, given the critical importance of healthy inland waters ecosystems for people, nature, and delivering the goals of the Global Biodiversity Framework.

Restoring connectivity and natural processes

Restoring inland waters means restoring a connection between land and water; the structural components of soil, plants and water; and the natural processes that sustain life on Earth. Inland waters are hydrologically interconnected and connected to terrestrial and marine ecosystems. Inland waters play an important role as corridors for species movement and in transferring energy, materials, nutrients and water. Restoration of inland waters means re-establishing longitudinal, lateral and vertical connectivity, including habitats and removing barriers and other actions to restore flows and connectivity between inland waters. These actions are important restoration activities that need to be incorporated into the GBF Target 2.

To reflect this, an additional restoration target for inland waters has been proposed to include the amount of riverine restoration in linear units (km) given the linear nature of river systems. Metrics limited to areal extent (e.g., hectares), as currently proposed in Target 2, will fail to adequately include the role rivers play in connecting habitats. As Target 2 will be more effective if expressed in absolute numbers, it is suggested that a restoration target also includes “at least 300,000 km of rivers” in addition to “at least 350 million hectares for inland waters”.

IMPLICATIONS FOR GBF

In the implementation of the previous strategic plan, inland water ecosystems were often overlooked in national targets to increase natural habitat set by the CBD Parties, as highlighted by the Assessment of Progress towards Aichi Target 5 and 15 released by the CBD secretariat in 2016[11]. While biodiversity targets should be representative of the diversity of all natural ecosystems, the risk of overlooking inland water ecosystems persists (in the post-2020 GBF), especially in Target 2 on restoration and Target 3 on conservation through protected areas and other effective area-based conservation measures.

The restoration target risks being the one to not deliver on the result, as it may be expressed in percentage of degradation. Since a definition of degradation has not been agreed within the CBD process, due to the lack of consensus on the baseline, the percentage areas to be restored will be difficult to measure. Even though the Science Briefs on Ecosystems presented at the OEWG-4 in Nairobi advised that this target should be expressed in absolute numbers[12], several Parties are still convinced that expressing the target in percentages would be easier and consistent with the rest of the framework.

To ensure a balance among the different types of ecosystems to be restored, and thus the breadth of global biodiversity that will benefit, Parties should set targets for each of them and specify for Target 2 on restoration at least 350 million hectares of inland water ecosystems, alongside 300,000 kilometres of rivers, as set out in our complementary briefing on river restoration[13].

ENDNOTES

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2 Ramsar Convention on Wetlands. 2018. Global Wetland Outlook: State of the World's Wetlands and their Services to People. Gland, Switzerland: Ramsar Convention Secretariat.

3 **https://www.cbd.int/waters/inland-waters/**

4 https://livingplanet.panda.org/

5 Dixon, M.J.R., Loh, J., Davidson, N.C. and M.J. Walpole. 2016. Tracking global change in ecosystem area: The Wetland Extent Trends Index. Biological Conservation 193: 27-35.

6 UN World Conservation Monitoring Centre. 2017. Wetland Extent Trends [WET] Index. Cambridge, UK.

7 Davidson, N.C., 2014. How much wetland has the wetland lost? Long-term and recent trends in global wetland area. Marine and Freshwater Research 65, 934-941. doi.org/10.1071/MF14173

8 Convention on Wetlands. 2021. Global Wetland Outlook: Special Edition 2021. Gland, Switzerland: Secretariat of the Convention on Wetlands.

9 McInnes, R.J., N.C. Davidson, C.P. Rostron, M. Simpson and M. Finlayson. 2020. A Citizen Science State of the World's Wetlands Survey. Wetlands.

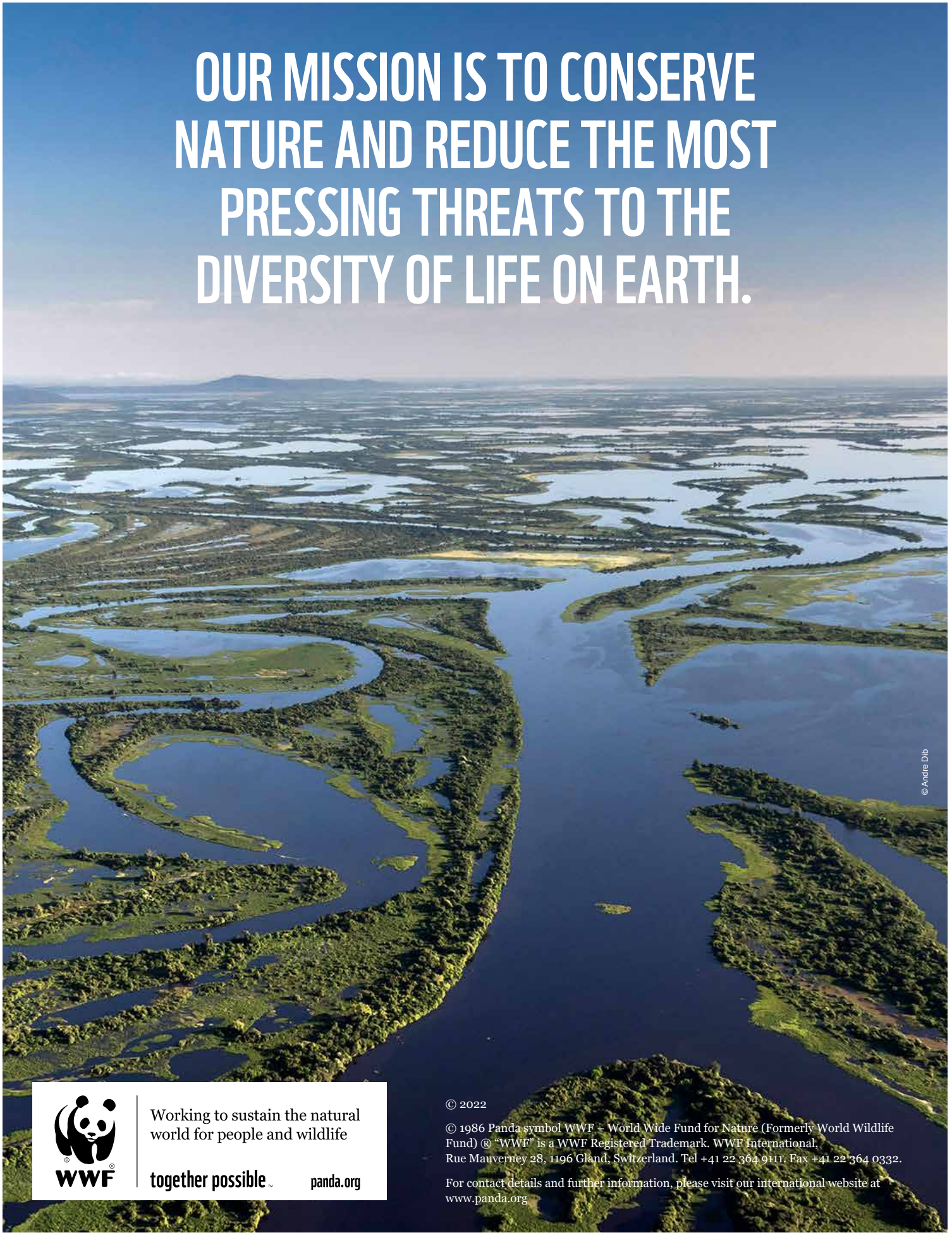
10 Simpson, M., McInnes, R.J., N.C. Davidson, C.P. Rostron, C. Walsh, and C. M. Finlayson. 2021. An Updated Citizen Science State of the World's Wetlands Survey. Wetlands Science & Practice 38: 3. July.

11 CBD Note by the Executive Secretary, Update Assessment of Progress towards Aichi Biodiversity Targets 5 and 15, 16 November 2016. **https://www.cbd.int/doc/meetings/cop/cop-13/information/cop-13-inf-12-en.pdf**

12 Secretariat of the Convention on Biological Diversity. Science briefs on targets, goals and monitoring in support of the post-2020 global biodiversity framework negotiations. 2022. CBD/WG2020/4/INF/2/Rev.2. Available from: **https://www.cbd.int/doc/c/c874/6eb7/813f0201cd67299c9eb10a4a/wg2020-04-inf-02- rev-02-en.pdf**

13 **https://wwfint.awsassets.panda.org/downloads/cbd_framework_proposal_for_target_2_ecosystem_restoration_for_rivers__low_res_.pdf**

14 **https://www.cbd.int/waters/inland-waters/**



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