



10<sup>th</sup> Meeting of the Conference of the Parties to the  
Convention on Wetlands (Ramsar, Iran, 1971)

*“Healthy wetlands, healthy people”*

Changwon, Republic of Korea,  
28 October-4 November 2008

**Resolution X.20**

**Biogeographic regionalization in the application of the *Strategic Framework for the List of Wetlands of International Importance: scientific and technical guidance***

1. RECALLING the Contracting Parties' requests to the Scientific & Technical Review Panel (STRP) in Resolutions VIII.7 and VIII.11 (2002) to provide advice on biogeographic regionalization schemes and on interpretation of the term “under-represented type” in the context of available information on the global extent of different wetland types and their representation in the Ramsar List, and to investigate methods of defining targets for representation of wetland types in the Ramsar List in the context of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*;
2. RECOGNIZING that a relevant biogeographic regionalization scheme is a key basis for interpreting and assessing under-representation in the Ramsar List under Criteria 1 and 3 for Ramsar site identification and designation and NOTING that some Parties have national or regional bioregionalisations that they can or may utilise for this purpose;
3. NOTING the existence of several global biogeographic regionalizations in the terrestrial environment, which were developed for different purposes, such that the relevance for application of any one of them will depend on the precise analytical questions being considered;
4. NOTING ALSO that the STRP's 2006-2008 efforts on these matters have benefited from the major work published in 2007 in a peer-reviewed journal by an international consortium (led by The Nature Conservancy (TNC) and including members of the STRP and the Ramsar Secretariat) which has developed, through broad consultation, a standardized and hierarchical biogeographic regionalization of coastal and near-shore marine environments – the Marine Ecoregions of the World (MEOW) – and that since its publication, the MEOW has gained broad international acceptance as an appropriate global standard for the biogeographic regionalization of the coastal and near-shore marine environment, with updates planned for the future;
5. FURTHER NOTING that the 2007 MEOW publication includes an initial assessment of the distribution and gaps of Ramsar sites in relation to the MEOW hierarchical regionalization scheme, and that further technical guidance on this subject has been prepared by the STRP for publication as a Ramsar Technical Report that will demonstrate the usefulness of MEOW in understanding the representativeness of Ramsar site

designations with respect to the development of national and international networks of coastal and near-shore marine wetlands;

6. CONCERNED, however, that the lack of information on wetland types provided in the Information Sheets on Ramsar Wetlands (RIS) for many Ramsar sites, and the lack of global inventories for many types of wetland (as reported in the *Global review of wetland resources and priorities for wetland inventory* and recorded in Resolution VIII.6), continue to constrain the scope of analyses of representation and under-representation in the Ramsar List; and
7. THANKING the STRP and the International Water Management Institute (IWMI) for their work on this task, and The Nature Conservancy for its fruitful collaboration with the STRP and Ramsar Secretariat in the development of the MEOW biogeographic regionalization scheme;

#### THE CONFERENCE OF THE CONTRACTING PARTIES

8. ENDORSES the supplementary guidance provided in the annex to this Resolution and ENCOURAGES Contracting Parties to use it in their application of the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance*, as they consider appropriate, in cooperation with neighbouring Contracting Parties where appropriate;
9. REAFFIRMS the central need for comprehensive wetland inventories at national and international scales, including of different wetland types, as called for in Resolutions VIII.6 and IX.1 (Annex E) as well as in the Convention's past and current Strategic Plans, in order to permit the better assessment of the representativeness of wetland types within the Ramsar List;
10. REQUESTS the STRP, Ramsar Secretariat, and Wetlands International to seek ways to make available through the Ramsar Sites Information Service (RSIS) digital versions of the MEOW biogeographic regionalization schemes for realms, provinces, and ecoregions, as well as their updates when they become available, in order to help Contracting Parties to identify priority wetlands for designation as Ramsar sites in the coastal and near-shore marine environment, as well as digital versions of relevant terrestrial biogeographic regionalisation schemes;
11. ALSO REQUESTS the STRP, in collaboration with appropriate scientific institutes and conservation organizations such as IUCN, IWMI, The Nature Conservancy (TNC), and WWF, to investigate further the usefulness of existing terrestrial and inland biogeographical regionalization schemes for supporting the application of the *Strategic Framework*, and that the Standing Committee, considering STRP's further review, at the earliest feasible opportunity advise Contracting Parties of any additional bioregionalisation schemes that they may usefully apply;
12. FURTHER REQUESTS the STRP to develop methods for assessing the representativeness of wetlands in the Ramsar List in relation to the application of other Criteria for Ramsar site designation, their targets, and the guidelines for their application, as currently provided in the *Strategic Framework*; and

13. INSTRUCTS the Ramsar Secretariat to disseminate widely the guidelines annexed to this Resolution, including through amendment and updating of the Ramsar Toolkit of Wise Use Handbooks.

## Annex

### Supplementary guidance on the application of biogeographic regionalization schemes

#### Background

1. The *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* adopted by COP7 and amended by COP8 and COP9 states that under both Criteria 1 and 3:
  32. ... Contracting Parties are expected to identify sites of international importance within an agreed biogeographic regionalization. The Glossary (Appendix E) defines this term as “a scientifically rigorous determination of regions as established using biological and physical parameters such as climate, soil type, vegetation cover, etc.” Note that for many Contracting Parties, biogeographic regions will be transboundary in nature and will require collaboration between countries to define those wetland types which are representative, unique, etc. In some regions and countries, the term “bioregion” is used as a synonym for “biogeographic region”.

Add additional guidance after current paragraph 32 of the *Strategic Framework*

#### Marine bioregionalization schemes

- XX. The major assessment of Marine Ecoregions of the World (MEOW) (Spalding *et al.* 2007) has developed a new global system of biogeographic regionalization for coastal and shelf areas. It presents a nested system of 12 realms, 62 provinces, and 232 ecoregions (see <http://www.nature.org/tncscience/news/meow.html> and <http://conserveonline.org/workspaces/ecoregional.shapefile/MEOW/view.html>). This system provides considerably better spatial resolution than earlier global systems, yet it preserves many common elements from earlier global and regional systems and so it can be cross-referenced to many existing regional biogeographic classifications.
- XX. As the MEOW classification has been developed through wide international consensus, has received broad international acceptance, and incorporates many pre-existing classifications, it is recommended for application by the Ramsar Convention (at its ecoregional scale) with respect to coastal and near-shore marine areas within the scope of the Convention.
- XX. Since its initial publication, a number of formal corrections to the MEOW ecoregions have been collated, including minor boundary adjustments and changes to nomenclature. It is planned that a formal update to the MEOW system will be issued within one to two years after its initial publication and will include all such adjustments.

#### Terrestrial bioregionalization schemes

- XX. Three principle biogeographic regionalization schemes have been developed for use in conservation planning and assessment in terrestrial environments (Udvardy 1975; Bailey 1998; Olson *et al.* 2001). None of these schemes addresses inland wetland ecosystems, as they are largely derived from the distributions and similarities of other terrestrial ecosystems (forests, grasslands, etc.). They have differing spatial resolutions and have been developed for different purposes based on different types of data.

#### **Udvardy's Biogeographical Provinces (Udvardy 1975)**

Intended to provide a satisfactory classification of the world's biotic areas and to provide a framework for conserving species as well as ecologic areas, the classification is a hierarchical system of geographical areas (Realms, Biomes and Provinces) based on the distribution of species and the distribution of ecosystem units. Realms are based on phylogenetic subdivisions, Biomes on both vegetation and climatic features, and Provinces on fauna, flora and ecology.

#### **Bailey's Ecoregions (Bailey 1998)**

Originally intended to illustrate how the national forests of the U.S. fit within the global ecoregional scheme, an ecoregion is defined here as any large portion of the Earth's surface over which the ecosystems have characteristics in common. There are three levels within the classification system; Domains, Divisions and Provinces. Ecoregions are based on macroclimate following the theory that macroclimates are among the most significant factors affecting the distribution of life on Earth. Temperature and rainfall along with climatic zones were used to identify the Domains and Divisions. Provinces were based on the physiognomy of the vegetation, modified by climate.

#### **WWF Terrestrial Ecoregions (Olson *et al.* 2001)**

Derived primarily as a tool for prioritizing areas for conservation, the WWF Terrestrial Ecoregions comprise relatively large units of land or water containing a geographically distinct assemblage of natural communities. These communities share a majority of their species, ecological dynamics and environmental conditions, and they interact in ways that are critical for their long-term persistence. The hierarchical classification system consists of Realms, Biomes, and Ecoregions, which reflect the distribution of distinct biotas.

- XX. In addition, WWF-US has recently been leading the development of a scheme for Freshwater Ecoregions of the World (FEOW) (Abell *et al.* 2008), which are being derived by aggregating and subdividing watersheds based on the distribution patterns of aquatic species, notably fish.
- XX. In Europe, a biogeographic regionalisation scheme (<http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=3641>) contains 11 biogeographic regions and forms the basis for establishing the Natura 2000 network of the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora and the Emerald Network of the Convention on European Wildlife and Natural Habitats (Bern Convention) ([www.dataservice.eea.europa.eu/dataservice](http://www.dataservice.eea.europa.eu/dataservice)).
- XX. As these schemes have been or are being developed for different purposes and using different criteria, and have not been assessed or their common features and differences articulated, it is not proposed at this stage that any single inland/terrestrial classification should be adopted for use by the Convention. Contracting Parties are encouraged to make

use of these schemes as they consider appropriate or to draw to the attention of the STRP other schemes that better represent the biogeographical distribution of inland wetlands, keeping in mind the differences in scale necessary to present wetland distribution nationally and internationally.

- XX. Recording precise locational information on the Ramsar Information Sheet will allow Ramsar sites to be placed within the context of each or any of these schemes, depending on which is most appropriate for any particular international analytical purpose. It would also allow analyses to be undertaken with respect to international regionalization schemes that do not have global coverage, for example, biogeographic regionalizations used within Europe (above).
- XX. Additional information and advice relating to the use of biogeographic regionalization schemes in the context of the Ramsar Convention is provided by Rebelo, Finlayson & Stroud (2009). This publication includes examples of the use of MEOW in analytical contexts to assess the coverage in the Ramsar List, and gaps in coverage, of specific coastal and near-shore marine wetland types, including mangroves, coral reefs, and saltmarshes.

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