

CONVENTION ON WETLANDS (Ramsar, Iran, 1971)

Proceedings of the 6TH Meeting of the Conference of the Contracting Parties (Brisbane, Australia, 19-27 March 1996)

RESOLUTION VI.1: WORKING DEFINITIONS OF ECOLOGICAL CHARACTER, GUIDELINES FOR DESCRIBING AND MAINTAINING THE ECOLOGICAL CHARACTER OF LISTED SITES, AND GUIDELINES FOR OPERATION OF THE MONTREUX RECORD

1. CONSIDERING that Article 3.2 of the Convention states that each Contracting Party “shall arrange to be informed at the earliest possible time if the ecological character of any wetland in its territory and included in the List [of Wetlands of International Importance] has changed, is changing, or is likely to change as the result of technological developments, pollution or other human interference”;
2. RECALLING that Recommendation 4.8 instructed the Bureau to maintain a record of listed sites where change in ecological character had occurred, was occurring, or was likely to occur, and that Resolution 5.4 established guidelines for operating the record, to be known as the Montreux Record;
3. FURTHER RECALLING that Recommendation 5.2 emphasized the need for further studies of the concepts of “ecological character” and “change in ecological character”, and instructed the Bureau, with the support of the Scientific and Technical Review Panel (STRP) and partner organizations, to report to the present meeting on the results of such studies;
4. NOTING the results of the work carried out by the STRP and during Technical Session B of the present meeting;
5. RECOGNIZING the need for definitions and guidelines to assist Contracting Parties with implementation of Article 3.2 and, in particular, with maintaining the ecological character of listed sites;
6. FURTHER RECOGNIZING the need for revised guidelines to ensure effective operation of the Montreux Record;
7. NOTING that Resolution VI.13 of the present meeting seeks to address the deficiencies in essential baseline data provided by Contracting Parties in the form of Information Sheets on Ramsar Wetlands; and
8. AWARE of the existence of many successful environmental monitoring programmes world-wide (including those which rely on the involvement and enthusiasm of local communities) and of the value of Early Warning Systems to allow Contracting Parties to take sufficiently prompt actions to prevent changes in the ecological character of listed sites;

THE CONFERENCE OF THE CONTRACTING PARTIES

9. ACCEPTS working definitions, to be assessed further during the 1997-1999 triennium, of “ecological character” and “change in ecological character”, together with the guidelines for describing and maintaining ecological character of listed sites, as contained in the Annex to the present resolution, recognizing that these working definitions are relevant to the management of wetlands in general;
10. REQUESTS the Contracting Parties and the Bureau, with the advice of the STRP, to implement the revised procedure for operation of the Montreux Record, as contained in the Annex to the present resolution;
11. CALLS ON Contracting Parties to support the development, by the relevant authorities within their territories, of Early Warning Systems for detecting, and initiating action in response to, change in ecological character; and
12. INSTRUCTS the STRP, in cooperation with the Bureau and partner organizations, and the wider scientific community, to liaise with the Standing Committee, in order to identify the effects of application of the present resolution, especially at specific sites, and to report accordingly to the 7th Meeting of the Conference of the Parties.

Annex to Resolution VI.1

WORKING DEFINITIONS, GUIDELINES FOR DESCRIBING AND MAINTAINING THE ECOLOGICAL CHARACTER OF LISTED SITES, AND GUIDELINES FOR OPERATION OF THE MONTREUX RECORD

1. Working definitions

1.1. *Ecological character* :

The “ecological character” is the structure and inter-relationships between the biological, chemical, and physical components of the wetland. These derive from the interactions of individual processes, functions, attributes and values of the ecosystem(s).

1.2. *Change in ecological character* :

“Change¹ in ecological character” of a wetland is the impairment or imbalance in any of those processes and functions which maintain the wetland and its products, attributes and values.

The following notes on wetland processes, functions, values, products and attributes, are derived from the *Ramsar Convention Manual* (Davis, 1994); *Wetland Conservation: A Review of Current Issues and Required Action* (Dugan, 1990); “*Building a new approach to the investigation and assessment of wetland ecosystem functioning*” in Mitsch, *Global Wetlands: Old World and New* (Maltby, 1994); and “*Defining new procedures of functional assessment for European river marginal wetland ecosystems*” (Maltby, in press).

¹ Change in the ecological character of a site is interpreted as meaning adverse change, in line with the context of Article 3.2 of the Convention and Recommendation 4.8 (1990), which established the Montreux Record. The definition refers explicitly to adverse change caused by human activities. It excludes the process of natural evolutionary change occurring in wetlands. It is also recognized that wetland restoration and/or rehabilitation programmes may lead to favourable human-induced changes in ecological character.

Processes are changes or reactions which occur naturally within wetland ecosystems. They may be physical, chemical or biological.

Functions are activities or actions which occur naturally in wetlands as a product of the interactions between the ecosystem structure and processes. Functions include flood water control; nutrient, sediment and contaminant retention; food web support; shoreline stabilization and erosion controls; storm protection; and stabilization of local climatic conditions, particularly rainfall and temperature.

Values are the perceived benefits to society, either direct or indirect, that result from wetland functions. These values include human welfare, environmental quality and wildlife support.

Products generated by wetlands include: wildlife resources; fisheries; forest resources; forage resources; agricultural resources; and water supply. These products are generated by the interactions between the biological, chemical and physical components of a wetland.

Attributes of a wetland include biological diversity and unique cultural and heritage features. These attributes may lead to certain uses or the derivation of particular products, but they may also have intrinsic, unquantifiable importance.

2. Guidelines for describing and maintaining the ecological character of listed sites

- 2.1. It is essential that the ecological character of a site be described by the Contracting Party concerned **at the time of designation for the Ramsar List**, by completion of an Information Sheet on Ramsar Wetlands (as adopted by Recommendation 4.7). The STRP has proposed some limited modifications to the guidelines for completing the Information Sheet, in order to increase the value of the data provided for assessing ecological character. These proposals are attached below.
- 2.2. Sources of information which might be consulted by Contracting Parties in describing the ecological character of listed sites include international, national and regional scientific inventories of wetlands; already existing site-specific management plans; and other site-specific scientific surveys or reports.
- 2.3. Contracting Parties are requested to verify the data which they have provided on Information Sheets on Ramsar Wetlands every six years (i.e. every second meeting of the Conference) and to provide the Bureau with updated sheets if necessary. During the intervening period, urgent information on changes at listed sites should be conveyed to the Bureau using the existing mechanisms of regular, day to day contacts and the triennial National Reports.
- 2.4. Change in the ecological character of a listed site should be assessed against the baseline status presented in the Information Sheet on Ramsar Wetlands, at the time of designation for the List (or at the time the Information Sheet was first provided to the Bureau), together with any information which has been received subsequently.
- 2.5. Assessment should be linked to the Ramsar criterion or criteria fulfilled by the site at the time of designation for the Ramsar List. Use of the criteria indicates certain benefits and values of the wetland which might be lost as a result of change in the ecological

character. However, this forms only part of the assessment needed, since significant degradation of wetland functions and values might occur without any of the designated Ramsar criteria being contravened.

- 2.6. An effective monitoring and survey programme is a prerequisite for assessing whether or not a wetland has undergone a change in its ecological character. Such a programme is an integral component of a wetland management planning (see Annex to Resolution 5.7) and should enable full consideration of the values and benefits of the wetland when the extent and significance of the change is being assessed. A framework which might be of assistance to Contracting Parties in designing effective monitoring programmes is attached below.
- 2.7. Monitoring should establish the range of natural variation in ecological parameters at each site, within a given time frame. Change in ecological character occurs when these parameters fall outside their normal range. Thus, in addition to monitoring, an assessment of the extent and significance of the change is required, taking into account the need for each wetland to have a favourable conservation status.
- 2.8. In some instances a Contracting Party may decide to restore a wetland to re-establish the ecological character that existed prior to the date of designation. In the case of such restoration programmes, a new Information Sheet should be provided, to establish a new baseline for assessing any future change. Information should also be given concerning the target state that any restoration is aiming at.

2.9. **Improvements to the Guidelines for the Information Sheet on Ramsar Wetlands**

2.9.1 Improvements to the Guidelines for completing the Information Sheet on Ramsar Wetlands are proposed, in order to increase the value of the information collected for describing and assessing ecological character of listed sites. New headings in the guidelines will emphasize the importance of:

- (i) establishing a baseline by describing the functions, products and attributes of the site that give it benefits and values of international importance (necessary because the existing Ramsar criteria do not cover the full range of wetland benefits and values which should be considered when assessing the possible impact of changes at a site);
- (ii) providing information on human-induced factors that have affected or could significantly affect the benefits and values of international importance;
- (iii) providing information on monitoring and survey methods in place (or planned) at the site;
- (iv) providing information on the natural variability and amplitude of seasonal and/or long-term “natural” changes (e.g. vegetation succession, episodic/catastrophic ecological events such as hurricanes) that have affected or could affect the ecological character of the site;

2.9.2 It is recognized that, for many sites, such information will not be known at present, nor be readily available. The sheets will also only provide a snap-shot in time.

However, the level of information in the Information Sheet on Ramsar Wetlands is the minimum necessary for determining management steps to maintain the ecological character of a listed site. In gathering new data or assembling existing data, Contracting Parties should give emphasis to sites where there appears to be a high-medium risk of human-induced change with a high-medium ecological impact, likely to result in permanent, long- or medium-term degradation of values and benefits. International technical and/or financial cooperation may be needed to assist in gathering information about listed sites, particularly in developing countries.

2.9.3 All new listed sites should be described according to the revisions set out above. For sites with already submitted Information Sheets, the revisions should be taken into account at the next six-yearly review (see Resolution VI.13). National Reports provide an opportunity for providing information in the meantime.

2.10. A framework for designing an effective wetland monitoring programme

2.10.1 In order to detect actual or potential changes in ecological character, regular monitoring is required. Monitoring is defined in the “Additional Guidance for the Implementation of the Wise Use Concept” (Annex to Resolution 5.6) as *“the process of measuring change in ecological character in any wetland over a period of time”*. Monitoring differs from general surveillance in that there is a specific reason and method for collecting particular data or information.

2.10.2 The Additional Guidance also points out that monitoring does not automatically require sophisticated technology or high investment and can be carried out at different levels of intensity. It is emphasized that there are many different monitoring techniques available, and that each Contracting Party should select the technique(s) most appropriate to its priorities and available resources.

2.10.3 A monitoring programme should, ideally, be an integral part of a site-specific wetland management plan, as set out in Resolution 5.7. However, where a management plan does not yet exist, it is still possible to implement a monitoring programme (though without the framework of a management plan, it will be difficult to implement the results of monitoring effectively).

Framework for designing a wetland monitoring programme

The framework set out in this table is not a prescriptive recipe for any particular monitoring programme. It simply provides a series of steps, in a logical sequence, that can be used by wetland managers and planners, working in partnership with local users and managers, to design a monitoring programme based on their particular circumstances and needs. The arrows illustrate the feedback which enables assessment of the effectiveness of the monitoring programme in achieving its objective(s). This framework is based on a text entitled *A Framework for Designing a Monitoring Programme* (Finlayson 1995) prepared for the *MedWet Methodological Guide for Monitoring Programmes in Mediterranean Wetlands*.

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| Problems/issues | <ul style="list-style-type: none"> - State clearly and unambiguously - State the known extent and most likely cause - Identify the baseline or reference situation |
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Objective	<ul style="list-style-type: none"> - Provides the basis for collecting the information - Must be attainable and achievable within a reasonable time period
Hypothesis	<ul style="list-style-type: none"> - Assumption against which the objectives are tested - Underpins the objective and can be tested
Methods & variables	<ul style="list-style-type: none"> - Specific for the problem and provide the information to test the hypothesis - Able to detect the presence, and assess the significance, of any change - Identify or clarify the cause of the change
Feasibility / cost effectiveness	<ul style="list-style-type: none"> - Determine whether or not monitoring can be done regularly and continually - Assess factors that influence the sampling programme: availability of trained personnel; access to sampling sites; availability and reliability of specialist equipment; means of analyzing and interpreting the data; usefulness of the data and information; means of reporting in a timely manner - Determine if the costs of data acquisition and analysis are within the existing budget
Pilot study	<ul style="list-style-type: none"> - Time to test and fine-tune the method and specialist equipment - Assess the training needs for staff involved - Confirm the means of analyzing and interpreting the data
Sampling	<ul style="list-style-type: none"> - Staff should be trained in all sampling methods - All samples should be documented: date and location; names of staff; sampling methods; equipment used; means of storage or transport; all changes to the methods - Samples should be processed within a timely period and all data documented: date and location; names of staff; processing methods; equipment used; and all changes to the protocols - Sampling and data analysis should be done by rigorous and tested methods
Analyses	<ul style="list-style-type: none"> - The analyses should be documented: date and location (or boundaries of sampling area), names of analytical staff; methods used; equipment used; data storage methods
Reporting	<ul style="list-style-type: none"> - Interpret and report all results in a timely and cost effective manner

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| <ul style="list-style-type: none">- The report should be concise and indicate whether or not the hypothesis has been supported- The report should contain recommendations for management action, including further monitoring |
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3. **Guidelines for operation of the Montreux Record**

3.1. The Montreux Record is the principal tool of the Convention for highlighting those sites where an adverse change in ecological character has occurred, is occurring, or is likely to occur, and which are therefore in need of priority conservation attention. It shall be maintained as part of the Ramsar Database and shall be subject to continuous review.

3.2. The following procedure should be observed when considering the possible inclusion of a listed site in the Montreux Record:

3.2.1 A Contracting Party may request inclusion of a site in the Montreux Record, because of potential or actual adverse change in its ecological character, in order to draw attention to the need for action or support. Alternatively, the Bureau, on receipt of information on actual or possible adverse change from partner organizations, other international or national NGOs, or other interested bodies, may draw the attention of the Contracting Party concerned to this information and enquire whether a Ramsar site should be included in the Montreux Record. A site can only be included in the Record with the approval of the Contracting Party concerned.

3.2.2 The Bureau will pass the information received from partner organizations, other international or national NGOs, or other interested bodies, to the Contracting Party, together with a concise, voluntary questionnaire (see “Montreux Record - Questionnaire” below) normally to be returned to the Bureau within three months. However, this deadline should be flexible to take into account the circumstances of developing countries and Contracting Parties whose economies are in transition.

3.2.3 The completed questionnaire will, with the agreement of the Contracting Party, be forwarded by the Bureau to the Scientific and Technical Review Panel (STRP) for advice in line with the “Working Definitions and Guidelines for Describing and Maintaining the Ecological Character of Listed Sites”. The Bureau will, with the agreement of the Contracting Party, relay the completed questionnaire to the original source of the information. If the Contracting Party is not able to agree to this, the Bureau will relay the Contracting Party’s decision.

3.2.4 Any technical comment or advice provided by the STRP will be forwarded by the Bureau to the Contracting Party and to the source of the information first received by the Bureau (if different from the Contracting Party).

3.2.5 The Bureau will discuss the STRP’s comments and advice with the Contracting Party concerned, with the aim of determining what steps might be taken, including a decision as to whether the site should be included in the Montreux Record. The STRP and other interested bodies will, where appropriate, be informed of the decision made by the Contracting Party, in consultation with the Bureau.

3.2.6 Within the framework of their triennial National Reports, Contracting Parties shall provide a report to the Convention Bureau on the conservation status of any sites included in the Montreux Record. If necessary, further information will be provided to the Bureau on request.

3.3. The following procedure should be observed when considering the removal of a listed site from the Montreux Record:

3.3.1 The Bureau is requested to remove a listed site from the Montreux Record by the Contracting Party in whose territory the site is included. The Bureau may also receive information from other sources, suggesting that there is no longer a risk of change in the ecological character of the listed site.

3.3.2 The Bureau will submit the concise questionnaire (see “Montreux Record - Questionnaire” below) to the Contracting Party and forward the completed questionnaire to the Scientific and Technical Review Panel (STRP) for advice in line with the “Working Definitions and Guidelines for Describing and Maintaining the Ecological Character of Listed Sites”.

3.3.3 Any requests from the STRP for further information, together with the STRP’s technical comments or advice, will be forwarded by the Bureau to the Contracting Party. The Bureau may also request information from other sources.

3.3.4 At the invitation of the Contracting Party, the Bureau may organize a site visit, ideally by the relevant Bureau staff member, the regional member of the STRP, and other appropriate experts.

3.3.5 A wetland will be removed from the Montreux Record based on the request of the Contracting Party and after consideration of advice and/or comment from the STRP. The final decision will be made by the Contracting Party.

3.3.6 The Bureau will, unless the Contracting Party concerned objects, provide information on the decision made by the Contracting Party to other interested bodies.

Montreux Record - Questionnaire

Section One

Information for assessing possible inclusion of a listed site in the Montreux Record

Essential items

- ◆ Name of site
- ◆ Ramsar Criteria for listing the site as internationally important
- ◆ Nature of the change in ecological character/potential for adverse change
- ◆ Reason(s) for adverse change, or potential adverse change, in ecological character

Additional items which may be included

- ◆ Date Information Sheet on Ramsar Wetlands submitted
- ◆ Date and source of Information Sheet updates (e.g. National Reports, national wetland inventory, specific survey)
- ◆ Benefits and values derived from the site
- ◆ Extent to which values and benefits derived from the site have decreased or changed
- ◆ Monitoring programme in place at the site, if any (technique(s), objectives, and nature of data and information gathered)
- ◆ Assessment procedures in place, if any (how is the information obtained from the monitoring programme used)
- ◆ Ameliorative and restoration measures in place or planned (if any) so far
- ◆ List of attachments provided by the Contracting Party (if applicable)
- ◆ List of attachments provided by the Ramsar Bureau (if applicable)

Section Two

Information for assessing possible removal of a listed site from the Montreux Record

- ◆ Success of ameliorative, restoration or maintenance measures (describe if different from those covered in Section One of this questionnaire)
- ◆ Proposed monitoring and assessment procedures (describe if different from those in Section One of this questionnaire)
- ◆ Extent to which the ecological character, benefits and values of the site have been restored or maintained (provide details)
- ◆ Rationale for removing the site from the Montreux Record (refer to Guidelines for operation of the Montreux Record, together with Section One of this questionnaire)
- ◆ List of further attachments (if applicable)