CONVENTION ON WETLANDS (Ramsar, Iran, 1971)

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DOC. SC30-7

Agenda item 8

Indicators of effectiveness of the implementation of the Convention – report from the STRP's Working Group 6

Action requested: **The Standing Committee is requested to review the progress made by the STRP's Working Group in assessing the effectiveness of the implementation of the Convention, and to determine the next steps for progressing this work on indicators.**

1. In paragraph 19 of Resolution VIII.26, the Conference of the Parties:

> "REQUESTS the STRP to prepare a series of key indicators in relation to the effective implementation of the Strategic Plan in the next triennium, to be used as part of the National Report Format. These indicators should be adopted by the Standing Committee at its annual meeting in 2004, so that Parties may use them to complement their National Reports when they are finalised in preparation for CoP9 in 2005;"

2. The STRP at its 11th meeting, in April 2003, assigned this task to its Working Group 6 on assessing the effectiveness of implementation of the Convention. The Working Group's Co-leads, David Pritchard (BirdLife International) and Teresita Borges (Cuba), with the assistance of other Working Group members and the Secretariat, have prepared the attached report describing the approach developed by the Working Group and its progress in implementing this approach.

3. The Working Group has agreed parameters for the task, reviewed a range of relevant indicator material in use or under development by other processes, and distilled a set of 19 proposed indicators for Ramsar use, with comments on their potential application. The Working Group confirms that this set of indicators supplements and should be complementary to those in the CoP9 National Report Format, and are designed to add value to it in ways which will offer a stronger basis for evaluating the effectiveness of Convention's implementation in terms of ecological outcomes.

4. In contrast to many other endeavours of this kind, the emphasis sought here is on indicators which relate to "science-based" ecological outcomes, rather than to institutional processes ('process-based indicators'). While it remains important to track the latter (e.g., numbers of sites with monitoring schemes in place, numbers of species with recovery plans, level of resourcing going into wetland work, etc.), the focus here is intended to be the state of the wetland environment itself. 'Process-based indicators' form the great majority of the indicators in the CoP9 National Report Format.

5. Furthermore, the purpose of the request in Res.VIII.26 is not simply to evaluate factors which might show the status and trends of wetland variables, but rather to show whether the Convention is being effectively implemented – i.e., whether it is making a difference in the way intended.

6. In designing the proposed indicators, the STRP's Working Group has also made an attempt to offer a basis for a contribution from the Ramsar Convention to the assessment of progress towards the WSSD and CBD targets of "significantly reducing the rate of loss of biodiversity by 2010". This is a key objective for the Convention as a whole, and it is part of the context for the timescales relating to this area of the STRP's work.

7. Resolution VIII.26 envisages that the Standing Committee will consider the proposed indicators at its 30th meeting and will make a decision on how Parties might take these forward in conjunction with the compilation of their National Reports for CoP9. This has presented the STRP's Working Group with a challenging timescale for its activities. Therefore the attached report from the Working Group represents a work in progress. Elements of a suggested process to complete the necessary steps to finalise this work are outlined below.

8. The Standing Committee may wish to consider whether all 19 proposed indicators should be further developed for application, or whether a smaller number of indicators from among the list of 19 should be used. For now, the Committee is invited to endorse the approach taken thus far, and to comment on the proposals in relation both to their intrinsic suitability and in relation to any priorities for the selection of a smaller (or aggregated) sub-set of indicators.

9. In further developing the proposed indicators for application, the Working Group has recognised that it will need the assistance of indicator experts with specific expertise in the process of constructing indicators for practical application. It is anticipated that this step would require the provision of some additional funding for an appropriate consultancy to assist with this next stage of the work.

10. Further work will also be required to develop guidance on the application and use of the chosen indicators. Specific proposals for this have not yet been developed, and this will need to be revisited at or before the pilot-testing stage. The STRP Chair has emphasised that the Millennium Ecosystem Assessment may be among those able to offer insights here, especially as the Convention has engaged as an active partner in the MA and is seeking feedback which will assist in the further development of the Convention's technical agenda, including the usefulness of indicators of ecological change. The recent publication of the framework being used in the assessment (see www.millennium assessment.org/products.ehwb.aspx) will assist the STRP in determining suitable methods for measurement for each indicator.

11. If the Standing Committee approves the proposed way forward, then beginning in 2004 it would be appropriate to seek a number of Contracting Party Administrative Authorities who would be prepared, on a voluntary basis, to carry out pilot-testing of the indicators, as further developed with guidance on measures to collect for their application, in conjunction with their compilation of national reports for CoP9. The Committee may wish to urge Parties willing to assist in this way to identify themselves.

12. Subsequently, the indicator proposals, with or without any modifications in the light of the pilot-testing experience of Parties, would be brought to the 31st meeting of the Standing Committee for its consideration for transmittal to CoP9, for use by Parties in the 2005-2008 triennium.

13. In taking forward this work, an important dimension is the scope for synergies with other multilateral environmental agreements, each of which faces a more or less equivalent challenge in developing indicators, including indicators of relevance to the 2010 biodiversity target. This will be explored with the other MEAs as appropriate.

14. In relation to such synergies, CBD's 9th meeting of its Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA9) considered the issue of global 2010 targets and indicators in general, and specifically for their programmes of work on inland waters and marine and coastal biodiversity. Proposed targets for these two programmes of work, for which a small number of indicators will be developed subsequently, are currently being finalized for consideration by CBD's CoP7 in February 2004. The SBSTTA has also recommended that global targets and indicators be developed for CBD CoP8 (2006), and has identified that indicators on the following should be tested immediately:

    i) trends in the extent of selected biomes, ecosystems and habitats;
    ii) trends in abundance and distribution of selected species;
    iii) change in status of threatened species;
    iv) trends in genetic diversity of domesticated animals, cultivated plants, and fish species of major socio-economic importance; and
    v) coverage of protected areas;

    and that indicators for the following should be developed:

    vi) threats to biodiversity
    vii) ecosystem goods and services; and
    viii) equitable sharing of benefits arising from the use of genetic resources

15. The indicators proposed in this report by Working Group 6 would appear to fit well into most of these categories, and it is anticipated that in the further development of the Ramsar indicators the STRP Working Group should work closely with those preparing CBD indicators on these matters so as to ensure as close as possible harmonization of the indicators being considered by Parties to both Conventions.

16. The Standing Committee may wish to:

    i) thank the STRP's Working Group 6 for its efforts in bringing forward proposals for ecological 'outcome-oriented' indicators of the effectiveness of implementation of the Convention;

    ii) endorse the approach taken thus far by the Working Group in preparing these proposals, as described in the report annexed to DOC.SC30-7;

iii) request the STRP Working Group to continue to develop these proposals, taking account of the comments made in the present meeting, and the global-scale indicators recommended by CBD SBSTTA9;

iv) instruct the Ramsar Secretariat, with the assistance of the STRP Support Service, to seek appropriate additional expert consultancy assistance to work with the STRP Working Group to refine the detailed description and guidance on the application and use of the proposed indicators;

v) encourage Contracting Parties willing to assist with pilot-testing the proposed indicators during 2004, in conjunction with their use of the National Planning Tool and National Report Format for CoP9, to make their willingness known to the Ramsar Secretariat; and

vi) request the STRP's Working Group to prepare a further draft of the proposed indicators for circulation to the Standing Committee for comment prior its 31st meeting.

Annex

Report from STRP Working Group 6 on developing indicators of effectiveness of implementation of the Convention

Note. This report is based on a longer discussion document produced by the Working Group, working electronically through the STRP Support Service Web site during 2003.

STRP Working Group 6 objectives, and parameters for the task

1. The STRP Work Plan sets out the detail of a number of tasks for its Working Group 6 concerning indicators. In summary the objective is to prepare a series of key indicators in relation to the effective implementation of the Strategic Plan in the next triennium, to be used as part of the National Report Format (indicators to be adopted by the Standing Committee at its annual meeting in 2004, so that Parties may use them to complement their National Reports to CoP 9). This derives from a request by Parties at CoP8 in Resolution VIII.26.

2. The Group has defined its expected product as a list of key indicators on effectiveness of implementation, for pilot use by Parties. If requested, guidelines for use of the indicators might also need to be produced, drawing on the experience of pilot testing.

3. The Group articulated a "statement of purpose", as follows:

> "to produce a set of key indicators on a small selection of issues which will provide information about the achievement or otherwise of the Ramsar Convention's objectives, in a way which can attribute the specific contribution made by implementation of the Convention, and which will *inter alia* provide a contribution to assessing progress towards the WSSD target of significant reduction in rates of biodiversity loss by 2010".

4. At the first meeting of the Group in April 2003, some criteria for indicator selection were also defined, such that the indicators had to:

    1) be simple and pragmatic;
    2) be capable of distinguishing the difference made by the Ramsar Convention;
    3) preferably reflect composite variables;
    4) relate to information which can be reasonably expected to be available, at least in the next triennium if not in the current one; and
    5) (at least in some cases) lend themselves to use by wide popular audiences.

5. The desired scope of the indicators was defined as aiming to include coverage of:

    1) biodiversity, physico-chemical, etc., variables;
    2) ecosystem services;
    3) socioeconomic issues, including acceptance by affected people of e.g. Ramsar sites;
    4) legislative and institutional factors;
    5) "performance" measures; and

6) pressures on wetlands.

6. It was also established that while some of the indicators would be designed for use by Contracting Parties at national level, some should be designed to operate at a supra-national scale. Information for national-level indicators should, where possible, be capable of aggregation to larger, including global, scales. This is particularly important for assessments relating to, for example, biogeographical populations of wetland fauna, and to the global synthesis questions posed by *inter alia* the WSSD 2010 target.

Contextual issues on indicators, targets, and the Ramsar Strategic Plan

7. The Ramsar Convention already has a wide suite of information management tools and processes which should shed light on how well it is performing. These include the extensive National Report Format and its framework of targets and indicators, linked to CoP decisions and the objectives of the Strategic Plan. Others include mechanisms linked to the List of Wetlands of International Importance, such as periodically updated Ramsar Information Sheets and the Montreux Record. It is striking however that, at present, these various sources do not link in a coherent way to a baseline founded on the ecological character of wetlands, and do not offer workable and robust ways of drawing conclusions about the effectiveness of the Convention and its implementation (see discussion in CoP8 DOC. 20).

8. However, the Convention can congratulate itself on having given global leadership in devising some tools and mechanisms which are of excellent quality in themselves. As well as those mentioned above, this also includes various tools for wetland inventory, assessment and monitoring, and in respect of these, STRP's Working Group 1 is currently developing a more integrated approach for the future. Setting that together with the current work of Working Group 6, the prospect is offered now of a more integrated (and moreover simplified) approach to the business of objectives, targets, baselines, indicators, measurements and conclusions about progress across all aspects of the Convention as a whole. This in turn should lead to the content of some of the individual elements, such as national reporting, becoming simpler and more multi-purpose in future.

9. One existing provision which is particularly helpful is Objective 4.1 of the Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance (Annex to Resolution VII.11 and Strategic Plan action 11.2.2), "to use Ramsar sites as baseline and reference areas for national, supranational/regional and international environmental monitoring to detect trends in the loss of biological diversity, climate change, and the processes of desertification" (and to report on this in National Reports – indicator 11.2.2 in the National Report Format). Some of the indicators proposed in this paper will help to realise this aim – and in turn, the "trends in the loss of biodiversity" part, if it is achieved, should contribute to assessing achievement of the 2010 biodiversity target.

10. Although conventions are by their nature dominated very often by issues of institutional structures, the work reported in this paper has attempted for the most part to steer away from indicators based on those (e.g., numbers of sites with monitoring schemes in place, numbers of species with recovery plans, level of resourcing going into wetland work, etc.). It is very important to track such information, but the remit for the STRP for its work is to

focus on "science-based" measures of effectiveness in terms of ecological outcomes, i.e., the state of the wetland environment itself.

11. This raises the issue of the relationship of this exercise with the Convention's Strategic Plan 2003-2008, which already contains a range of quantified targets and indicators. These targets and indicators are, as already implied, largely procedural and 'process-oriented'. However, a few do approach more closely the ecological type of questions which Working Group 6's task addresses. It is possible that we will have to recast the Strategic Plan in the context of CoP9, given its overly complex structure and the concerns expressed by some Parties about its complexity.

12. The database structure for CoP9 National Reports itemises the information required to track the targets in the Strategic Plan (and additional targets from certain CoP decisions). This should be read as complementary to the additional proposals in this paper. The present proposals are intended not to duplicate what is currently in the National Report Format, but to add value to it in ways which will offer a stronger basis for evaluating the effectiveness of Convention implementation in terms of ecological outcomes.

13. This is necessary because the two tools address different, but complementary, aims. The Strategic Plan/National Report Format follows and accounts for the individual component parts of Ramsar implementation processes and decisions. On the other hand, the indicators in this present STRP Working Group 6 exercise look at Convention delivery in terms of how different sets of these components combine to produce ecological results. Both types of evaluation may draw on the same activities by Parties and others, but the type of question they are each addressing is different.

14. A further distinction it is essential to make is between the establishment of a target (which involves political considerations, properly the province of the Strategic Plan and other CoP decisions) and the devising of an indicator, or indicators, to track progress towards achieving that target (a technical question, and properly the province of this work by the STRP).

15. In the present context, the "targets" at issue are effectively the objectives of the Convention itself, i.e., to stem the progressive encroachment on and loss of wetlands now and in the future (Convention preamble), according to the General Objectives for the three "pillars" of the Convention (Strategic Plan): 1) the wise use of wetlands; 2) the Listing, managing and monitoring of Wetlands of International Importance (Ramsar sites), as a contribution to sustainable development; and 3) international cooperation, including technical and financial cooperation for wetland conservation and wise use.

16. Strictly speaking, indicators of effectiveness of the Convention might best be defined in relation to targets for effectiveness; but since the CoP has not so far adopted such targets, for this current STRP work the main objectives of the Convention are being used as the targets.

17. A further global target relevant here is that adopted by the World Summit on Sustainable Development (Johannesburg, 2002), to achieve by 2010 a significant reduction in the current rate of loss of biological diversity. At national level, other targets exist in National Biodiversity Strategies and Action Plans (NBSAPs) prepared under the Convention on

Biological Diversity (CBD). Where these relate to wetland habitats and species they may also provide a basis for development of Ramsar indicators.

18. In addition, the CBD has initiated a process for the development of a small number of 'outcome-oriented' global targets and indicators relevant to assessing achievement of the WSSD 2010 biodiversity target. As the Ramsar Convention is a lead implementation partner of the CBD on wetlands, it will be important to ensure harmonisation between indicators developed under the CBD process – especially those relating to inland waters and coastal and marine biodiversity – and those prepared by the STRP. Collaboration on these developments will be undertaken through the *aegis* of the CBD-Ramsar Joint Work Plan 2003-2006.

19. The Ramsar Strategic Plan 2003-2008 sets out the relative emphasis which the Convention seeks to place on a range of issues, and it expresses a carefully crafted balance between them resulting from a comprehensively participative process throughout Ramsar's many constituencies. This is a great strength of the Convention. Again, the indicator proposals in this paper should be considered in tandem with the Strategic Plan, since they do not in themselves seek to say anything about these issues of balance.

20. It is important to recognise that the proposals in this paper aim only to illuminate some particularly useful examples of Convention implementation issues. There has been no intention (and it would most likely be an unrealistic idea) to present consolidated measures and indicators which would somehow "sum up" the effectiveness of everything done under the Convention. Therefore the proposals are what may be termed "flagship" or "headline" indicators, in the sense of being those which function well as a common and user-friendly totemic touchstone for the questions being addressed. Note that this is not to be confused with the usage of the term "headline" in some other fora to refer to indicators which are representative aggregates of the overall situation concerning a range of variables.

21. It would not be sufficient simply to have indicators that allow a conclusion that "the Convention is effective". There needs to be some ability to also give information on the extent to which it is being effective. That said, the current exercise is about giving an indication, not a comprehensive analysis.

22. The amount and type of information sought should not be determined by how much it is possible to provide, but rather by what is needed in order to answer a hypothesis-based question. The indicator information must also be such as to enable relevant actors in the Convention to trigger corrective action if required.

23. In addition, the ability to collect information will not in itself be sufficient, without a capability also to verify and corroborate its veracity, and to validate conclusions statistically and express confidence limits. Much current data suffer from sampling design deficiencies that weaken their use for quantitative indicators. For indicators of change, good rigour is essential regarding consistency of methods, comparing like with like and so on. However, the formal frameworks offered by a Convention should constitute an advantage in this regard.

Other features of the approach followed by the Working Group

24. There are a large number of current initiatives concerning biodiversity-related indicators at different spatial scales. A very large volume of source material was collated, made available to Working Group members on the Ramsar STRP Support Service Web server, and reviewed as a basis for proposing the indicators. However, it is beyond the scope of this report to give a full analysis of the way these source materials were evaluated, the lines of thinking pursued and reasons why other materials may have been rejected.

25. Of the criteria for indicator selection listed in paragraph 4. above, that concerning the ability to identify the contribution made by the Ramsar Convention is central to the task, and should be emphasised. The purpose of the request which the CoP made of the STRP is **not** simply to evaluate some of the many interesting factors which might show the status and trends of various wetland variables, but rather to show whether the Convention is being implemented effectively, i.e., whether the Convention is, or is not, making a difference to the state of the wetland environment in the way intended.

26. Desirable attributes of indicators in the light of these criteria will not all be additive, and in some cases there are trade-offs to be made between them. For example, one such trade-off is between precision and feasibility, and for the purposes of this exercise, feasibility has been given higher priority.

27. The Working Group's review has considered about 1,000 potentially relevant existing indicators which have been produced by other initiatives and are documented in the literature, as well as having devised new suggestions for the purpose of the Ramsar CoP's request to STRP.

28. By comparison with much previous work the Working Group considers that the STRP's activity on this issue is one of the most policy-targeted exercises of this kind carried out to date.

Indicator proposals

29. Based on the review of existing approaches and on the Group's own deliberations, 19 proposed definitions have been constructed for indicators that might meet the purpose of this exercise. These are listed below and described in more detail in Appendix 1, grouped (for illustrative purposes only) in the following categories:

    - "state" indicators, covering:
        - specific wetland sites;
        - wetland habitats and ecosystems;
        - species and populations;
    - "pressure" indicators; and
    - "response" indicators.

30. No attempt has been made to match each "pressure" indicator with a corresponding "response" indicator. This is partly in order to reduce the length of the list, especially as aggregation and shortlisting steps may still need to be undertaken. It is also because the Working Group considers that there is merit in each indicator being as self-contained as possible. This allows for making clear within the indicator itself what the solution would need to be (in the case of pressure indicators) or what the problem is (in the case of response indicators), without relying on being "paired" with a complementary indicator in

the other category. In any event, as emphasised in the notes for the table in Appendix 1, the "state, pressure and response" categories are somewhat loosely applied and are for indicative purposes only.

31. In most cases further work is required on the detail of how exactly these indicators will be constructed, and on what possibilities might exist for aggregation of some of them. Guidance on their application and use will also be required in due course.

32. The 19 proposed indicators are listed below, and further information about each is provided in Appendix 1.

A. STATE Indicators:

A.i) Specific wetland sites

1. Status of the ecological character of Listed Ramsar sites.
2. Wetland sites with successfully implemented conservation or wise use management plans.

A.ii) Wetland habitats and ecosystems overall

3. Extent of [relatively undegraded?] wetland habitat.
4. Overall conservation status of wetlands.
5. Proportion of each wetland type "effectively conserved".
6. Proportion of current wetland uses which are considered wise/sustainable.

A.iii) Species and populations

7. Population levels of selected wetland taxa.
8. Overall population trends of wetland taxa.
9. Change in threat status of wetland taxa.
10. Waterbird population responses to Ramsar site designation.

B. PRESSURE Indicators:

11. Frequency of threats affecting Ramsar sites.
12. Views of affected communities on relevant Ramsar objectives.

C. RESPONSE Indicators:

13. Legislative amendments implemented to reflect Ramsar provisions.
14. Proportion of candidate Ramsar sites designated.
15. Coverage of threatened taxa by Ramsar sites.
16. Coverage of wetland-dependent bird populations by Ramsar sites.
17. Number of wetland restoration schemes underway.
18. Projects/plans/programmes affecting wetlands which are positively modified in light of EIA/SEA.
19. Economic costs of unwanted floods and droughts.

APPENDIX 1

Indicator Proposals

Explanatory notes:

i. The tables below provide information on each of the 19 proposed indicators. For each indicator, a provisional short and long title is provided, along with an indication of how each proposed indicator relates to the defined "purpose", "criteria" and "scope" agreed by the Working Group at its meeting in April 2003 (including relevance to the WSSD "2010 target" process). The "criteria" are listed in paragraph 4, and the "scope" categories in paragraph 5, of this report. Explanatory notes on each indicator are also provided.

ii. The assignment of proposals to categories (state/pressure/response), etc., has been decided on a pragmatic "best fit" basis for this exercise and is for illustrative purposes only.

iii. In some places, links have been identified with the indicators in the CoP9 National Report Format. The way these links might operate in such cases will need to be further explored.

iv. The list is not in any order of priority.

v. A summary analysis of the coverage in the suite of indicators of each criterion and scope element is provided at the end of the indicator tables.

A. STATE Indicators

A.i Specific wetland sites

Indicator No.: 1
Indicator – short title: Status of the ecological character of Listed Ramsar sites
Indicator – full title: Condition and trends of ecological character of a reference sample of Ramsar sites (in each region) by reference to the baseline description of each site's ecological character according to standardised method (from WG 1 task 1.4.1(i)), defined ideally at the time of designation, and monitored annually, and updated every six years (Resolution VI.1).
Relationship to purpose, criteria and scope (see text paras. 4 and 5): Criteria: 2? 3 4? Scope: 1 2 6
Notes on application of proposed indicator: The STRP Work Plan anticipates that one indicator will be based on work to be done by Working Group 1 in its task to "prepare an analysis and report of the status and trends in the ecological character of sites in the Ramsar List, within the wider context of the status and trends of marine, coastal and inland wetlands". This is important because implicitly, and explicitly since Resolution VIII.8, the conservation goal for Ramsar sites is maintenance of ecological character, and an indicator of whether this goal is being achieved must be included in any credible set of indicators of effectiveness of the Convention. Working Group 1 is seeking to establish links between the key descriptors used for wetland classification (as revised as part of its current work) and the information categories used for describing 'ecological character', and then to transform these to indicators of change (e.g., change in vegetation, change in area, change in water quality, etc.). The baseline (reference condition) for such indicators would be established by the description of the site in the Ramsar Information Sheet. WG 1 notes that establishing such an indicator is initially hampered by the absence of a clear understanding of definition of ecological character (to be developed this triennium by Working Group 1, task 1.4) to provide the baseline for status and trends assessment. The Working Group plan a pilot test of status and trends information for a selected number of Ramsar sites for which better information exists. This will draw on the European Space Agency's TESEO and proposed 'GlobWetland' project outputs and other sources such as proposed work with Wetlands International and the Japanese Space Agency (including through consultation with Parties to identify for which Ramsar sites they have status and trends information), to determine which data are useful for assessing the condition and trends of Ramsar sites, and to use this knowledge to modify, as appropriate, the information which should be provided by Parties. Resolution VIII.4 calls on Parties to report on past losses and current status of coastal and marine wetlands for CoP9, and this may also usefully feed in to elements of this indicator. The more general information Parties are supposed to compile on changes in ecological character of Ramsar sites under Article 3.2 of the Convention should also do so (linked with National Report Format indicator 11.2.4-1). WG 1's task 1.6, to develop "practical methods, including indicators, for monitoring wetlands and for the rapid assessment of wetland biodiversity, including both inland waters and coastal and marine systems", is also relevant. Their plan for this includes: Development of practical indicators for monitoring inland and coastal/marine wetlands. Already developed indicators (global, regional and national level) should be presented and reviewed with respect to their applicability and use in the Ramsar context. The work will draw on previously developed indicators from CBD and IUCN-SSC (biodiversity), UNEP-WCMC (specifically coastal marine ecosystems), WRI (coastal/marine, freshwater, wetlands in drylands,

agriculture and poverty mapping), and MA (all ecosystems). The indicators should provide information on the condition of Ramsar sites and other wetlands, and in the longer term should become indicators that can contribute towards measuring the effectiveness of the Convention.

Although this proposal is likely to form the basis of a key headline indicator, it should be emphasised that (due to the nature of the particular CoP mandate) it relates only to Ramsar sites, and these are only one part of the "ecological character" picture for any jurisdiction or region. In some countries it will be the better part of their particular picture, in other countries the reverse, so some caution in interpretation will be needed. However, an advantage is that using Ramsar sites is one of the easiest ways of generating findings that can be assumed to indicate information about the specific contribution made by the Ramsar Convention.

The OECD/RIVM Natural Capital Index (NCI) is often referred to (the product of the size of an area and its quality; expressing average abundance of characteristic species compared to the baseline state, e.g., 25% of the postulated "natural" state). No proposal is made here to base a suggested indicator on this, as Ramsar's ecological character approach is believed to cover this sort of topic more pertinently for the Convention's purposes. Experts on this topic may however wish to review this point.

Indicator No.: 2

Indicator – short title: Wetland sites with successfully implemented conservation or wise use management plans.

Indicator – full title: Number/proportion of wetland sites in each region subject to conservation or wise use management plans where systematic monitoring against the objectives of those plans shows objectively verifiable success.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1? 2 3 4? 5? Scope: 1 2 5

Notes on application of proposed indicator:
This indicator would apply to sites (not necessarily just Ramsar sites) where there is a good management plan with its own objectives, indicators and adequate monitoring and where the results of such monitoring show objectively verifiable success against the objectives. There would be links to Ramsar's management planning guidelines and the adopted framework for wetland monitoring systems, though with sensitivity to the fact that CoP 8 has now emphasised that it is valid for Parties to follow their own equivalent management planning frameworks instead.

There is a link with the National Report Format indicator framework cluster 11.1 – for example (for Ramsar sites only) indicator 11.1.2-3, concerning numbers of "Ramsar sites with management plans or strategies in place and fully applied". The indicator being suggested in the present paper, however, could still be valid as a widening/deepening of that question, and it could draw partly on the National Report information.

This is categorised in the table as a state indicator rather than a response indicator, because it is the success of conservation and wise use that is being measured, not the mere existence of management activity.

A.ii Wetland habitats and ecosystems

Indicator No.: 3

Indicator – short title: Extent of [relatively undegraded?] wetland habitat.

Indicator – full title: Change in extent of [relatively undegraded?] wetland habitat in each country, based on globally standardised Ramsar inventory methods.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1? 4? 5? Scope: 1 (2)

Notes on application of proposed indicator:
An early suggestion put forward was for recording extent (area) of wetland habitat (presumably per country), based on a national wetland inventory (the undertaking of which is already strongly promoted as part of Convention implementation). This roughly echoes one of the Commission on Sustainable Development's 58 indicators of sustainable development, namely "area of selected key ecosystems" (though the interpretation of "key" by CSD means its indicator would be more restricted than one covering all wetlands).

There is always the risk of changes being the result of changes in ability to measure: where methods change, consistency of interpretation over time is a key issue with many indicators, and perhaps with this one in particular. It would also in theory be possible to make strict prescriptions about consistent measurement and recording methods – but it is sometimes found that "expert best assessments" of changes can be as reliable as supposedly more objective techniques which do not take into account changes in measurement methods, etc. Expert opinion is increasingly used in environmerntal decision-making in the full knowledge that the expressed opinion is based on knowledge and not on categorical evidence. This is often done by asking data-providers to give a qualitative comment on what they think are the reasons for changes in values from one period to another, so that if they are aware of an effect being caused by change in measurement or recording methods, they can say so. Note, however, that this method is open to criticism from those who may not agree with the recorded opinion.

Distinguishing the contribution of Ramsar would also be a challenge, although the indicator could operate on the basis of some assumptions about this.

A qualifier might be added concerning the quality of the habitat, e.g., on the extent of degradation, which would encompass both adverse change and unwise use (or on the extent of "relatively undegraded" wetlands). Alternatively, or in addition, there could be a separate indicator for the proportion of the country's area of particular wetland types which is modified/relatively modified; although preventing modification *per se* is not really a Ramsar policy objective. The proportion of particular wetland types in wise/unwise use is more relevant to the Convention's policy objectives, but although as noted above this can be encompassed by the notion of "degradation", it may be problematic.

There is a link between this indicator and National Report Format indicators r1.2.4-1 and r1.2.4-2.

Indicator No.: 4

Indicator – short title: Overall conservation status of wetlands.

Indicator – full title: Overall assessment of conservation status of wetlands, drawn as summary from National Report responses, perhaps as numerical index of –10 to +10 compared with baseline year/triennium.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 2? 3 4 5 Scope: 1 2 3? 4 5 6
Could function at supra-national level as well as national.

Notes on application of proposed indicator:

The National Report Format asks Parties for qualitative comments on the conservation status of individual wetland types. As a synthesis of this, and of the information in the National Report overall, this indicator would ask the same question about the status of wetlands in the country overall. It could be expressed as a numerical score, ranging from e.g. –10 to +10 by comparison with a reference baseline year/triennium. This baseline would need to be decided, and initial overall status somehow described for that year/triennium in a way that could act in such a way. This would need to be as free from bias as possible, e.g., not giving a deliberately over-negative initial picture to put subsequent assessments in a more favourable light than they deserve. By summing national information this indicator could function at supra-national level, too. The emphasis would have to be on the condition of the wetlands themselves, not merely the existence of conservation activity. This links with indicator 1, but while that is a more precise assessment of a sample of situations, this is a more general pronouncement about the overall situation.

Indicator No.: 5

Indicator – short title: Proportion of each wetland type "effectively conserved".

Indicator – full title: Proportion of the area of each wetland type in the Ramsar classification regarded as "effectively conserved" (not limited to Ramsar site protection).

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 3 4? Scope: 1? 2 5 6?

Notes on application of proposed indicator:
This is loosely based on a related target in the CBD's Global Strategy for Plant Conservation. It would probably need to go wider than simply looking at coverage by Ramsar site designation – it could still assume that inclusion in Ramsar sites equates to "effective conservation", but would cater also for the prospect that effective conservation can be delivered in additional ways, helped by the wider "wise use" provisions of Ramsar.

The way in which judgements as to effectiveness or otherwise of conservation would be made would need to be decided. Options might include judging by objective measurement against conservation objectives enshrined in whatever instruments exist in the particular national context, or by subjective peer-review/audit, or by self-audit via national reports, or by a mixture of all these. This indicator would depend on a good inventory baseline, i.e., knowledge of the extent of each wetland type in the country.

Where "effective conservation" includes coverage by protected areas, proportionality assessed by sheer area percentages may be straightforward, but if it were assessed according to other attributes (such as quality or vulnerability) of the proportions of the whole which need to be covered, then the issue of biogeographical representation may be raised. With no single standard system of biogeographical categorisation in use within Ramsar, there may be additional difficulties to overcome.

Indicator No.: 6

Indicator – short title: Proportion of current wetland uses which are considered wise/sustainable.

Indicator – full title: From a listing of human uses of wetlands (or of Ramsar sites) relevant for the time of measurement, the proportion of those which are considered to be sustainable/wise use.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 2? 3 4? 5? Scope: 2 5

Notes on application of proposed indicator:

From a listing of human uses of wetlands (or of Ramsar sites) relevant for the time of measurement, this indicator would convey the proportion of those which are considered to be sustainable/"wise use". This begs a question as to who would do the assessment, and how - but as long as the method was consistent this might be a useful indicator. A link with the Millennium Ecosystem Assessment framework should assist with this.

A.iii Species and populations

Indicator No.: 7

Indicator – short title: Population levels of selected wetland taxa.

Indicator – full title: Index of total population numbers for national selection of wetland indicator (species).

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 4? 5 Scope: 1
Could function at supra-national level as well as national.

Notes on application of proposed indicator:
By contrast with proposal 8 described below, which looks at the number of species exhibiting up/down/stable trends, this indicator would reflect instead the actual surveyed or estimated population figures for a selection of taxa, presented as an index. The taxa chosen could be "headline indicators" – widespread ones, ones that are easy to measure or which have a history of measurement (e.g. waterbirds in the International Waterbird Census), and ones which are fairly broadly indicative of positive wetland values (e.g., not invasive aliens!) – or alternatively the aim could be to draw on as wide a range of interests as feasible. An index could be for a single taxon or (provided it is justified in terms of statistical method) could combine data for a group of taxa. An assumption would have to be made that effectiveness of implementation of the Convention does indeed affect the population status of the taxa selected.

It is not intended to attempt to tie this to Ramsar sites. However, in situations where it proves difficult to consider total national population estimates, an indicator based on combined site populations might be considered instead (but there would also be specific problems with this approach – see comments on proposal 10 below).

This approach is independent of targets, other than a target of "stability/increase". Where population targets exist (e.g. in a National Biodiversity Strategy or Action Plan) "more birds" (for example) would always look "better" with this approach even after the target had been attained, which could give a misleading picture. In such cases, a refinement of this indicator could be to use instead an index of the degree to which the population falls short of its target level (such that additional increases above the target would add nothing more to the index score).

As with all the population-based proposals included here, there is a risk that changes may reflect changes in knowledge rather than actual status. Some correction may need to be applied for this, such as asking data-providers to state whether or not they know it to be the case, and filtering out the non-genuine changes.

Indicator No.: 8

Indicator – short title: Overall population trends of wetland taxa.

Indicator – full title: Numbers of selected wetland (species) with declining, stable and increasing overall population trends respectively.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1 3? 4? 5 Scope: 1

Notes on application of proposed indicator:
The aim here would not be to say anything about the magnitude of any trends; but simply to give the number of selected (species) exhibiting up, down or flat trends respectively, and show whether the numbers in each of these three categories change over time. This would have to be based on some fairly crude assumption about the contribution made by the Convention to influencing population numbers. In some cases an initial baseline assessment of some kind would need to be put in place.

As with all the population-based proposals included here, there is a risk that changes may reflect changes in knowledge rather than actual status. Some correction may need to be applied for this, such as asking data-providers to state whether or not they know it to be the case, and filtering out the non-genuine changes.

Indicator No.: 9

Indicator – short title: Change in threat status of wetland taxa.

Indicator – full title: Numbers of wetland (species) in selected groups included on Red Lists.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1 3? 4 5 Scope: 1 5
Could contribute to 2010 process.
Could function at supra-national level as well as national.

Notes on application of proposed indicator:
With this indicator again the aim would not be to say anything about the magnitude of any threat (although a numerical index for degree of threat of extinction has been developed for birds by BirdLife International, and could possibly be used), but simply to give the number of selected (species) in each IUCN Red List category, and see how these numbers change over time (given that a systematic updating process is built into the Red List system). Red Listing is already based on careful, rigorous and internationally-accepted assessment processes.

BirdLife is developing "IUCN Red List indicators for birds", comprising five index measures. One of these, the "threatened status index", is based on the numbers of species moving between Red List categories for (defined) "genuine reasons", and presented as an index (i.e., not just numbers) after weightings are applied. Detailed methods are continuing in development for the remainder of 2003, but this indicator (or at least a wetland-dependent species subset of it) might be capable of being simply adopted for use here, as the Ramsar indicator for birds.

This would have to be based on an assumption about the contribution made by the Convention to influencing species status. It will be able to function at supra-national level as well as national, and it could contribute to the 2010 process, and has been proposed to the CBD for this purpose by an NGO consortium .

As with all the population-based proposals included here, there is a risk that changes may reflect changes in knowledge rather than actual status, but BirdLife report that as part of their work on Red List indicators for birds a mechanism for addressing this issue has been established
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Indicator No.: 10

Indicator – short title: Waterbird population responses to Ramsar site designation.

Indicator – full title: Population trends of selected waterbirds within Ramsar sites compared with their overall trends.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 2 Scope: 1
Could contribute to 2010 process

Notes on application of proposed indicator:
This indicator would attempt to compare population trends of birds inside and outside Ramsar sites, i.e. "population responses to designation". It could contribute to the 2010 process.

Analyses by A.D. Fox and other (pers comm) have highlighted some of the difficulties which need to be guarded against, for example where there was pre-designation (e.g. national) protection in place at the site, and/or where Ramsar-related designation is not explicitly geared to species management objectives. To guard against the latter, sites could be selected where management objectives and baseline statements of ecological character provide the right kind of hypothesis which the indicator would be seeking to test. To guard against the former, sites could be selected where there was no previous protection, or changes could be measured from the baseline date of Ramsar designation (although strictly speaking the baseline should be the time of putting planned management in place towards the expressed objectives).

It is also possible that an observed effect might be simply the result of redistribution of birds due to some extraneous cause, and some knowledge of the situation in this regard would need to be built in to the interpretation of the indicator.

This indicator proposes use of waterbird data simply because it is known to be available in large quantities and collected according to systematic and long-established programmes. There is however no inherent reason why this indicator could not be operated in respect of other taxonomic interests, such as fishes and wetland-dependent mammals (which links to the work of STRP WG 4 on the datasets underpinning possible site selection criteria for such groups). There is also the possibility of constructing an indicator which would combine data relating to a variety of taxonomic groups (provided this was justified in terms of statistical method, etc.) – such an indicator could be highly desirable as one of the contributions to the 2010 process.

The latter point does however raise the issue of rate measurements versus quantity measurements. Some population status and trends suggestions are included in the list of indicators presented here, but only two have been identified as potentially offering anything in relation specifically to the question of rate of loss of biodiversity. In order to fulfil the STRP's aim of making some contribution to the 2010 target, more may need to be done on this. In fact the relatively well-developed methods for analysing trends in waterbird census programmes, for example, might be capable of being applied in a consistent way to data for other groups such as turtles and fishes. WRI's report on the status and trends of inland waters biodiversity (in preparation for CBD CoP7) is relevant here.

As with all the population-based proposals included here, there is a risk that changes may reflect changes in knowledge rather than actual status. Some correction may need to be applied for this, such as asking data-providers to state whether or not they know it to be the case, and filtering out the non-genuine changes.

B. PRESSURE Indicators

Indicator No.: 11

Indicator – short title: Frequency of threats affecting Ramsar sites.
Indicator – full title: Index score (and changes in scores over time) of threat status for Ramsar sites, calculated from scores for each individual site.
Relationship to purpose, criteria and scope (see text paras. 4 and 5): Criteria: 1 2 4? 5 Scope: 5? 6 Could function at supra-national level as well as national.
Notes on application of proposed indicator: Threat status for each Ramsar site would be characterised by a score for the level of threat at the time of assessment. Some examples of attempts to address this kind of question already exist. The study by G Castro for CoP 8 used categories of "no serious threats", "some threats but mostly under control", "serious threats present", and "very serious degradation as a result of threats". BirdLife International in Europe has tabulated numbers of Important Bird Areas affected by 13 types of land-use and the proportions of individual sites so affected. It also separately classifies level of threat as high, medium, low, or unknown, based on scoring of effect, spatial scale and "realisation" (now/soon/later). These IBAs can be related to Ramsar sites, and BirdLife's systematic IBA monitoring programmes (at least in Africa and Europe) could provide a basis for a Ramsar indicator in this category. Definition of "threat" (which of course encompasses unwise use) would need some debate and guidance. The Millennium Ecosystem Assessment is another organisation that has developed a typology of threats: this includes both direct and indirect drivers of change, and it could usefully be drawn on. An attraction of this indicator is that it does not need a common baseline starting measurement, since relative status is assessed against the objective score framework, not against the status when assessments are first made. By summing site information a national indicator would be produced; and by summing national information this indicator could function at supra-national level, too. This indicator could be used for wetlands more generally, but it is perhaps more effective as an indicator of the effectiveness of the Convention if applied just to Ramsar sites. The effectiveness of the Convention could be shown in two ways: both (a) by absolute low threat scores, and (b) by reduction in threat scores over time. A better indication would be obtained by comparison of scores for Ramsar sites with scores for undesignated wetlands, but correction might need to be made for, e.g., size of wetlands, how much their fate matters (i.e., their value), etc, and it may not be feasible for many countries to do that more ambitious version. A range of issues are flagged here for choosing the precise way to construct this indicator. The issue is such an important one that it is probably important to articulate an approach which would give the "ideal" indications required, and which those equipped to do so should use or work towards, but also to offer to Parties a more pragmatic version which would be immediately useable by all.

Indicator No.: 12
Indicator – short title: Views of affected communities on relevant Ramsar objectives.
Indicator – full title: Surveyed opinions of affected communities on degree of their acceptance/support for Ramsar objectives relevant to the local situation.
Relationship to purpose, criteria and scope (see text paras. 4 and 5): Criteria: 2 3 Scope: 3
Notes on application of proposed indicator: This is included to meet item (iii) in the scope of the task initially defined by the Working Group,

which urged that the Group should cater for "socioeconomic issues, including acceptance by affected people of e.g. Ramsar sites". An indication of this might be obtained by surveying opinions of affected communities on the degree of their acceptance/support for Ramsar objectives relevant to the local situation. This might further aim to draw out something of the nature of the impact of Ramsar status on (perceived) life-quality among those concerned. Implicit in an acceptance/support indication is an indication of awareness, too, which is obviously a strategic priority.

A problem may be that these factors may all be regarded as means to the end, rather than wetland outcomes. Inclusion of something along these lines has great positive political resonance, but objective measurement is challenging. There may be "proxy" measures that could be considered.

There are links with proposal 11, both in the sense that lack of acceptance can lead to increased threat (hence the provisional classification of this proposal in the "pressure" category); and in the sense that those who accept (or rather those who positively appreciate) wetland values are impacted by threats and have a vested interest in preventing them. This dynamic between proposals 11 and 12 is an important part of the wise use paradigm.

C. RESPONSE Indicators

Indicator No.: 13

Indicator – short title: Legislative amendments made to reflect Ramsar provisions.

Indicator – full title: Number/range of amendments made to national legislation implemented to reflect Ramsar Convention Articles or CoP decisions.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 2 4? Scope: 4

Notes on application of proposed indicator:
This proposal is included to ensure that legislative aspects (included in the Working Group's initial list of aspects to cover) are reflected somewhere in the list of suggested indicators. It is of course a "means objective" indicator rather than an "ends objective" indicator, but is a relatively powerful one which should relate to meaningful and enduring change. Examples such as removal of perverse incentives would be significant in relation to defined Convention goals. It is also perhaps one of the clearest types of issue to include in a "response indicators" category. One of its strengths is that it should be easier with this indicator than with many others to attribute change directly to the Ramsar Convention. If something on the application of enforcement/compliance controls could be added, that would increase the extent to which such a legislation indicator reflects a genuine effectiveness gain rather than only a "paper gain" – though obviously this might be difficult on political if not technical grounds.

What is meant by "reflecting" Ramsar provisions may also need defining to exclude legislation which relates to Ramsar tenets but has the effect of confirming an undesirably weak interpretation of them! There would be a link with the Ramsar guidelines on reviewing legislation.

There is also a potential link here between this indicator and the National Report Format indicator cluster 8.1.

Indicator No.: 14

Indicator – short title: Proportion of candidate Ramsar sites designated.

Indicator – full title: Proportion of sites identified in national lists of candidate Ramsar sites/wetlands of international importance which have been designated for the Ramsar List.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1 2 4 5 Scope: 4
Could function at supra-national level as well as national.

Notes on application of proposed indicator:
Many may expect to see some indicator based on progress with Ramsar site designation, though in itself this would not necessarily say anything about how effectively the Convention is applied, since designation is a legal/administrative process and not an ecosystem outcome, and the basis for making any assumption about this will not be at all consistent between countries. (See other suggested indicators in this list which attempt to deal more closely with site outcomes).

Wetlands International, through the Ramsar Sites Database contract, already conduct analyses of the range of characteristics represented in the Ramsar List, including analyses against the Ramsar selection criteria. They are also developing some attempts to look at the pattern of sites designated for particular features in relation to the distribution of those features. This indicator looks one step further, at progress in relation to decided designation intentions.

An indicator based on absolute numbers of sites would be misleading; hence the suggestion here is based instead on the ratio for each country of the number of designated sites to the number of nationally identified candidates for listing. Parties have already been asked to draw up national lists of candidate sites (Res VI.12), there is the framework of targets in the Strategic Framework for development of the Ramsar List (Res VII.11), and others such as BirdLife International have published unofficial site lists.

This indicator is potentially able to function at supra-national level as well as national.

A weakness of this indicator is that it is entirely at the mercy of manipulation by the freedom Parties have to decide how many sites are included in any official List of candidates. Any tendency with such lists to err on the side of conservatism would skew the indicator towards showing an exaggeratedly positive picture.

If the reference framework were not a selective list of candidate sites, but all the sites of a certain type, a different way of addressing the picture would be possible. For example, the number of designated sites supporting 1% of the population of a waterbird species could be shown as a proportion of the total number of sites supporting 1% or more of the population of that species – hence providing information about the extent of coverage of a flyway population by the Ramsar site network, rather than the extent of completion of an "all wetland interests" programme in a particular country or region. The same could be done in relation to other Ramsar selection criteria, e.g., the number of designated sites supporting 20,000 waterbirds as a proportion of all sites supporting 20,000 waterbirds.

Leaving aside the distinction between state and response indicators, there are relationships between this proposal and the proposed indicators 3-6, and there may be ways of building an aggregate measure from some of these. This may assist political acceptability as well, in aggregating at supranational level performance on several fronts at national level, which in its disaggregated state may wrongly imply poor performance by individual Parties if there is no contextual explanation about their particular situations. As always, however, there is a trade-off between (on the one hand) the appealing economy of aggregates, and (on the other hand) the complex density of ingredients which would be packed into them compared with the simpler cause-effect transparency of those indicators which are based on single variables.

There is a link between this indicator and National Report Format indicator cluster 10.1.

Indicator No.: 15

Indicator – short title: Coverage of threatened taxa by Ramsar sites.
Indicator – full title: Number of Red-Listed (species) occurring to at least some degree in a country's Ramsar sites, as a proportion of the number of Red Listed (species) for that country as a whole.
Relationship to purpose, criteria and scope (see text paras. 4 and 5): Criteria: 1 2 4 Scope: 5
Notes on application of proposed indicator: This indicator does not attempt to look at the numbers or percentages of individuals occurring in Ramsar sites, but would simply record any occurrence of a given taxon somewhere in a country's Ramsar site network as a "yes". The underlying assumption has to be made that coverage by Ramsar designation helps the fate of the taxon concerned to some degree. In theory it could score higher if Ramsar implementation was actually exacerbating the problems of the species (!); but hopefully that would be too perverse a scenario to be a reason for invalidating this suggestion. There is a link between this indicator and National Report Format indicator 10.1.4-1.

Indicator No.: 16
Indicator – short title: Coverage of bird populations by Ramsar sites.
Indicator – full title: Percentages of the populations of selected bird species supported for at least part of their annual cycle by Ramsar sites.
Relationship to purpose, criteria and scope (see text paras. 4 and 5): Criteria: 2 Scope: 5 Could function at supra-national level as well as national.
Notes on application of proposed indicator: Tracking the percentages of the populations of selected bird species supported for at least part of their annual cycle by Ramsar sites might be useful. One problem to be overcome would be how to address the fact that it might go up simply as a result of declines outside the Ramsar sites – the Convention would be judged effective while the overall population declined (which might be justifiable, if the Convention was doing a good job of preventing a bad situation becoming worse). This area begs the question (which is raised already by existing Ramsar objectives) of what target there is for the proportion of the population to be encompassed. For migratory species, separate indications may need to be given of the position for different seasonal phases/distributions (breeding, migrating, staging, non-breeding, etc). This indicator could function at supra-national level as well as national. Although categorised here as logically most probably a response indicator rather than a state indicator, the datasets it would draw on relate to those underpinning the proposals for the "state" indicators 7-10 above, and in that respect it should be considered alongside those. There is a link between this indicator and National Report Format indicator cluster 10.1.

Indicator No.: 17
Indicator – short title: Number of wetland restoration schemes underway.
Indicator – full title: Number of wetland restoration schemes underway following Ramsar guidelines and with long-term sustainability assured.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 1 2 4 5 Scope: 4
Could function at supra-national level as well as national.

Notes on application of proposed indicator:
This is a "process" indicator, but one which might justifiably be assumed to produce a positive ecological outcome wherever the process occurs, provided that the given caveats of "following Ramsar guidelines and with long-term sustainability assured" are an integral part of it. These caveats are intended to ensure that some form of quality filter is applied and the mere existence of a project is not assumed to be beneficial when it might not be.

This proposal relates directly to a target in the Strategic Plan (4.1.2), and to the relevant National Report Format indicator (4.1.2-1) (as well as r4.1.4-1).

This indicator is potentially able to function at supra-national level as well as national.

The proposal is presented in its simplest form, but a useful enhancement, in countries where the requisite spatial data is available, would be to record the area or proportion of wetland habitats undergoing restoration.

A further enhancement would be to look for some kind of substantiation of the quality point made above, by linking to indicator information about the values/functions etc of the sites concerned.

Indicator No.: 18

Indicator – short title: Projects/plans/programmes affecting wetlands which are positively modified in light of EIA/SEA.

Indicator – full title: Number/proportion of projects/plans/programmes with potential implications for wetlands which are modified in a direction which enhances conservation of the wetland(s) concerned, according to Ramsar principles, in the light of findings of an EIA/SEA.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 2 4? Scope: 5 (6)

Notes on application of proposed indicator:
It is reasonable to expect this kind of modification to happen and it would provide a good indication of progress, but it could be difficult for many countries to collect the requisite data. The influence of the Ramsar Convention would need to be specifically established, too, which is the intent of including the phrase "according to Ramsar principles", though that may not be enough to properly establish this element.

Strictly speaking this is not a measure of effectiveness of EIA/SEA – EIA/SEA is effective when it gathers the right information and makes the right assessment of impact – it is then up to a separate decision-making regime to decide, in the light of that assessment, whether to favour less-damaging options – but in broad terms the Ramsar indicator could be about the outcome of the EIA/SEA plus that regime, combined. In theory "policies" should be added to "projects/plans/programmes" in defining the scope of this indicator, if this is politically acceptable.

The assumption is that this should apply on any occasion which is significant enough to have led to an EIA/SEA being conducted, according to whatever screening criteria apply in the jurisdiction concerned. It would be an option, however, to construct the indicator in a more limited way, to apply only to cases involving Ramsar sites.

There is a potential link to national Report Format indicator cluster 8.1.

Indicator No.: 19

Indicator – short title: Economic costs of unwanted floods and droughts.

Indicator – full title: Economic costs (remediation, profitablity foregone, increased future insurance etc) of unwanted flood and drought events.

Relationship to purpose, criteria and scope (see text paras. 4 and 5):
Criteria: 3 5 Scope: 3 5
Could function at supra-national level as well as national.

Notes on application of proposed indicator:
Apart from the proposed indicator on the proportion of wetland uses considered wise/sustainable, there are no other proposed indicators which relate to ecosystem goods and services, so that is what this suggestion is designed to do. (Ecosystem functions, which element (ii) of the Working Group's "scope" list requires, are already partly addressed by indicators looking at e.g. the biodiversity supported by Ramsar sites).

The qualifier "unwanted" aims to exclude cases where for example flooding is a desired management strategy. The relevance to Ramsar's particular impact would have to be based on an implication that proper application of "wise use" policies reduces the incidence and impact of such events, and the resultant economic losses which occur. (Economic estimates of such events are calculated, for example, by the Red Cross).

This indicator is potentially able to function at supra-national level as well as national.

A choice could be made as to whether to ask about costs of damage (= loss) or costs of prevention (= investment). The first of these would be easier, would perhaps involve bigger numbers (hence be a better indicator?), would be less complicated by other variables than the investment option (i.e., the motives for deciding how much to invest may involve several factors, and not necessarily be linearly related to the amount of losses saved), and would operate more in the nature of an incentive for wise use.

It is arguable that this is a pressure indicator rather than a response indicator – but as note (c) above points out, all such categorisations in this document have been made for illustrative purposes only. The second of the two options described in the preceding paragraph seems more certain to be a response indicator.

Frequency of scores of "criteria" and "scope" categories for the proposed indicators

This is included not as a scientific comparison, but simply as a check on whether all the elements raised at the STRP meeting in April 2003 have been attended to in a reasonably proportionate manner (and without indicating anything about the relative importance between them, which could be further discussed if necessary). The classification is approximate and indicative only, and many of the criteria and scope elements have been scored with the qualification of brackets or question-marks where it is not possible to be more precise.

Criteria (for description of criteria 1 to 5 see paragraph 4 of main report text):

Criterion	Number of indicators
1	8
2	13
3	9
4	15
5	11

Scope (for description of scope elements 1 to 6 see paragraph 5 of main report text):

Scope element	Number of indicators
1	9
2	6
3	3
4	4
5	10
6	5

In addition, at least 8 of the indicators are identified as potentially being able to function at supra-national level as well as national; and at least two as being potentially able to contribute to the 2010 process.