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Current status and future development needs of the Ramsar Sites Information Service (RSIS)

**Information paper prepared by Wetlands International and the Ramsar Secretariat**

A. Introduction

1. The Ramsar Sites Information Service (RSIS) is developed and maintained by Wetlands International under a long-standing arrangement with the Convention approved through decisions of the Standing Committee.

2. This activity is supported by a contractual arrangement with the Ramsar Secretariat with funding allocated in the Convention core budget for this work. That funding allocation has been held at its 2008 level of CHF 170,000 annually over the 2009-2012 period.

3. The RSIS has six general purposes:

    i)   **It supports reporting obligations.** The Ramsar Secretariat has reporting obligations to Contracting Parties at each meeting of the Conference of the Contracting Parties (COP) under Article 8 of the Convention and under various COP decisions, notably on Ramsar Sites designation status and Ramsar Information Sheet updates, reporting on Article 3.2 and 2.5/4.2 matters, and providing global and regional implementation report analyses to the Parties.

    ii) **It supports priority setting and decision taking.** The *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* and numerous COP decisions urge Parties to develop a strategic approach to designating a coherent and comprehensive national and international network of Ramsar Sites. The RSIS and its database should permit assessment and gap analyses of current coverage of wetland types and other wetland-related biodiversity features, summary and indicator analyses, and assessments in relation to other conservation actions and features.

iii) **It increases access to information on Wetlands of International Importance.** The Ramsar Sites Database and the RSIS Web presentation provide the structure for the filing and location of information, an information source and library function, and links to other Ramsar Site-relevant information, including publications, maps and images.

iv) **It promotes scientific and technical cooperation.** The database and its linked information provide a valuable data source for those reviewing and researching wetland issues, particularly those issues related to protected areas and important sites.

v) **It helps to ensure that Ramsar Sites are well recognized in other international fora.** The RSIS provides the tools to provide important information on, and full recognition of, Ramsar Sites into other protected areas processes and fora, notably those with which the Convention has memoranda of cooperation and joint work plans or other collaborative arrangements, such as the World Heritage Convention, UNESCO Man and the Biosphere Programme (and its Biosphere Reserves), IUCN-WCPA, GTOS, and UNEP-WCMC.

vi) **It supports communications, education and public awareness.** The publicly-accessible Web-based RSIS forms an important component of the Convention's CEPA delivery by ensuring that up-to-date information on each designated Ramsar Site is widely available, thus helping to secure wide public visibility and recognition of this key pillar of the implementation of the Convention by its Parties.

4. The RSIS ensures high visibility and access to all who need it on the Ramsar "jewels in the crown" of the now over 2000 Wetlands of International Importance (Ramsar Sites). Other than the Ramsar website, the Ramsar Sites Information Service (RSIS) and its online searchable Ramsar Sites Database is the only significant investment by the Convention in information technology and data and information management.

5. The Ramsar Strategic Plan 2009-2015 urges that the RSIS continues to be available and enhanced, delivering a range of tools and support to Contracting Parties to aid their identification of gaps and priorities for further Ramsar Sites. Wetland inventories, for example, play an important role in informing and underpinning the implementation of the Convention, and the Secretariat supports Parties in achieving this objective by working with Wetlands International (and with the advice of the Scientific and Technical Review Panel) to create an easily accessible Web-based metadatabase, populated with information on national wetland inventories and linked to national and other international relevant databases.

**B. Status and developments 2009-2012**

6. Google Analytics data for the RSIS show that over 27,000 unique visitors accessed the website in 2011 alone. Of these, almost 30% of page views were GIS-related, indicating a significant demand for access to GIS information on Ramsar Sites and, notably, access to digital boundary shape-files for them. This likely reflects an increasing recognition of the importance of Ramsar Site information and of the use of the RSIS in impact assessments, gap analyses and other scientific studies and assessments.

7. Since the 10th meeting of the Conference of the Parties (COP10, in 2008), the emphasis in the development of the RSIS has been on improving accessibility to, and consistency of, Ramsar Sites information. This includes:

    i)   that all RISs (both original and updated versions), maps, annexes and other officially-supplied materials are now available online from a single standard menu page for each Ramsar Site;
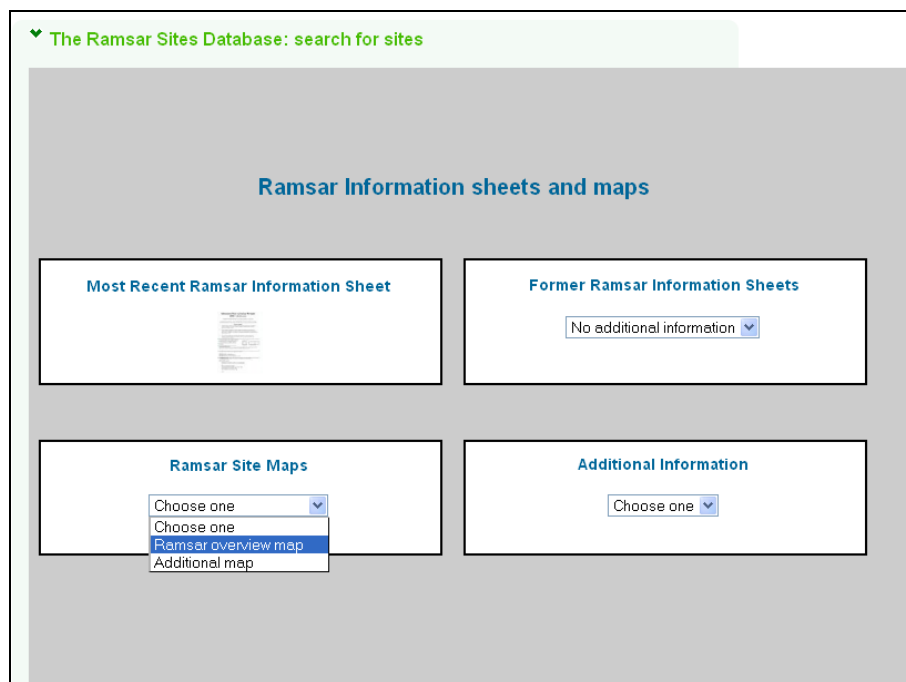
    ii) that improvements have been made to the accessibility of spatial data for all Ramsar Sites for which such data has been provided by Contracting Parties; official Ramsar Site boundaries (when available) have been incorporated into the Google Earth layer available on the RSIS website. For those needing this site boundary data for the purpose of undertaking spatial analyses, all such site-specific spatial data is now available for downloading from the RSIS website in the most common used formats (kml, shp); and
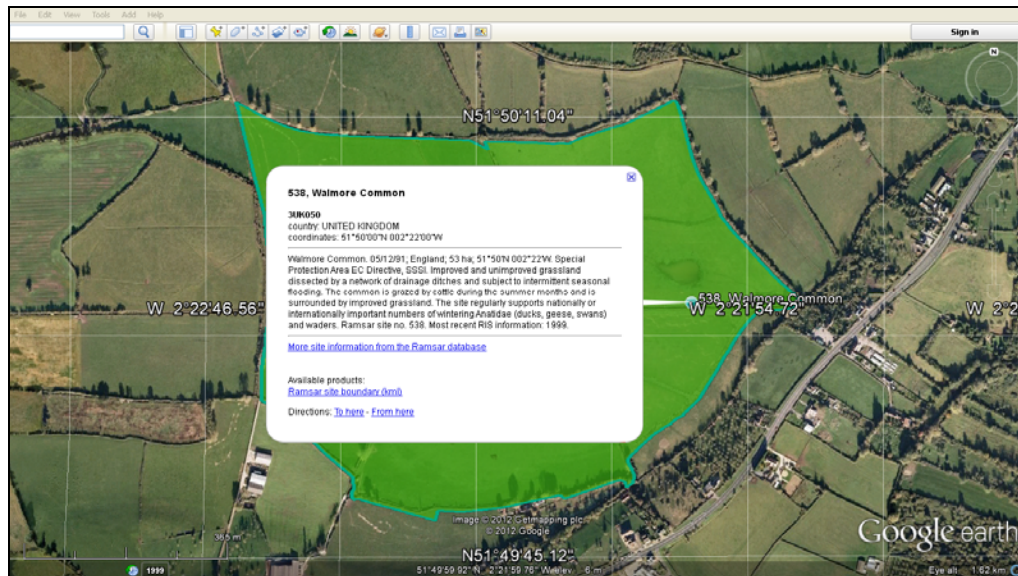
iii)   that a 'dynamic graphics' option has been added to the Ramsar Site "Statistics" part of the RSIS, in addition to the periodic updating of 'static' time-series trend graphics on Ramsar Sites. This dynamic tool provides more flexibility for the user to select and customize how the data are displayed and to export the underlying datasets, and it provides more up-to-date information than the static graphics. Further enhancements to the functionality of this dynamic tool are being made during 2012. The example 'dynamic graphic' screenshot below shows the current number of Ramsar Sites mapped by Contracting Party.
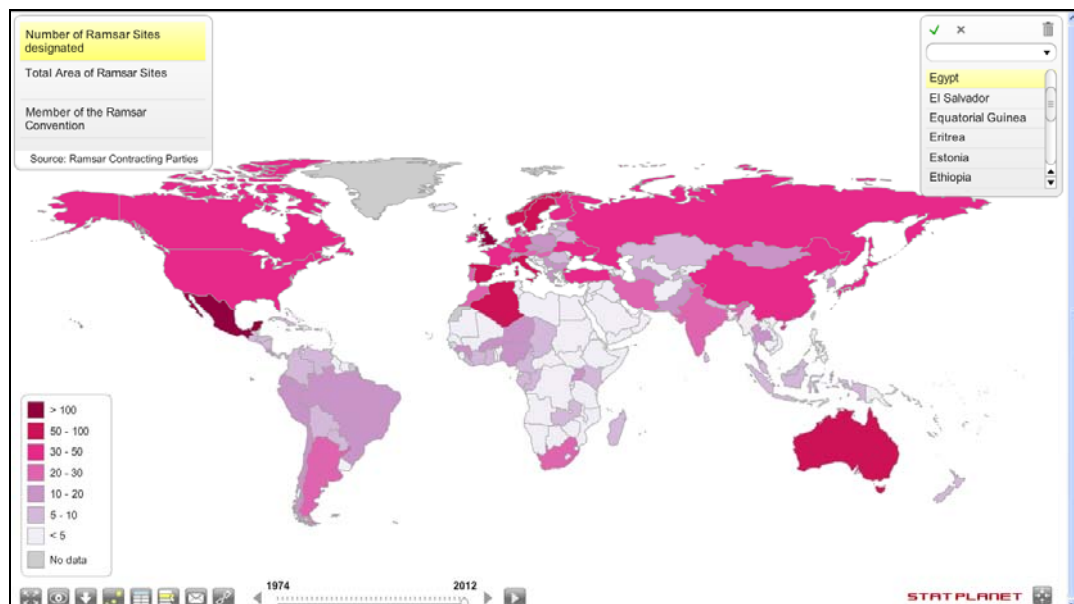
8.   There are an increasing number of requests from other organizations for data-sharing and for making the RSIS and Ramsar Sites Database interoperable with other web-systems. Achieving such data-sharing (and making it as automated as possible) is becoming important for increasing the visibility and accessibility of Ramsar Site information. Under the Secretariat's 2010 Memorandum of Cooperation with the UNEP-World Conservation Monitoring Centre (UNEP-WCMC), a tripartite data-sharing protocol is being finalised to improve and streamline Ramsar Sites data and information sharing with the World Database on Protected Areas and http://protectedplanet.net website, maintained by UNEP-WCMC.

9.   Through the "Wings over Wetlands" (WOW) African-Eurasian Migratory Waterbirds GEF project, Ramsar Site data and information from the RSIS has also been linked as a data-layer into the project's Critical Site Network Tool (CSN), along with other Wetlands International and Birdlife International databases on waterbirds and Important Bird Areas (IBA). The CSN (available at http://csntool.wingsoverwetlands.org/csn/default.html#state=home) provides a flexible web portal for accessing and overlaying information on Ramsar Sites and waterbirds on African-Eurasian Flyways, and for supporting Parties in identifying and filling gaps in the Ramsar Sites network.

C.   Current challenges and future developments

Digital Ramsar Site boundaries and other spatial data

10.   Contracting Parties to the Convention have been encouraged to provide digital boundary information for existing sites (e.g., in Resolution X.26). For many sites this information is currently not available, however, and still not being provided at the time of designation of new Ramsar Sites and updates for existing one, despite its being evident from the provision of GIS-generated site maps and boundaries that such digital boundary data do in fact exist for such sites. This is an important gap to fill because of the increasing constraints that the lack of this information is causing and will increasingly cause to the job of ensuring wide access to reliable information about the location and extent of Ramsar Sites through other mechanisms such as the World Database on Protected Areas.

11.   There is also an increasing need and potential for presenting information to support the assessment and monitoring of wetland change (e.g., through the tools developed under the European Space Agency's GlobeWetland-II project wetland remote sensing project), as well as for providing access to spatial datasets that can be used by Contracting Parties to identify new Ramsar Sites (such as the Critical Site Network Tool described above). Such developments all point towards the need for greater use of spatial information.

Ramsar Site Database data and information management issues

12.   It has become increasingly clear that the current RSIS and Ramsar Sites Database is no longer "fit-for-purpose". The RSIS and its database now operates in an outdated software platform which is no longer commercially available and no longer supported. The risk of the database failing, with a high potential of unretrievable data loss, is thus becoming increasingly high.

13.   Although programming solutions are used to address current problems and needs, as far as the software permits, the lack of interoperability between each solution is leading to inefficient data management processes which are also prone to errors.

14.   In addition to the fact that the current system limits the opportunities for establishing interoperability with other relevant data systems running in more modern software, the Database does not and cannot hold all information (e.g., on species) provided by Parties in their Ramsar Site Information Sheets (RIS), and it cannot deliver a number of additional functionalities already identified by the Secretariat as needed, such as maintaining time-series records of a site once the RIS has been updated.

15.   The RIS – 2012 revision (provided to Parties in COP11 DR8) has been designed to be fully database-compatible, and the adoption of this format (along with the planned online RIS submission option) will lead to significant increases in the flexibility of how Parties can draft and submit site designations and updates; it will improve the overall efficiency of Ramsar Site data and information management, ensure the accuracy of data-holdings by using the data directly supplied by Parties, and much improve the time- and cost-effectiveness of the Secretariat's role in handling Ramsar Site designations.

16.   It is foreseen in the Ramsar Strategic Plan that by 2015 the RSIS should have been reviewed, restructured and further developed for web-accessibility to stakeholders, and linked to a global information and observing system for all wetlands, once established. It is now essential that the Ramsar Sites Database is redeveloped in modern software, and the Secretariat is working with Wetlands International to plan and prepare for this. Such redevelopment is essential, whatever format of RIS is used in the future.

17.   Building upon the the success of the WOW Critical Site Network Tool, which in June 2011 won the first prize in the category "Best Interactive Web Map"in the prestigious ESRI/SCGIS International Conservation Mapping Competition, Wetlands International is now receiving generous software and technical know-how support from ESRI Inc. (a leading producer of GIS software and geodatabase management applications). This provides the opportunity to embark on a strategic redevelopment, using modern industry-standard software, of the RSIS regardless of the format of the RIS, in order to overcome the increasing limitations of the current system. This redevelopment is starting in 2012, and the work is being timed so that decisions concerning the RIS format at COP11 can be fully taken into account as the project progresses.