Convention on the Conservation of Migratory Species of Wild Animals

Secretariat provided by the United Nations Environment Programme

UNEP

Call for Tender
Terms of Reference for Consultancy:
Implementation of new CMS Family database architecture

Project: **Harmonize databases at the CMS Family Secretariats (starting with CMS including its out posted office in Abu Dhabi, AEWA, ASCOBANS, EUROBATS, and Gorilla Agreement)[1], convert existing databases to new standards, and provide services and training as needed for the maintenance and updating of these databases.**

This is an initial tender for the development of a new web-based database architecture for the above-mentioned Secretariats. The new database architecture will need to provide the basis for a future CMS Family website.

Branch: United Nations Environment Programme (UNEP)
Division: Convention on the Conservation of Migratory Species of Wild Animals (CMS)
Duty Station: Bonn
Duration: The project will begin as soon as possible and will end within six months. The CMS Secretariat can terminate the contract at any time given one month's notice if it is not satisfied with the progress of work or with the preliminary results of the contract's implementation.

Environment

The CMS Family Secretariats maintain a number of separate and unique databases in different formats, including MS Excel, MS Access, and Paradox. Furthermore, the CMS as well as each Agreement (exceptions: Gorilla Agreement) maintain their own html-based websites (no databases).

It is planned to set up a new CMS Family website linked to the new database. No final decision has been taken on the Content Management System for the future website, but Drupal is a likely choice. This is to be taken into account when creating the new database architecture and the front end for data entry and maintenance.

For background information and further details please see the attached **project description.**

Activities and programme of work

The consultant will work under the overall supervision of the Officer-in-Charge of the UNEP/CMS Secretariat and the day-to-day supervision of the Associate Information Management Officer and in close collaboration with the joint working group comprising the participating Secretariats.

1. Based on the review that was conducted by the above-mentioned CMS Family Secretariats, the consultant will:
   a. Develop a plan of work to harmonize and convert existing databases to newer standards and web-based database products, and implement this plan;

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[1] AEWA: Agreement on the Conservation of African-Eurasian Migratory Waterbirds; ASCOBANS: Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas; CMS: Convention on the Conservation of Migratory Species of Wild Animals; EUROBATS: Agreement on the Conservation of Populations of European Bats; Gorilla Agreement: Agreement on the Conservation of Gorillas and their Habitats. MoU: Memorandum of Understanding.

b. Recommend a better performing database system, possibly based on MySQL or another open source database;
c. Design and implement a database to integrate all existing databases into a single normalized data structure, including a classification system (controlled vocabulary) to be used to retrieve specific information for specific users;
d. Develop a web-based database front end to facilitate data entry, querying and report creation. The interface should be designed so it easily integrates with a chosen Content Management System (possibly Drupal);
e. Enable separate, independent data maintenance by each of the Secretariats including customized workflows;
f. Migrate data from existing databases into new database structure;
g. Deploy the database and recommend options for how to best set up the server considering the multiple entities involved;
h. Ensure that the database is interoperable with the chosen Content Management System and with information aggregators, particularly InforMea (www.informea.org).

2. The consultant will also:
   a. After the first three months submit a status report or presentation on progress to the involved Secretariats;
   b. Upon product delivery, provide training to selected CMS Family staff who will be responsible for the management of the databases;
   c. Recommend and use data standards and recommend best practices;
   d. Develop a manual describing data standards and fields used in the back end database and a basic user manual describing basic maintenance of the final product;
   e. Provide documentation of the system development and architecture;
   f. Develop a back-up system and a disaster recovery plan for use during meetings and conferences.

3. After the initial implementation, the consultant will provide as needed remote services during regular working hours for two years. These services will be remunerated through a time bank. Services will include:
   a. Troubleshooting and resolving problems relating to the project;
   b. Updating and patching the databases;
   c. Upgrading to new versions of software.

Expertise

The consultant shall have knowledge of and experience with:
   a. Database systems, including SQL-based databases and MS Access;
   b. Open source databases for use in web applications and web content management systems, particularly Drupal;
   c. Scripting languages: ASP, ASPX, Java Script, PHP, JSP;
   d. XML technologies: XSL, XML Schema, XForms, XPath, XQuery;
   e. Web and application servers: Tomcat, Apache, IIS;
   f. Operating systems: Windows, Linux;
   g. Other: RDF, XML/RPC, SOAP, OData, Web services.

Languages: English is the day-to-day working language of the CMS Family Secretariats. For this post, fluency in written and spoken English is required.

Contact

Please send your application together with a detailed Company Profile by **13 February 2012** to Ms. Jeanybeth Mina, email jmina@cms.int
Reference: Implementation of new CMS Family database architecture

CMS Family Database and Website Project

(Prepared by the Secretariats of CMS, AEWA, ASCOBANS, EUROBATS and the Gorilla Agreement)

Background: The CMS Family comprises the Convention on Migratory Species and the Agreements concluded to date under the auspices of the Convention: ACAP, AEWA, ACCOBAMS, ASCOBANS, EUROBATS, Gorilla, and Wadden Sea Seals, as well as two outposted offices in Abu Dhabi (Dugong and Raptors MoU) and Bangkok (IOSEA Marine Turtle MoU).[1] This project was initiated by the Secretariats of CMS including its outposted office in Abu Dhabi, AEWA, ASCOBANS, EUROBATS, and the Gorilla Agreement, while the other agreements are invited and welcome to join at any point they may wish to do so.

Current situation: The current technical set-up of the above-mentioned Secretariats' databases and websites does not allow web content to be automatically shared between these CMS Family entities nor can it be linked with external databases or portals. To resolve this shortcoming, a clearly defined back end database system is urgently needed. An overview of existing and desired databases at these CMS Family Secretariats is provided in the following pages. Other major drawbacks include - but are not limited to - the static and unstructured presentation of data, and the resulting challenges in finding and connecting information and in navigating through the websites.

The **vision for a new CMS Family website and resulting requirements for the underlying database architecture** encompass:

1. Enabling information-sharing between the CMS Family entities and with other Multilateral Environmental Agreements (MEA) through, for example, InforMEA (see description below) and other external data repositories; ensure greater compatibility and integration of data across the CMS Family by setting up a new CMS Family website which is built on a carefully planned web-based data repository and a Content Management System;

2. Enhancing accessibility by making more content available in all CMS official languages (English, French and Spanish) and using more effective search tools. A proper database structure would allow for the development of different web applications and significantly improve the accessibility of and search for information;

3. Making better use of up-to-date web technologies to **increase interactivity** on the website and to include more audio-visual/multimedia content. Interactive maps, photographic

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[1] ACAP: Agreement on the Conservation of Albatrosses and Petrels; AEWA: Agreement on the Conservation of African-Eurasian Migratory Waterbirds; ACCOBAMS: Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area; ASCOBANS: Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas; EUROBATS: Agreement on the Conservation of Populations of European Bats; Gorilla Agreement: Agreement on the Conservation of Gorillas and their Habitats; IOSEA: Indian Ocean - South-East Asian Marine Turtle Memorandum of Understanding; Wadden Sea Seals: Agreement on the Conservation of Seals in the Wadden Sea. MoU: Memorandum of Understanding.

and video material would better inform about the work of the CMS Family and would support overall outreach and awareness-raising efforts. Integrated online workspaces (communities) for specific working groups and users are planned.

Participating Secretariats:
- Convention on the Conservation of Migratory Species of Wild Animals, CMS: www.cms.int
- Agreement on the Conservation of African-Eurasian Migratory Waterbirds, AEWA: www.unep-aewa.org
- Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas, ASCOBANS: www.ascobans.org
- Agreement on the Conservation of Populations of European Bats, EUROBATS: www.eurobats.org
- Agreement on the Conservation of Gorillas and their Habitats, Gorilla Agreement: http://www.cms.int/species/gorillas/index.htm

InforMEA (www.informea.org):

InforMEA harvests Conference decisions, news, events, membership, national focal points and reports from Multilateral Environmental Agreements (MEA). Information is organized by terms from MEA COP agendas. InforMEA is a project of the MEA Information and Knowledge Management Initiative with the support from the United Nations Environment Programme (UNEP).

The technology currently available at the CMS Family Secretariats does not allow InforMEA to harvest this type of information. The new database architecture must allow for this exchange of data. The API specifications for the InforMEA project are available online and should be used to develop the database architecture: http://informea.org/about?tab=3747.

Database overview: The following lists provide an idea of what kind of data the different CMS Family Secretariats work with and should give an indication of the scope of the project. Most of the existing databases are in Excel or Access. A great deal of data is also kept in Word documents and on the websites. Finalizing the harmonization of data types and terminology would be part of the process. The new database structure should cover: species, contacts, country data, meetings (events calendar), publications, projects, decisions (meeting documents), news and images.

The first table lists the existing databases of the different Secretariats that are of common interest and would need to be migrated into the new database format.

The second table lists databases or content types that are needed but that either do not yet exist at all, or where information is stored in a format like Word or kept as a list on one of the websites (in HTML).

Owner	Topic	Current Format	Description/content
CMS	**Species**	Paradox	Species names, conservation status, measures, range, listing, etc.
CMS	**Contacts**	Access (and xls)	Contact data, including mailing functionalities
CMS	**CMS instruments**	Excel	Type of agreement, depository country, coverage (species), Focal Points (contacts), partners, etc.
CMS	**Partners**	Excel	Partner (contact), partnership agreement start/end date, joint activities, projects, country, species etc.
CMS	**Online Registration Tool**		For meetings/conferences. Should be linked to contact data.
AEWA	**Species**	Excel	Species names, family
AEWA	**Contacts**	Access	contact data, including mailing functionalities
ASCOBANS	**Contacts**	Access	contact data, including mailing functionalities
EUROBATS	**Focal Points (contacts)**	Access	Contact data, meetings, funding etc.

Needed content types:

Country data	At CMS: currently Word doc with tables	Information on countries: signed treaties/CMS instruments, species, Focal Points (contacts), conservation activities, etc.
Publications	At CMS: currently Word doc	Type of publication, date, author, species, countries (or region), language, meeting, CMS instrument, etc. -order form.
Conservation Projects	/	Species, implementing entity (contact), funding, outcomes, timeframe, CMS instrument etc.

Meetings (events)	currently static lists on websites/Dreamweaver	Title, place, time, organizer, language, etc.
Decisions (documents)	currently static lists on websites/Dreamweaver	Title, date, summary, status etc.
National Reports	/	Treaty (CMS instrument), country, date, species etc.
National Action Plans	/	Treaty (CMS instrument), country, date, species etc.
Images	/	Species, date, photographer/source, terms of use, etc. (including attached file)
News	/	Title, date, CMS instrument, source, news text, etc.