Capacity-building meeting on reporting monitoring data into the IMAP (Pilot) Info system
(Podgorica, Montenegro, 4-5 February 2020)

Report of the meeting

February 2020

***GEF Adriatic project – Capacity-building meeting on reporting monitoring
data into the IMAP (Pilot) Info System - report***

4-5 February, 2020, Podgorica, Montenegro

In the frame of the GEF Adriatic Project, and in collaboration with the Ministry of Sustainable Development and Tourism of Montenegro, a capacity-building meeting between the Montenegrin national experts[1], Environmental Protection Agency of Montenegro, INFO/RAC, PAP/RAC and SPA/RAC was held in EU Info Centre in Podgorica, Montenegro, on 4 and 5 February. The main objective of the meeting was to identify how national data on biodiversity, non-indigenous species, eutrophication, contaminants, marine litter, and hydrographic parameters would comply with the format of the IMAP (pilot) Info System. INFO/RAC experts presented the system data flows and different options for interoperability between national data systems and IMAP (pilot) Info System. Furthermore, guidance was provided to the national experts on how to properly fill in the data standards needed for this task. In addition, discussions with Montenegrin environmental agency on current database system and potential for its improvement were held. The main highlighting points of the meeting are:

- IMAP Pilot Info System is currently available at http://imappilot.info-rac.org/app/#/ together with the guidance fact sheets, data standards and data dictionaries and related documents with monitoring protocols (where existing) for 11 IMAP common indicators (CI).

- In Montenegro, the data that are being delivered to MEDPOL IV (mainly data on eutrophication and contaminants) are stored in the MEDPOL database. It is possible to "migrate" already collected data into the IMAP Pilot Info System using data standards for CI 13, 14 (Module E1) and 17 (Module P1). This will be supervised by INFO/RAC. There is also potential to do something similar with SPA/RAC database, although these data are stored in different format. Data regarding majority of indicators (i.e. apart from eutrophication and contaminants) are lacking

- Data templates in Montenegro are based on EEA intermediate template (2016-2017) for WISE data flows required by EIONET/SOE and are therefore compatible to certain extent with the IMAP data standards Module E1 and P1.

- One of the main issues in Montenegro that there is no Quality Assurance/Quality Control (QA/QC) of the data. In the IMAP Info System, there are two main levels of data validation: system validation (i.e. systems rejects excel sheets if these are not filled in properly, i.e. they are not compliant with data standards and data dictionaries in terms of formats (text, numeric, date,…) and list of values to be used)

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[1] For Biodiversity, Non-indigenous species and Marine litter – experts from Institute of Marine Biology Kotor (IMBK)
For Eutrophication and Contaminants – experts from Centre for Ecotoxicological Research (CETI)
For hydrography – an expert from Hydrometeorological Institute of Montenegro

and country validation. Country validation can be carried out on first level (by experts that monitor data but also international experts) and on second level (by national environmental agency that can validate the suitability of data).

- INFO/RAC noted that future funding should be mostly aimed at human resources, since collecting, formatting and cataloguing data requires time, commitment and proper training.

- For uploading data it is sufficient to have properly filled in Excel sheet (data standard). In these data standards there are mandatory data (text in black) and non-mandatory data (text in red).

- It is important not to have empty rows in excel sheet since the system will discard all data below such empty rows. Furthermore, it is important not to add and not to delete any columns. Any additional information should be added in Remarks. Diacritic symbols (e.g. č, ć, ž, š) are allowed.

- Coding of stations is crucial. In principle, there are no coding rules to be used, except that only alphanumeric characters are allowed and no space or special symbols (?&%,…) are permitted. If a station has already a code in the national data base it is better to maintain such code into IMAP Info System in order to properly link data between national data base and IMAP Info System. No duplicate are allowed, so different stations must have different codes. Once the code for certain station is selected it should not be changed.

- For Biodiversity, the transects are important, but if these are not well defined even single point can represent a transect. It is recommended that locations are measured with GPS instrument, i.e. not determined simply via map. As for coralligenous monitoring, it is better to focus only on relevant species and its abundance, necrosis epibiosis etc., than on all species. In that way the trend for certain parameters for selected species can be established.

- For Hydrography all input data should be in .zip files containing shapefiles, raster grid or NetCDF (text format) with attribute table or heading compliant to data standards. This is different from other indicators, as information are not directly inserted in excel sheets.

- All national data from 2017 onwards should be in IMAP format, i.e in format suitable for IMAP (Pilot) Info System.

The meeting was concluded at 5 pm on 5 February. INFO/RAC highlighted that they will be at disposal for further questions by national experts via email. In addition, FAQs with the

regarding the database and the data upload will be developed. Preparation of the video tutorial is to be further discussed.

Annex 1 – List of paricipants

National experts:

Institute of Marine Biology Kotor (IMBK):

Ms Vesna Mačić
Ms Slavica Petović
Ms Milica Mandić
Ms Slađana Gvozdenović

Centre for Ecotoxicological Research (CETI):

Ms Danijela Šuković
Mr Vladimir Živković
Ms Anja Babić
Ms Bojana Knežević
Mr David Kočović

Hydrometeorological Institute of Montenegro:

Mr Luka Čalić

Environmental Protection Agency of Montenegro:

Ms Milena Bataković
Ms Dženita Halilović
Ms Ivana Mitrović

Ministry of Sustainable Development and Tourism:

Ms Ivana Stojanović

UN Environnement MAP Regional Activity Centres:

INFO/RAC:

Mr Giordano Giorgi
Mr Arthur Pasquale

SPA/RAC:

Mr Anis Zarrouk

PAP/RAC:

Ms Marina Marković
Mr Ivan Sekovski

Mr Damir Ivanković – Croatian expert on databases

Annex 2 – Agenda of the meeting

Day 1, 4 February 2020

9:00-12:00 Meeting with the Montenegro Environmental Agency
(National Participants: EPA, MSDT)

- ✓ **Opening and welcome**
- ✓ **Objectives of the meeting**
- ✓ **Montenegro Environmental Agency presents current architecture of the national database**
- ✓ **Discussion**
    - Interoperability between **Montenegro national database** and the **IMAP Pilot Info system**

12:00-14:00 Training Module 1 - Eutrophication
(National Participants: EPA, MSDT, CETI, IBM-Kotor, department for eutrophication)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs):** CI 13,14
- ✓ **Desk work** on reporting of data into the System
- ✓ **Upload testing**: the data from the recent field survey of Montenegrin sea will be used to demonstrate filling the Data Standards
- ✓ **Discussion** on frequently asked questions

14:00-14:30   *Lunch Break*

14:30-16:30 Training Module 2 - Pollution:
(National Participants: EPA, MSDT, CETI)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs):** CI 17,
- ✓ **Desk work** on reporting of data into the System
- ✓ **Upload testing**: the data from the recent field survey of Montenegrin sea will be used to demonstrate filling the Data Standards
- ✓ **Discussion** on frequently asked questions

16:30-17:30 INFO/RAC, SPA/RAC, PAP/RAC, MSDT - Internal wrap-up and agreement for Day 2

Day 2, 5 February 2020

9:00-12:00 Training Module 3 - Biodiversity
(National Participants: EPA, MSDT, IBM-Kotor)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs)**: CI 1,2

- ✓ **Desk work** on reporting of data into the System

- ✓ **Upload testing**: the data from the recent field survey of Montenegrin sea will be used to demonstrate filling the Data Standards

- ✓ **Discussion** on frequently asked questions

12:00 – 13:00 Training Module 4 - Non-Indigenous Species
(National Participants: EPA, MSDT, IBM-Kotor)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs)**: CI 6

- ✓ **Desk work** on reporting of data into the System

- ✓ **Upload testing**: some of the recently collected data could be used to demonstrate filling the Data Standards (Note: non-indigenous species were not surveyed as part of October study, with EO 1,5,7,9)

- ✓ **Discussion** on frequently asked questions

13:00-14:00   *Lunch Break*

14:00 – 15:00 Training Module 5 - Marine Litter
(National Participants: EPA, MSDT, IBM-Kotor)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs):** CI 22,23

- ✓ **Desk work** on reporting of data into the System

- ✓ **Upload testing**: some of the recently collected data could be used to demonstrate filling the Data Standards (Note: marine litter was not survey as part of October study, with EO1,5,7,9)

- ✓ **Discussion** on frequently asked questions

15:00 – 16:00 Training Module 6 - Hydrography
(National Participants: EA, MSDT, HMZ CG)

- ✓ **Data Standards (DSs) and Data Dictionaries (DDs):** CI 15,16

- ✓ **Desk work** on reporting of data into the System

- ✓ **Upload testing**: the data from the recent field survey of Montenegrin sea will be used to demonstrate filling the Data Standards

- ✓ **Discussion** on frequently asked questions

16:30-17:00 Conclusions and recommendations

Next training events: potential dates, place, format, participants, requirements for organizing the training etc.