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Zagreb, 13 March 2015*

**11th Ad hoc GIS EG Meeting
Report**
Zagreb, 13 March 2015

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I. ATTENDANCE

All the Parties to the FASRB were represented at the meeting.

The meeting was also attended by the representatives of: ICPDR, the Sava GIS Consortium (IN2&IGEA) and the Secretariat of the Sava Commission.

The list of participants is given in Annex I of this report.

II. CHAIRMANSHIP

Mr. Dragan Zeljko chaired the meeting.

III. ADOPTED AGENDA

1. Opening of the meeting

- 1.1. Welcome and opening remarks
- 1.2. Adoption of the agenda

2. General overview of the ISRBC activities since the last EG meeting

3. ISRBC Work Plan for FY 2015

4. Sava GIS system establishment

- 4.1. Introduction
- 4.2. Review of the Inception report
- 4.3. Next steps

5. Collecting of GIS data for purposes of other ISRBC expert groups

- PEG RBM
- PEF FP

6. Other issues

IV. MINUTES OF THE MEETING

AD 1. OPENING OF THE MEETING

AD 1.1. Welcome and opening remarks

Mr. Zeljko, Chairman of the Ah GIS EG, opened the meeting and welcomed the participants.

AD 1.2. Adoption of the Agenda

Ah GIS EG adopted the proposed agenda of the 11th Ah GIS EG meeting (Doc. Ref. No.: 3-15-5/2-2).

AD 2. GENERAL OVERVIEW OF THE ISRBC ACTIVITIES

The Secretary, Mr. Dejan Komatina, informed the Ah GIS EG on the activities of the ISRBC since the last, 10th Ah GIS EG meeting. He informed the Ah GIS EG on the most important meetings and events, status of the projects, activities and protocols, publications, and upcoming meetings and events.

Special emphasis in the presentation was given to the activities related to catastrophic May 2014 floods. Details can be found in the presentation (*Ad.2.1_Presentation_ISRBC_Ah GIS EG 11*).

AD 3. ISRBC WORK PLAN FOR FY 2015

Mr. D. Zeljko gave an overview of the Work Plan for FY2015 and the related Programme of work of the Ah GIS EG.

Ah GIS EG took note on the presented document, with no remarks.

Details on the Ah GIS EG activities planned for FY 2015 (1 April 2015 – 31 March 2016) can be found in the document (*AD.3_Work Plan for FY 2015_FINAL.pdf*).

AD 4. SAVA GIS SYSTEM ESTABLISHMENT

AD 4.1. Introduction

As an introduction to this agenda item, Mr. Zeljko indicated that this session is in fact continuation of work of yesterday's workshop, in order to discuss in detail certain issues and, if necessary, adopt the appropriate conclusions that will serve Consortium in further work on the establishment of the system. Minutes of meeting of the 1st SavaGIS workshop are in Annex III of this report, where all related information and recommendations from the workshop are provided.

Mr. Matijević, representative of the IN2&IGEA Consortium gave an overview of the main issues discussed on the workshop regarding SavaGIS proposed data model. Mr. Matijević recalled that the main options for database structure proposed by the Consortium were:

1. Keep existing DB structure + add what's missing = union of old + new model / all data in the common model
2. Keep existing structure + create full new structure = old data in old model / new data in new model
3. Create the new structure and try to migrate old data into the new structure = New model according to WFD + Flood and other additional classes / old data migrated

The Consortium preferred option 2 but no unique option was recommended by the workshop participants.

The other issues emphasized by the Consortium were:

- Conclusion that the most essential decision for the beginning of database development is format for data exchange
- Necessity for decision whether the data will be deliver within structured (as ICPDR case) or non-structured model

After the Consortium's presentation all the participants discussed specific issues, with following comments:

- Ms. Višnja Omerbegović stressed the necessity for uploading existing data (Sava RBM Plan, ...) in the new database as much as possible

- Mr. Primož Kogovšek emphasized the necessity of using WFD Reporting Guidance 2016, with recommendation that Sava GIS has to have its own purposes for data analysis etc. He supported the proposal for GML format for spatial data upload, but for attribute data he emphasized that XML format is too demanding, and proposed the way how it is solved in the Danube GIS system, which allows to add the data (e.g. that are not in the WFD Reporting Guidance 2016) as opposed to XML
- Mr. Zoran Major supported the GML format for spatial data upload, and agreed with the proposal (P. Kogovšek) to use the Danube GIS system solution for the attribute data exchange, with DBF format
- Ms. Dragana Ninković emphasized the necessity to facilitate the mandatory fields in the domains by adding the additional options for entering available data
- Mr. Hajrudin Mičivoda emphasized the necessity of data analysis for transboundary water bodies for which Mr. Zoran Major proposed to use the transboundary code with the general conclusion that the central SavaGIS database should not be able to edit data delivered by national institutions

The following conclusions regarding the SavaGIS were adopted by Ah GIS EG:

- The preferred option for database modelling approach is a combination of the 2nd and 3rd option which were presented at the workshop and the Consortium shall propose such an option
- The database model shall include the attributes needed for the SRBM Plan, but also the attributes needed for 2nd Sava RB analysis. The DanubeGIS model shall be consulted for this request as well as for any other issue in development of the Sava GIS where it can be usable and applicable
- GML for spatial data upload is acceptable to the Parties and the Consortium shall prepare the document with instructions how to create and upload GML datasets
- After full analysis of Parties' GIS infrastructures, the Consultant shall prepare options for data preparation for reporting (via templates, or via xml, or via services, etc.).
- Wherever the WFS web services can be established, it will be the most recommended scenario of spatial data reporting.
- Both scenarios will be supported in SavaGIS: via WFS and via upload of GML files
- The xml files for attribute data reports shall be more evaluated before final decision
- The countries will be obliged to deliver the metadata to SavaGIS and in the model that is compliant with INSPIRE. Danube GIS collects metadata via xsd schema which countries edit in any xml editor. The Consultant has to provide proposal of the software tool for xml editing.

Details on the above matters as well as the other that there was no need for further discussion at a meeting of the Ad hoc GIS EG are given in Annex III of this report.

AD 4.2. Review of the Inception report

Ad hoc GIS EG concluded following:

- The Inception report shall be updated by Consortium with all information, conclusions and agreed actions gathered on the workshop and 11th Ad hoc GIS EG meeting
- Before finalization of the Inception report, missing information on the GIS infrastructures in Croatia and Serbia shall be delivered and analysed. The Secretariat shall prepare an official request for the information where necessary
- This information and any other comment on the report shall be delivered to the Consortium via Mr. Zeljko
- After receiving the missing information and exchanging all comments, the Consortium shall update the Inception report and submit it to the Secretariat for final approval

AD 4.3. Next steps

The following was agreed:

- Instead of previously planned project meeting (Ad hoc GIS EG) on 13 May 2015, the Core Working Group (CWG) meeting will be organized in that period. The exact date and time will be agreed later

- The CWG meetings will be organized as needed in accordance to the project progress, but generally on a monthly basis
- The next Ad hoc GIS EG meeting (project meeting) will be held on 1 July – the day after 2nd Sava GIS workshop

AD 5. COLLECTING OF GIS DATA FOR PURPOSES OF OTHER ISRBC EXPERT GROUPS

Data for the purposes of the PEG RBM

Mr. Grošelj presented an overview of data collection status for the purposes of the 2nd Sava RBA report. The data have been collected through Danube GIS. It was pointed out that for some rivers which are subject to the Sava RBA (catchments larger than 1000 km²) the data are not uploaded to the DanubeGIS.

The details can be seen in the meeting document (*Ad.5. 2nd SRBA_Needs.docx*)

Actions agreed:

- Ad hoc GIS EG members will check the data which are submitted to the Danube GIS, and up to 31 March deliver the missing or changed data, by uploading it to Danube GIS or sending it directly to the Secretariat by e-mail

Data for the purposes of the PEG FP

Mr. Sarač informed the group on the recent activities regarding flood protection, emphasizing the Joint Report on May 2014 Floods prepared by ISRBC and ICPDR. He also asked the Ah GIS EG members for cooperation in the expected process of preparing flood hazard and risk maps.

Mr. Zeljko emphasized the necessity of delivering information on APSFR for the territory of Republika Srpska in order to complete Sava PFRA report. Mr. Nikolić explained that PFRA report for Republika Srpska was returned for revision and adjustment and the new APSFR with tables and methodology description will be delivered to the ISRBC Secretariat as soon as possible.

AD 6. OTHER ISSUES

Mr. Duško Isaković, from ISRBC Secretariat asked whether the issues related to the Navigation are planned to be part of the Sava GIS.

It was explained the navigation was included as submodule of the SavaGIS in its Implementation documents finished several years ago. It is also noted that navigation is not part of this phase of the establishment of the Sava GIS core functionalities, but can be taken into consideration for future upgrades. It is recommended to prepare terms of reference for this specific module and to search for possible sources of funding for the project.

ANNEX I: LIST OF PARTICIPANTS

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ANNEX II: LIST OF DOCUMENTS

Agenda item No:	Title	Language	Type
1	Ad..1.2_Ah GIS EG_11th meeting_Agenda	Eng	.doc
2	Ad.2. Presentation_ISRBC_Ah GIS EG 11	Eng	.ppt
3	Ad.3. Work Plan for FY 2015_FINAL	Eng	.pdf
4	Ad.4. SavaGIS PM IR Inception Report v1.2	Eng	.doc
5	Ad.5. 2nd SRBA_Needs	Eng	.doc

ANNEX III: 1ST SAVA GIS WORKHOP MINUTES

1ST SAVA GIS WORKSHOP MINUTES OF MEETING

„Support to the International Sava River Basin Commission in the development of the Sava Geographic Information System“

Establishment of the SavaGIS core functionalities

Meeting theme: SavaGIS 1st Workshop, inception phase			
Meeting convened by:	Dejan Komatina	Meeting date:	12.03.2015.
Meeting duration:	10:30 – 17:00	Meeting location:	Panorama Zagreb hotel Trg Krešimira Čosića 9 10000 Zagreb, Croatia
Meeting purpose:	To present the current status of activities to the ISRBC community, and to obtain the feedback and recommendations for steps forward		

Workshop Agenda:

1. Welcome and Introduction

- Welcome address (D. Komatina, ISRBC)
- Sava GIS project introduction (D. Zeljko, ISRBC)

2. Sava GIS inception phase

- Overview of inception phase findings (J. Pezo, IN2&IGEA)
- Discussion

3. Sava GIS database analysis

- Conceptual model analysis (H. Matijević, IN2&IGEA)
- Assessment of coherence with WFD Reporting Guidance for 2016 (H. Matijević, IN2&IGEA)
- Discussion

4. Sava GIS data flow and validation

- Proposal of Sava GIS data flow & validation (S. Grđan, IN2&IGEA)
- GIS architectures in the Sava countries and in the Sava Commission (D. Kušić, IN2&IGEA)
- Discussion

5. WebGIS application

- WebGIS demo live presentation (S. Grđan, IN2&IGEA)
- Discussion

6. Closing session

- Final comments and wrap-up (ISRBC, IN2&IGEA)
- Next steps

Minutes

Type	Description
1. Welcome and Introduction	<ul style="list-style-type: none"> Welcome address was given by Mr. Dejan Komatina. Sava GIS project introduction with overview of development Sava GIS projects and milestones was given by Mr. Dragan Zeljko.
2. Sava GIS inception phase	<ul style="list-style-type: none"> Overview of inception phase findings was given by Ms. Jarmila Pezo. The user testing per iteration shall be prolonged for few days – <ul style="list-style-type: none"> agreed for 1st iteration: 08.-20.04. agreed for 2nd iteration: 06.-20.05. The training plan with test cases will be prepared before each iteration.
3. Sava GIS database analysis	<ul style="list-style-type: none"> Conceptual model analysis and Assessment of coherence with WFD Reporting Guidance for 2016 was given by Mr. Hrvoje Matijević. The Parties have the obligation of data reporting towards Sava Commission and towards EC. This project shall aim to establish the database model and reporting structure which is defined by WFD Reporting Guidance 2016. Sava Commission is not obliged to report data to EC, only per request by EC. The discussion was held related to reporting data structure and model where Party is not EU member state (Serbia and B&H). The request is that the database model shall be more flexible than WFD Reporting Guidance 2016 requests. The discussion was held related to DanubeGIS and SavaGIS reporting and datasets preparation. The note was given that the data preparation for DanubeGIS shall not be very different from data preparation for SavaGIS. There is WFD Reporting Guidance v4.9. with xsd table – Ms. Višnja Omerbegović shall send the xsd to be used and consulted in SavaGIS database modelling by Consultant. The most preferred option for database modelling approach is between presented 2nd and 3rd option – the model shall be compliant with WFD Reporting Guidance 2016. The current datasets of Sava River Management Plan shall be migrated as much as possible. The special attention and effort shall be planned by Parties in data control after migration. The database model shall include the attributes needed for the report/plan, but also the attributes needed for RB analysis. The DanubeGIS model shall be consulted for this request. The comments on the Inception report will be sent to Consultant via Mr. Dragan Zeljko After exchanging all comments, the Consultant shall update the Inception report for final approval.
4. Sava GIS data flow and validation	<ul style="list-style-type: none"> Proposal of Sava GIS data flow & validation was given by Mr. Stjepan Grđan. The data reporting format for spatial datasets shall be GML. The Consultant will prepare the document with instructions how to create GML files. Wherever the WFS web services can be established, it will be the most recommended scenario of data reporting. Both scenarios will be supported in SavaGIS: via WFS and via upload of GML files. For the attribute data reporting, the discussion was held: <ul style="list-style-type: none"> The most probable option for data reporting will be: 1. only the feature classes with the most immediate related attributes or, alternatively, standalone tables that have one-to-one relationship with the feature class. In order to report data via complex services, the countries with ArcGIS Server shall have Interoperability extension, or the GeoServer (free opensource software) and the knowledge of complex web service setup. Before final decision how to report attribute data structures, the GIS architectures and infrastructures per each country shall be made.

Type	Description				
	<ul style="list-style-type: none"> ○ After analysis of Parties' GIS infrastructures, the Consultant shall prepare options data preparation for reporting (via templates, or via xml, or via services, etc.). • For the metadata reporting the similar options shall be given. The DanubeGIS already has xml schema for metadata, and the Consultant shall test the schema if it can be help for GeoNetwork and metadata management establishment. • The validation report will be generated after data validation – the xls format of the report is agreed. 				
	<ul style="list-style-type: none"> • The overview of GIS architectures in the Sava countries and in the Sava Commission was given by Mr. Dalibor Kušić. • Overview per country: <ul style="list-style-type: none"> ○ B&H – has possibility of WFS establishment, but there is open question regarding the ability to establish alphanumeric data services and complex services. ○ SLO - has possibility of WFS establishment, and the complex services could be established via GeoServer. ○ Serbia – the official request for information on GIS architecture and infrastructures shall be sent to Serbian institutions by Sava Commission. ○ CRO – has ArcGIS Server 10.2. + Interoperability ext. + ArcGIS Desktop. • The countries that have not delivered information on their GIS architectures and infrastructures will be contacted and shall deliver needed information (primary Serbia and Croatia). 				
5. WebGIS application					
	<ul style="list-style-type: none"> • WebGIS demo live presentation was given by Mr. Stjepan Grđan. • The first feedback on demo application was positive. 				
6. Closing session					
	<ul style="list-style-type: none"> • The Final comments and wrap-up was given by Mr. Dejan Komatina. • The next meeting is Ad hoc GIS Expert Group meeting – 13.3.2015. • The next workshop will be organized for 30.6.2015. 				
A - Action	I - Information	C – Comment	O - Open	R – Recommendation	CO - Conclusion

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Minutes authors:	Jarmila Pezo	Minutes creation date:	18.3.2015.
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Meeting minutes accepted by:			
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Contractor's Authority Project Manager	Consultants Team Lead		

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