REPORT

Kick-off Workshop 22-24 July 2015

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The kick-off workshop of the project Assessment of Ecological Status According to the Water Framework Directive - Intercalibration Among Western-Balkan Countries has been organized in Ohrid, Macedonia in the period of 22-24 July, 2015. This workshop has been organized in order to familiarize old teams with the newly included team members, as well as discuss and determine the methods, dynamics and sampling localities of the previously suggested lakes in all four countries.

**22.07.2015 - Wednesday**

The Project leader Susi Schneider delivered a presentation of the goals and objectives of the Project and welcomed the participants. Team leaders of each country delivered presentations on the general issues of the lakes that are going to be analyzed, as follows:

- Trajanovski Sasho - Presentation on Lake Ohrid and Lake Prespa.
- Magdalena Cara - Presentation on Lakes Lura.
- Jelena Krizmanic - Presentation on Lake Sava.
- Pavle Djuraskovic - Presentation on Biogradsko Lake and Crno Lake.

The workshop’s participants include team members of all included countries, as follows:

1. Norway: Susi Schneider, Jan Vermaat, and Tor Erik Eriksen.

Lake Ohrid has been a subject of research of the previous project and it is shared between Macedonia and Albania. Both teams are quite familiar with the lake, while the Serbian and Montenegrin teams are also somewhat familiar with it. Lake Prespa is shared between Macedonia, Albania and Greece. This is a not so familiar lake for the team members, but in recent
years it became quite more interesting for research. Greece is not included in the Project because the Ministry of Foreign Affairs of Norway finances Projects for the Western Balkan countries and not EU Member States.

Lake Lura is a remote system of lakes in northern Albania. This area has not been researched during recent times and has been suggested as a lake that can be considered as a reference. There is no or low agricultural activities and the area is not populated.

Lake Sava is an artificial lake located in Belgrade. The artificial lakes are researched in regards to their ecological potential and it has been decided that the same methods of research that are used for natural lakes are going to be implemented in this lake, too. Otherwise, the lake is in quite urbanized area and is considered as small, shallow and polluted lake.

Biogradsko Lake and Black Lake are two natural lakes in Montenegro. They have been analyzed and researched until present time regarding different attributes and aspects, but in different time periods and by application of different and not unified methods. Both lakes are considered as non polluted, but there is a chance of negative influence by a landfill located on 12 km from Biogradsko Lake and a thermo power plant located nearby.

After the presentations there has been a discussion whether all suggested lakes are suitable for the planned research. Several important remarks have to be taken into account, including:

- The cutting of macrophytes in Sava Lake and the fact that there are two locations where the management of the Lake does not cut macrophytes as well as the middle of the lake.
- Water fluctuations in Biogradsko and Black Lakes.
- Previously obtained results on all other lakes.

In addition it has been decided that lakes in Macedonia, Serbia and Montenegro are rather accessible due to the urbanized areas and the ability to sample without any major logistics difficulties. Lake Lura in Albania is reachable by a special car - a jeep. As far as the sampling is considered, it has been decided that the sampling in Lake Ohrid and Prespa is going to be conducted by vessels, which are available in the two lakes. The sampling in Lake Sava will be undertaken by using a pedaline, small boat and small train which goes around the lake. The sampling in Lura Lake should be
undertaken by a small boat, if available on spot, or by a rubber boat that is going to be brought there. The sampling in Biogradsko and Black Lakes is going to be undertaken by a rented boat. Moreover, it has been discussed the availability of accommodation and it has been decided that there is available accommodation (hotels, motels) near all lakes that are going to be researched.

Finally it has been decided that for the purposes of this project 6 sites per lake are sufficient. All team members will be included in choosing the exact sites of analysis and while doing so they are going to take into consideration different positioning, will avoid inflows and outflows and the localities will be homogeneous. Certainly when the localities are going to be marked, they are going to be coded in a simple and unified manner, which is not going to be changed during the project duration.

During this project there is going to be analyzed additional parameter, i.e. the land use parameters, or description of the land near the sampling localities. While doing so, the CORINE fieldwork protocol is going to be used. Jan Vermaat is going to train some team member in order to be able to fulfil this protocol on every sampling point.

The dynamics of the sampling is going to be as follows: once per year for macrophytes, diatoms and land use parameters and twice per year for macroinvertebrates and hydrochemistry. The exact dates of sampling will be additionally decided in communication between the representatives.

23.07.2015 Thursday

The second day of the workshop has been dedicated to work in groups, whereby all representatives have been discussing the issues within their own department. The mutual agreement has been that all departments will participate on the first sampling campaign and identification workshop that is going to be organized in Lake Ohrid and Lake Prespa. This is so due to the fact that it will enable the participants to share experience and intercalibrate their modes of sampling and analysis on spot, thus they are going to be able to sample by their own in their respective lakes thereafter and undertake the lab analysis in accordance to the agreed methodologies.

1. The macrophyte department will sample on 6 sites per lake. Their sampling is going to be organized in transects of 10-20 meters of homogeneous sampling localities. The macrophyte department will sample from the following depth points: 0-1 m, 1-2 m, 2-4 m and >4m to the lowest vegetation limit. The sampling is going to be undertaken by the application of Van Venn grab and aqua scope and snorkelling.
In 2016, Lake Ohrid and Lake Prespa are going to be sampled by representatives of all included countries. In 2017, Norwegian, Serbian and Montenegrin representatives will sample in Montenegro while in Albania the sampling is going to be conducted by Macedonian and Albanian team members. It has been decided that a herbarium is going to be prepared for samples with an uncertain determination.

2. The macroinvertebrates will also sample on 6 sites per lake. This department suggested that a repetition of the sampling is going to be conducted on some localities, for which, during the last project there have been obtained somewhat debatable results. The sampling is going to be conducted by taking into account the hydro morphological aspects and the anthropogenic influence on the sampling sites. There are going to be taken samples from 0.5 to 2 m, 5 m and 10 m, certainly by taking into consideration the characteristics of the lakes, i.e. in shallow lakes the sampling is going to be in the first interval, in deeper lakes the first two intervals are going to be sampled, while in Lake Ohrid, besides those there is going to be conducted sampling analysis on 10 meters, as well. The sampling is going to be conducted by the use of the kick and swipe method with D-shaped net in shallow waters and Van Veen grab in deeper waters. The determination of the species will be on a genus level. The sampling will be conducted twice per year, i.e. spring and autumn. In 2016 representatives of all countries will participate in the sampling conducted in Macedonia (Lake Ohrid and Lake Prespa). In 2017, Lake Lura is going to be sampled by Albanian and Macedonian team members, while Lake Sava by Serbian, Macedonian and Albanian representatives. The lakes in Montenegro are going to be sampled by Macedonian and Serbian representatives.

3. The diatoms department is going to sample once per year, on 6 sites per lake. The sampling is conducted at 0.5 meters only. From each of the samples there are going to be prepared 2 permanent slides. The OMNIDIA software is going to be used in calculation of the indexes that are required for determination of the ecological status of the lakes. These indexes include Biodiversity Index $H'$, TI, SI, IPS and TDI. As agreed by all, in 2016 the sampling is going to be conducted by representatives of all countries in Lake Ohrid and Lake Prespa. In 2017, Albanian and Serbian representatives will sample in Sava Lake and Lura Lake while Macedonian and Montenegrin representatives will sample in Montenegro.
4. The hydrochemistry department is going to sample twice per year (in May and September or October). The sampling in Macedonia in 2016 will be conducted by representatives of all countries while in 2017, Albanian team members will sample in Lura Lake, Montenegrin representative will sample in Montenegro and Serbia. The samples will be taken from 0.5 and 2 meters from both water and sediment. The analysis of the water samples will comprise the general physic chemical characteristics, including pH, t, Secchi transparency, Conductivity, DO, BOD5, COD, TP, TN, N-NO3, N-NH4, P-PO4, total alkalinity. For the sediment analysis there are going to be obtained results regarding the pH, Extracted P (SRP+TP), TOC (organic carbon) and TN (total nitrogen).

5. The land usage and description will be conducted once per year and a person(s) will be trained to note the land description of all sites, which is going to be used for further analysis and correlations.

As it can be seen all departments have decided that they are going to sample on 0.5 meters, which will result in an ability to compare and combine results of all aspects regarding the sampling sites. In addition, this project comprises sampling and analysis of the sediment from a hydrochemical perspective, which is going to yield more and rather useful information, too.

In the end, it has been decided that all team members will discuss possible sampling sites and the summaries of all suggestions will be sent to Susi Schneider until late September and a final decision will be made on the sampling sites.