Project BIOLAWEB

Deliverable D6.3

Updated Dissemination and Exploitation Plan

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Deliverable D6.3
Updated Dissemination and Exploitation Plan

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Revised	Dr Danijela Vidaković Dr Miloš Ćirić	19/09/2024

Deliverable summary

Deliverable D6.3 describes the Updated Dissemination and Exploitation Plan for the BIOLAWEB project. This plan will help achieve the project's goals and ensure proper dissemination of the generated knowledge, including confidentiality, publication, and use. It explains in detail the dissemination methods and tools, target groups, and ways to increase public awareness of the project. All partners will be actively involved in conducting dissemination activities.

UB-ICTM, leader of WP6—Dissemination and Outreach, leads the overall implementation of dissemination, exploitation, and communication activities.

This document contains updated text since some new dissemination, communication, and exploitation activities were planned and conducted after the first version of the Dissemination and Exploitation Plan (D6.2) was submitted.

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1. Introduction

The main goal of the BIOLAWEB project is building a sustainable collaboration and partnership between the Institute of Chemistry, Technology and Metallurgy, University of Belgrade (UB-ICTM, Serbia), and leading EU institutions – The French National Research Institute for Agriculture, Food and Environment (INRAE, France) and the Norwegian Institute for Water Research (NIVA, Norway), boosting the research and innovation capacity of UB-ICTM in the field of biodiversity assessment and biomonitoring. The overall objectives of the BIOLAWEB project are to sustainably strengthen research, develop networking capabilities in the biomonitoring field, and make the acquired knowledge accessible to the international community and relevant national stakeholders. To achieve these objectives, a detailed dissemination and exploitation plan is required to ensure the successful implementation and achievement of the project's outcomes and impacts.

Deliverable D6.3, “Updated Dissemination and Exploitation Plan,” describes the strategy for how dissemination, exploitation, and communication can help achieve the objectives of the BIOLAWEB project.

This report includes the target groups, the dissemination methods and tools, the schedule and complementarity of the activities, measures to assess the impact of the dissemination, exploitation, and communication activities, and conditions to ensure proper dissemination of the generated knowledge related to confidentiality, publication, and use of the knowledge.

The implementation of dissemination, exploitation, and communication activities is led by UB-ICTM, as a leader of WP6 – Dissemination and Outreach. As a leader of WP6, UB-ICTM has a critical role and strategic responsibility in achieving the dissemination and communication plan. BIOLAWEB partners will actively support activities related to dissemination and communication as planned. Information and tasks necessary for implementation dissemination and communication will be delivered through the project’s mailing list.

2. Aims and objectives

The aim of the Dissemination and Exploitation Plan (DEP) with Communication Plan (CP) is to establish clear guidelines for proper dissemination and communication of the public results generated by the BIOLAWEB project, as well as to make available scientific evidence in support of policy making. DEP will be periodically updated to ensure that the project outputs and benefits are communicated to all consortium partners, defined target groups, and other stakeholders.

The specific objectives within the BIOLAWEB project concerning dissemination and exploitation are:

- To scale up and develop new approaches in the field of biomonitoring through joint research
- To set up a fully operational International Research Management Office at UB-ICTM
- To considerably enhance strategic networking

3. Target groups

Identifying the target groups is one of the first steps in successfully implementing the BIOLAWEB project's DEP strategy.

The main target groups identified by BIOLAWEB are:

- Project partner institutions (Consortium partners)
- Scientific community
- Public agencies for water quality monitoring
- Policymakers
- General public
- Small and medium enterprises

The dissemination plan includes the most effective dissemination methods and tools for each target group. These methods and tools will be applied at the national and international levels.

3.1 Project partner institutions

Project partner institutions (research staff including PhD students of biology, ecology, environmental chemistry, etc., and administrative staff) will benefit since their scientific networks will grow due to the exchange and mutual learning (WP3, WP4, WP5). The scientists involved in the project have synergistic competencies, and only the combined expertise of the involved scientists can solve the challenges tackled in the project. All involved partner institutes have a strategic aim to strengthen international collaboration, and the project will contribute to reaching this aim. The scientists at UB-ICTM have unique and vital knowledge of the composition of the local species of the targeted groups in Serbia/SEE and of natural and anthropogenic pressures in Serbia. NIVA scientists are experts in designing and applying biotic indices for watercourse monitoring and have significant experience in eDNA analyses. INRAE scientists have world-leading competence in lake monitoring and designing and applying molecular tools in aquatic environments. The exchange of knowledge will thereby benefit all scientists and administrative staff that support researchers.

3.2 Scientific community

The international scientific community includes academic and research communities. A reasonable understanding of water-related societal and scientific challenges, worldwide and country-specific, as well as international collaboration, are the prerequisite for dealing with these challenges, reducing pressures, and contributing to advancement.

Thus, many scientists are working internationally to develop and improve new molecular tools for biomonitoring, and the lack of data from regions such as Serbia is a well-known challenge. The BIOLAWEB project is expected to contribute significantly, particularly to developing new eDNA methods for aquatic plants, and will, therefore, make a significant step forward in science.

3.3 Public agencies for water quality monitoring

BIOLAWEB will try to help public agencies for water bodies monitoring in Serbia and the EU, as all will benefit from working with standardized, modern, and regular water bodies monitoring in Serbia. BIOLAWEB will make a significant step towards achieving this goal. The public agencies in Serbia currently lack the resources to monitor water bodies efficiently. In our project, we interacted with Serbian water bodies monitoring agencies through workshops and roundtables (WP6) and discussed and explained our findings. Working together, we will foster change that will benefit us all. Agencies on the European level currently lack standardized input from Serbia. Our project will significantly contribute to the currently existing gaps in the ecological status of water bodies in Europe.

3.4 Policymakers

BIOLAWEB will provide new incentives for scientists and policymakers (at the Ministry of Environmental Protection and the Ministry of Agriculture, Forestry and Water Management - Republic Water Directorate) to work together, developing the category of knowledge brokers (translational scientists) as a new generation of scientists able to communicate the messages efficiently. BIOLAWEB has organized the first roundtable and will organize a second roundtable within WP6 (planned for M31-M33), aiming to advance communication with policymakers, trying to alter the responsibility perspective while acknowledging the complexity of policymaking. Moreover, BIOLAWEB will create a strategic approach to the research and re-determine the basis for transferring knowledge.

3.5 General public

The general public will benefit from clean drinking water and safe lakes for recreation and irrigation. Cyanobacterial blooms in lakes threaten human health and make swimming unsafe. Public awareness of a water body's ecological status is vital for its safe use. BIOLAWEB will try to advance the monitoring of water bodies in Serbia and inform the public about the ecological status of the analyzed lakes. In addition, if a good ecological status is not achieved, we will suggest measures for its improvement. We expect that our results will later be used to apply and improve monitoring in all water bodies of relevant size in Serbia, following European standards.

3.6 Small and medium enterprises

Experience in other countries in recent years has shown that small and medium enterprises were established and specialized in DNA-based services for aquatic environments and various organism groups. Our project will provide the first steps and a clear pathway into the future for applying molecular methods for water bodies biomonitoring in the Western Balkan region. Therefore, the anticipated routine application of molecular tools in biomonitoring provides a clear opportunity to establish companies specializing in DNA-based services and related molecular tools.

4. Dissemination tools - Visual identity

BIOLAWEB's visual identity (logo, memorandum, templates, etc.) was developed at the very beginning of the project. The visual design identity will contribute to the project's recognition among target groups and provide an understandable message about BIOLAWEB project goals.

The project's visual identity is essential for dissemination and communication activities, and it is made up of several elements:

4.1 Project name

The project's full name is "Boosting Institute of Chemistry, Technology and Metallurgy in Water Biomonitoring," and its acronym is "BIOLAWEB."

4.2 Project logo

Three logo versions were developed and proposed early in the project to consortium members (Figure 1). The logo was further developed by selecting the third version as a base, and its final design will be consistently used during project dissemination (Figure 2). The logo consists of three connected hexagons in colors representing the three partner institutions (green – UB-ICTM; greenish blue – INRAE; blue – NIVA), linked by a DNA helix, followed by the project acronym.

Figure 1. Three versions of the BIOLAWEB logo

Figure 2. Finalized BIOLAWEB logo

4.3 European flag and funding statement

All official project documents must acknowledge EU support and display the European flag (emblem) and funding statement. Additionally, the statement "This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101079234." is used where appropriate. Some examples of European flags with the funding statement are shown in Figure 3. More can be downloaded

from the following link: https://ec.europa.eu/regional_policy/information-sources/logo-download-center_en

Figure 3. Examples of the European flag options with the funding statement

4.4 Templates

The visual identity also includes Microsoft Word and PowerPoint templates made for project team members. These include a header and footer, color scheme, and font styles (Arial). Templates are shared with all consortium partners via email and Google Drive, which requires all templates to be used when presenting, communicating, and disseminating the project.

Visual identity includes the following templates:

- Memorandum (Figure 4);
- Deliverable template (Figure 5);
- PowerPoint template (Figure 6).

Figure 4. BIOLAWEB memorandum template

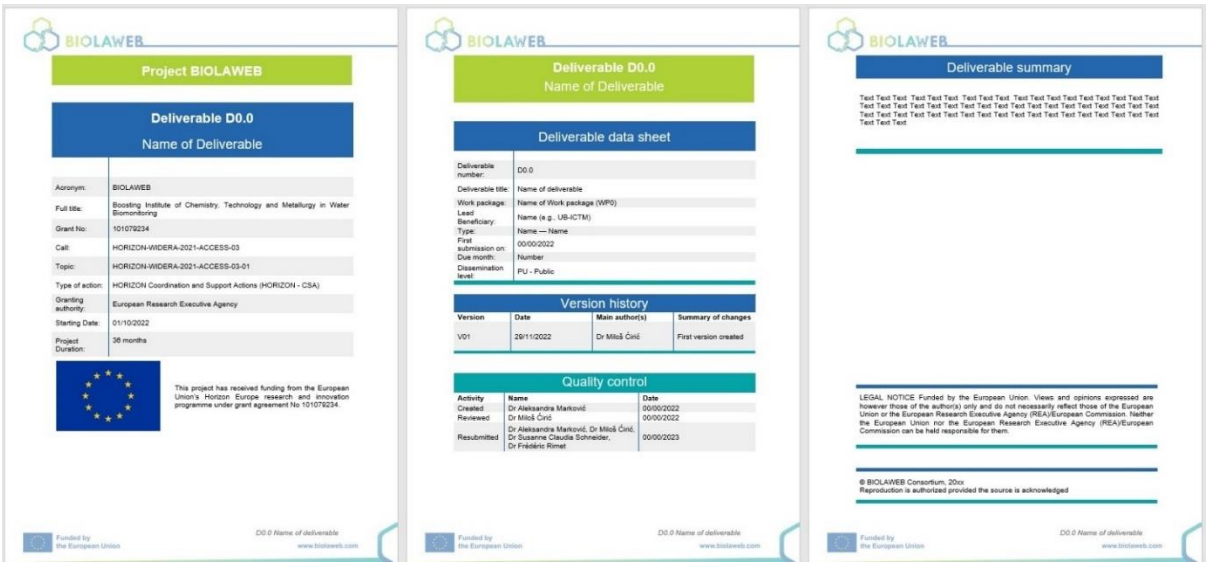

Figure 5. BIOLAWEB deliverable template

Figure 6. BIOLAWEB PowerPoint template

5. Dissemination and Exploitation Plan

To increase the impact of BIOLAWEB's results, the DEP will encompass the messages, tools, and channels to reach the targeted groups (Communication Plan) and make the data accessible (Data Management Plan).

Furthermore, BIOLAWEB will facilitate the exploitation of the project results by providing:

- a clear pathway into the future for the application of molecular tools for water bodies biomonitoring in the Western Balkan region
- a clear opportunity for the establishment of local companies specializing in DNA-based services and related molecular tools
- results that will serve as a basis for the further development of biomonitoring tools across Europe.

5.1 Peer reviewed publications

Scientific publications are the preferred and one of the most effective ways to reach the wider international scientific community and to make them aware of the project results. This will increase chances to implement new methods in Western Balkan countries, raise citation and h-index, and improve UB-ICTM ranking among scientific institutions. BIOLAWEB will produce at least 3 peer-reviewed publications in leading international journals specialized in the fields of aquatic ecology and biomonitoring. These publications will be available *online* on all major scientific databases, the project website, institutional repositories (e.g., CER – https://cer.ihtm.bg.ac.rs/), and European OpenAIRE programs such as Zenodo. Some targeted journals are the Journal of Phycology (IF 2.9) and Limnologica (IF 2.1).

Authors are obliged to acknowledge the BIOLAWEB project and the European Union funding in all publications by adding a disclaimer. BIOLAWEB aims to publish using Gold Open Access.

5.2 Conferences

BIOLAWEB team members will continue to attend scientific meetings to network with the leading experts in biomonitoring and spread the project results. By attending scientific meetings and presenting project results (oral or poster presentation), they will also have the opportunity to learn new methods and attend lectures and workshops. By project agreement, BIOLAWEB will attend at least two scientific conferences per year. Abstracts or proceedings will be available *online* on all major scientific databases (partners ResearchGate, ORCID), on the project website (https://biolaweb.com/work-package/wp-6-dissemination-and-outreach), in institutional repositories (CER - https://cer.ihtm.bg.ac.rs/handle/123456789/7506), European OpenAIRE programs such as Zenodo. Some targeted conferences are the European Phycological Congress, Congress of the International Society of Limnology, European Diatom Meeting, International Research Group on Charophytes, etc.

So far, the results of the BIOLAWEB project have been presented at 4 international conferences (Figure 7) with a total of 5 poster/oral presentations:

- **ExcellMater Conference 2024** was held from 10-12 April 2024 at the Science Technology Park in Belgrade, Serbia. Dr Miloš Ćirić and Željka Milovanović presented our project during the Twinning session.
- **37th Congress of the International Society of Limnology (SIL)** was held from 5-9 May in Foz do Iguacu, Brazil. Dr Miloš Ćirić gave an oral presentation, "Application of eDNA metabarcoding to phytoplankton research in freshwater and saline lakes".
- **53rd International Conference on Water Use and Protection "WATER 2024"** was held from 27-29 May in Palić, Serbia. Dr Miloš Ćirić gave an oral presentation, "Assessment of the Ecological Status of Markovačko Lake - A New Approach in Biomonitoring."
- **8th Congress of the International Society of Applied Phycology (ISAP2024)** was held from 16 -21 June in Porto, Portugal. Dr Aleksandra Marković presented a poster, “The use of charophyte algae in ecological status assessment of lakes – developing new methods based on eDNA“, and Dr Danijela Vidaković gave an oral presentation, “Metabarcoding as a tool to complement the reference database – a case study saline lake (Pečena Slatina, Serbia)”.

Figure 7. BIOLAWEB participation in congresses

5.3 Meetings

5.3.1 Expert visits

During the project's three years, several expert visits within WP2 and WP5 are planned. During WP2 expert visits, senior scientists and research managers from NIVA and INRAE visited UB-ICTM as Science Advisors (SAs). UB-ICTM and SAs planned a series of strategic measures to identify UB-ICTM research gaps and needs, allowing them to further define the tailor-made scientific strategy for UB-ICTM and make an action plan for implementing The Strategy.

Two expert visits within WP2 were realized at the UB-ICTM (Figure 8). The first one was realized on 23rd November 2022 to identify gaps and propose measures to improve the research excellence capacity of our research staff. The second was realized on 27th and 28th March 2023 to define the first strategic steps for stepping up and stimulating scientific excellence in biomonitoring at UB-ICTM and to discuss the first results of the questionnaire

on the short and long-term research needs of the institute. As a result of both expert visits, the Strategy and Action Plan (D2.2) was established and delivered in M15.


Figure 8. Expert visits within WP2 at the UB-ICTM. Left November 2022, right March 2023

Three expert visits were realized within WP5 as well (Figure 9). The first expert visit was realized between the 21st and 25th of November, 2022. Research admin staff from INRAE conducted a qualitative survey to identify the needs, skills, and competencies that UB-ICTM's research staff needs for the newly established research administration support unit, officially named the International Cooperation and Project Office (ICPO). The second expert visit was combined with workshop 1 on pre-grant activities in April 2023 to continue identifying the needs and competencies that UB-ICTM's research staff needs to establish the ICPO office. As a part of third expert visit of INRAE administrative staff, the training in financial management and project reporting was conducted on 5th of April, 2023. As a result of expert visits, the Strategy and AP for IRMO (D5.1) were established and delivered in M15.


Figure 9. Expert visits within WP5 at the UB-ICTM. Left November 2022, right April 2023

5.3.2 Roundtables

The BIOLAWEB team has organized the first roundtable and is planning to arrange the second event with relevant stakeholders, local and regional authorities, policymakers in Serbia, public agencies for water bodies monitoring, etc., aiming to trigger and improve the engagement of stakeholders in the water sector in biomonitoring modernization. The BIOLAWEB team will present and discuss new methodology and suggest new legislation and standardization of waterbody monitoring in Serbia.

The first roundtable was held on the 28th of March 2023 at UB-ICTM (Figure 10). Our partners from NIVA and INRAE and relevant stakeholders responsible for water bodies in Serbia and

their monitoring (Ministry of Environmental Protection of Serbia, Serbian Environmental Protection Agency, Environment Protection Institute of Serbia, Secretariat for Environmental Protection, University of Belgrade, Faculty of Biology, Institute for Biological Research "Siniša Stanković" - National Institute of the Republic of Serbia) attended the roundtable. We discussed issues related to the biomonitoring of surface waters in Serbia and the possibility of implementing new methods, such as DNA metabarcoding, and tried to identify the needs and problems of all stakeholders.

The second is planned between M31 and M33 (WP6). The purpose of the second roundtable will be to communicate the results and discuss further steps to ensure their successful application in water management.

Figure 10. Roundtable within WP6 at the UB-ICTM

5.3.3 Fieldwork with stakeholders

Fieldwork with stakeholders was held on the 21st of May 2024 at Savsko Lake (Figure 11). Relevant stakeholders are responsible for water bodies in Serbia and their monitoring, and different guests have advisory or supportive roles (Serbian Environmental Protection Agency, City Institute for Public Health, Ministry of Environmental Protection, City Secretariat for Environmental Protection, Vojvodina Environmental Movement, Faculty of Agriculture, Novi Sad, Protected Habitat "Veliko Blato", Adam Mickiewicz University (Poland)) attended this activity. UB-ICTM researchers demonstrated sampling of phytoplankton, macrophytes, and diatoms for metabarcoding. Furthermore, they shared their views about the significance of DNA metabarcoding in water biomonitoring with our guests during the two-hour meeting.

This activity aims to strengthen the connections within the network created during roundtables. Joint fieldwork will serve as a specific team-building strategy, deepening the relationships established and further strengthening the engagement of all parties involved in these activities.

Figure 11. Fieldwork with stakeholders within WP6 at Savsko Lake

5.4 Education and training events

5.4.1 Workshops and Summer school

Five workshops were planned to be organized during the BIOLAWEB project's lifetime at UB-ICTM. Four were within WP3 (Training and networking) and included two metabarcoding workshops led by INRAE experts and eDNA and index development workshops led by NIVA experts. The fourth workshop was linked with WP5 and focused on pre-grant activities.

The workshop concerning pre-grant activities within the WP5 (New International Research Management Office) was held from 4th to 6th April 2023 at the UB-ICTM. During the workshop, experts from INRAE gave a lecture covering the following topics: 1) how to build a competitive proposal for Horizon Europe, 2) training in financial management and project reporting, and 3) how to prepare and negotiate GA and CA (Figure 12).

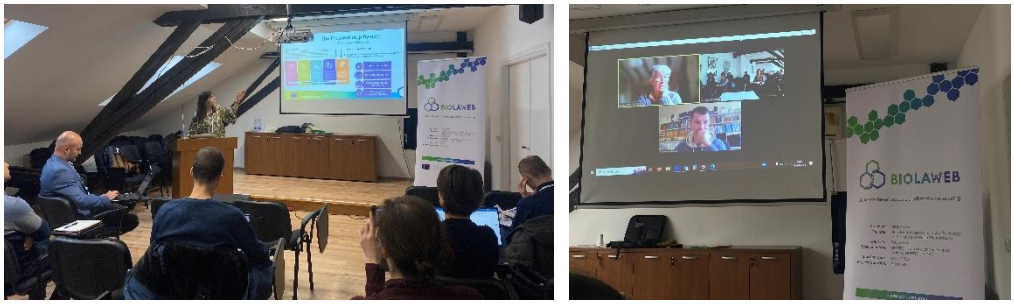

Figure 12. Workshop within WP5 at UB-ICTM

The first workshop “Metabarcoding of diatoms and phytoplankton for biomonitoring” was organized in a hybrid format from 29th to 31st of March 2023 at UB-ICTM in Belgrade (Figure 13). Lecturers from the partner institution, INRAE, Dr Clarisse Lemonnier, Dr Frédéric Rimet, Dr Agnès Bouchez, and Dr Benjamin Alric, gave lectures focused on DNA metabarcoding applied to diatoms and phytoplankton for biomonitoring.

Figure 13. The first Metabarcoding workshop within WP3 at the UB-ICTM

The workshop on index development led by Dr Susanne Schneider, NIVA, was divided into 1) an *online* introduction, performed on 25th April 2023, and 2) an on-site course held from 2nd to 5th May 2023 (Figure 14). The workshop introduced the basic principles of bioindication, practical examples, and case studies. Moreover, the participants were divided into groups, and each group was given a task to prepare a presentation on a specific group of bioindicator organisms and related indices, providing deeper involvement and insight into this topic to the participants.

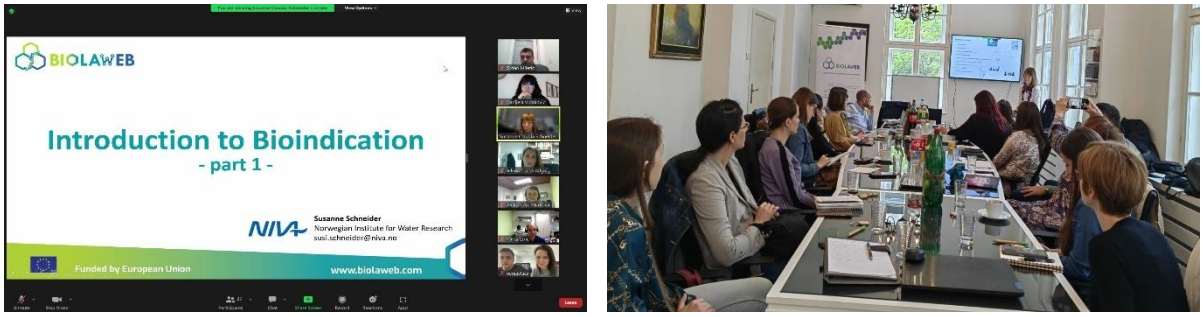

Figure 14. The workshop on index development within WP3. Left online introduction, right on-site course at UB-ICTM

Blue Green Future (BgF) summer school was held between the 2nd and 13th of October 2023 in Belgrade and was opened at the Center for the Promotion of Science in Belgrade (Figure 15). After the opening, three plenary lectures were held by eminent experts in biomonitoring. Dr Zlatko Levkov (Ss. Cyril and Methodius University, Faculty of Biology, North Macedonia) talked about the "World of diatoms - how to make a problem out of something wonderful". Dr Frédéric Rimet (INRAE, France) gave a lecture on "Diatom metabarcoding for biomonitoring and basic ecology", and Dr Martyn Kelly (Bowburn Consultancy, UK) gave a lecture on "Use of metabarcoding for ecological assessment of benthic algae in the UK". In addition, the BgF

school also included two workshops (WP3), one seminar (WP5), and three practical field exercises.

Figure 15. Opening the BgF summer school at the Center for the Promotion of Science

The first workshop within BgF summer school, “Data processing, normalization of data (R program with examples and R codes)” was performed from 2nd to 4th October 2023 in UB-ICTM (Figure 16). The workshop was led by scientists from the INRAE: Dr Clarisse Lemonnier, Dr Frédéric Rimet, and Dr Benjamin Alric. Participants had the privilege to gain valuable knowledge about state-of-the-art science and how to process sequences to obtain robust community data and to perform ecological analysis (e.g., taxonomic composition, alpha and beta diversity, eco-phylogenetic analyses, etc.).

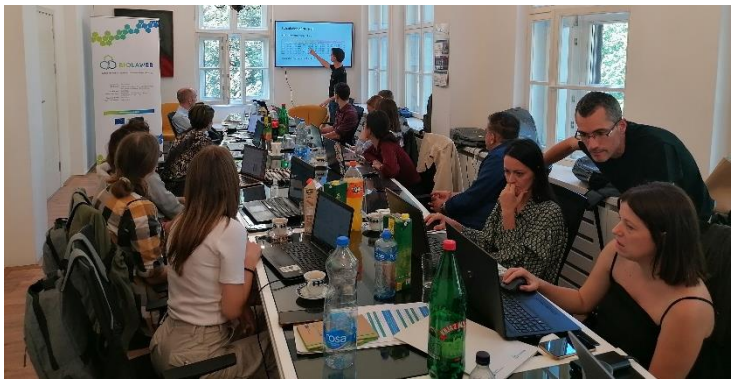

Figure 16. Workshop in R within WP3 at the UB-ICTM

The second workshop, “eDNA focus on macrophytes,” was performed from 4th to 6th October 2023 in UB-ICTM (Figure 17). Dr Andreas Ballot, NIVA, led the workshop. Some topics included the introduction to aquatic macrophytes, the introduction to field sampling of eDNA aquatic macrophytes, DNA isolation, PCR preparation, and (meta)barcoding. The theoretical part of the workshop was followed by a field exercise on Savsko Lake where participants had

the chance to see in practice how the sampling and filtration of DNA samples for metabarcoding is done.

Figure 17. Workshop in eDNA focuses on macrophytes within WP3 at the UB-ICTM

The seminar (WP5) dedicated to project management and financial issues in the pre- and post-grant phases was held from 9th to 11th October 2023 at UB-ICTM (Figure 18). The staff of the International Cooperation Project Office at UB-ICTM (ICPO), together with national and international experts from INRAE and NIVA, gave 12 lecturers. The range of covered topics included: 1) project management and the types of projects, 2) maximizing the impact and visibility of research projects, 3) finances in HE projects, 4) lump sum in HE projects, 5) open science, 6) project proposals from the evaluator's point of view 7) panel discussion with twinning project coordinators 8) the presentations of international partners (INRAE, NIVA), and 9) the presentations of successful stories.

Figure 18. Seminar within WP5 at the UB-ICTM

Furthermore, three practical field exercises related to metabarcoding were organized within BgF school (Figure 19). The first field exercise was performed on 5th October on Savsko Lake, the second field exercise on Plava Banja on 12th October, and the third field exercise on Pečena Slatina on 13th October. Participants in these exercises had the opportunity to learn how to sample the eDNA of aquatic organisms for metabarcoding analyses. Firstly, BIOLAWEB team members demonstrated how to sample eDNA of aquatic macrophytes and phytoplankton for metabarcoding analyses. In the second part of the exercise, the participants had a chance to repeat the sampling independently.

Figure 19. Field exercises on Savsko Lake, Plava Banja and Pečena Slatina (from left to right)

5.4.2 Virtual trainings

Three virtual trainings were planned to be organized during the BIOLAWEB project's lifetime: one on bioinformatics (WP3) and two on project management (WP5).

Virtual training – Bioinformatic was held as a hybrid event at the UB-ICTM from 31st May to 6th June 2024 (Figure 20). Training was led by Dr Clarisse Lemonnier from INRAE. During the training, participants from the BIOLAWEB team and students from the Faculty of Biology, University of Belgrade learned the principles of the DADA2 pipeline, and how to process DNA reads to the taxonomic assignment.

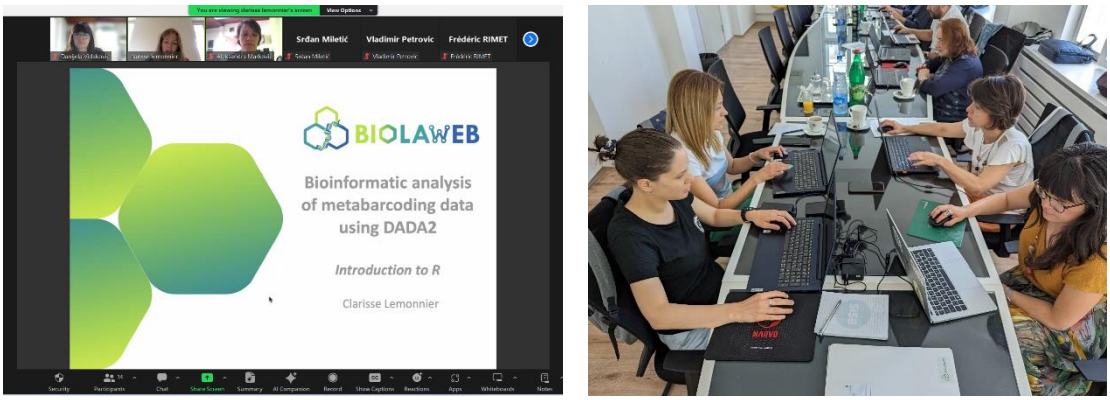

Figure 20. Virtual training in bioinformatics within WP3

The first virtual training on the Consortium and Grant Agreement preparation phase was held as a hybrid event on 6th April 2023 led by INRAE staff (Figure 21). The training was followed by 19 participants.

The second virtual training, which covered lessons and tips on compiling a good project proposal, was held during the BgF summer school on 11th October 2023, led by NIVA senior researcher Dr Susanne Schneider (Figure 21).

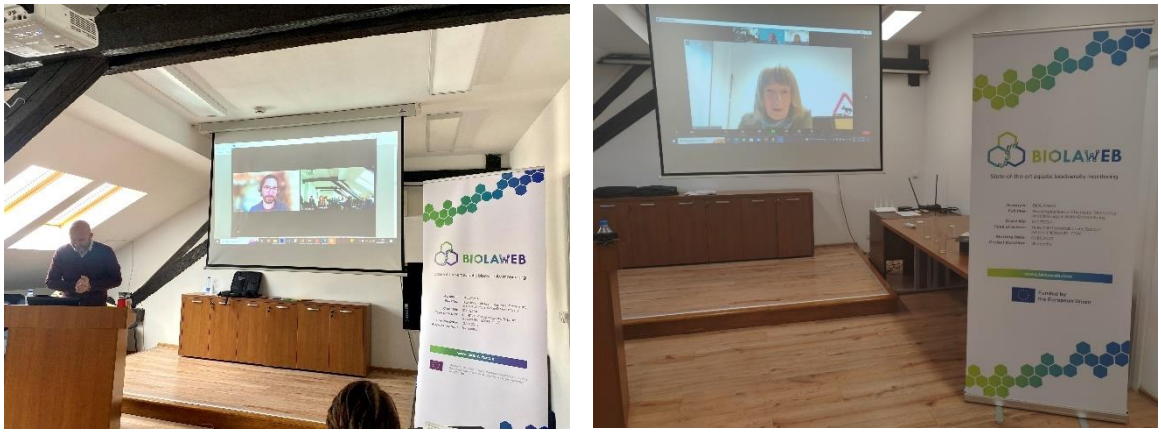

Figure 21. Virtual training within WP5. Left April 2023, right October 2023

5.4.3 Short term Scientific Missions

Eight short term scientific missions (STSM) of UB-ICTM research staff to partner institutions within WP3 were planned. Four visits to INRAE regarding metabarcoding of diatoms and phytoplankton and four visits to NIVA (Norway) regarding eDNA of macrophytes were planned. They all include training in different metabarcoding laboratory techniques.

So far, three STSMs from UB-ICTM to INRAE have been conducted (Figure 22):

- 22nd May to 12th June 2023, a researcher from UB-ICTM, Dr Miloš Ćirić, visited the Molecular Laboratory of UMR Carrtel, INRAE (Thonon, France). He was trained in DNA extraction, PCR, and electrophoresis under the supervision of an expert from INRAE, Dr Clarisse Lemonnier.
- 19th November to 11th December 2023, two scientists from UB-ICTM, Dr Miloš Ćirić, and Dr Srđan Miletic, did their secondments at the Molecular Laboratory of UMR Carrtel, INRAE (Thonon, France). They were trained in metabarcoding laboratory techniques under the supervision of the INRAE expert, Dr Clarisse Lemonnier.

The fourth STMS to INRAE (France) will be realized from 4th to 22nd November 2024.

Two STSMs from UB-ICTM to NIVA have been conducted (Figure 22):

- 11th April to 1st May 2023, two researchers from UB-ICTM, Dr Aleksandra Marković, and Dr Danijela Vidaković, visited the eDNA Laboratory of NIVA (Oslo, Norway). They were trained in DNA extraction, PCR and electrophoresis under the supervision of NIVA expert, Dr Andras Ballot.

Two more STSMs to NIVA (Norway) will be realized from 7th to 23rd October 2024.

D3.2 Reports from STSM will deliver more details about the STSM on M28.


STSM INRAE May 2023


STSM INRAE November 2023

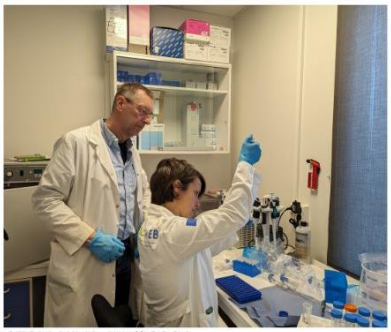
STSM NIVA April 2024

Figure 22. Short term Scientific Mission at INRAE and NIVA

5.4.4 Seminar

The first seminar within WP5 was organized *online* on 5th May 2023 by the ICPO staff of UB-ICTM. The seminar was related to preparing and writing Horizon Europe projects, focusing on Marie Skłodowska-Curie Actions – MSCA.

5.4.5 Info days

The organization of info days by ICPO staff for relevant international project calls to inform potential applicants and help them with project proposal writing was planned. So far, two info days have been organized. The first info day was held on 31st May 2023 and was intended for UB-ICTM early-stage researchers who planned to apply for the national project call PROMIS 2023. The second info day was organized on 6th September 2023 (*online*) and it was related to the PROOF OF CONCEPT call of the Science Fund of the Republic of Serbia.

5.5 Scientific collaboration

At the invitation of Dr Kalman Tapolczai, Dr Miloš Ćirič and Dr Danijela Vidakovic visited the Balaton Limnological Research Institute (HUN-REN BLRI) from 26th to 29th August, 2024 (Figure 23). During the visit, Dr Miloš Ćirić presented the BIOLAWEB project, emphasizing an innovative approach to studying water ecosystems using the DNA of different, and also presented the results obtained so far. Dr Danijela Vidaković had the opportunity to present the BIOLA group at UB-ICTM and their long-term research of saline ponds in Vojvodina. Also, Dr Kalman Tapolczai presented an ongoing project regarding the community response of planktonic and benthic microorganisms to anthropogenic pressures in Balaton Lake. The visit was mutually beneficial for both institutions, with discussions on potential future collaborations, including joint research proposals, co-authored publications, and the possibility of student exchange.

Figure 23. Short scientific visit at the Balaton Limnological Research Institute

6. Communication plan – internal part

The internal communication plan is created to coordinate better and manage the project, facilitate smooth technical and scientific communication between partners, realize project plans, and disseminate project achievements. The plan includes the necessary tools to prepare and discuss upcoming events and activities on time and keep track of agreed-upon tasks and schedules.

6.1 Meetings

During the BIOLAWEB project's lifetime, the consortium is planned to meet biannually. The regular consortium meetings will be held on-site and usually organized simultaneously with other events to optimize time and financial resources.

The kick-off meeting was held at the UB-ICTM from 22nd to 23rd November 2022 and was organized by the coordinating institution (UB-ICTM) in Belgrade, Serbia (Figure 24). During the first day of the meeting, all project beneficiaries were presented. This part was open to researchers from UB-ICTM and other institutions in Serbia, other guests interested in BIOLAWEB topics, and the media. The second day of the BIOLAWEB kick-off meeting was intended for the BIOLAWEB consortium members, who discussed plans and activities for the next period and made an Action Plan for the first six months of the project.

Figure 24. BIOLAWEB Kick-off meeting at the UB-ICTM

The first regular consortium meeting was held on 28th March 2023 at UB-ICTM. The second regular consortium meeting was held in UB-ICTM on 4th October 2023. The third consortium meeting was held at NIVA (Oslo, Norway) on the 20th of March 2024. The meeting was conducted as a hybrid event, with our partners from INRAE attending *online* and part of the team from UB-ICTM. During the consortium meetings, BIOLAWEB members analyzed the progress from the start of the project and summarized all activities for the next six months (Figure 25).

The next regular consortium meeting will be held at INRAE (France) on 18th September 2024.

March 2023 at UB-ICTM *October 2023 at UB-ICTM* *March 2024 at NIVA*

Figure 25. Regular consortium meetings

Besides consortium meetings, which gather members of all partner institutions, regular internal meetings within each partner institution are held whenever necessary (live or online). These meetings discuss all current issues and provide smooth internal coordination and management of project activities (Figure 26).

Figure 26. Members of the UB-ICTM team during an online internal meeting

6.2 Internal Promotion

To better communicate the BIOLAWEB project and the newly established International Cooperation and Project Office (ICPO) to the UB-ICTM researchers, the in-house promotion was organized several times for different UB-ICTM departments (Figure 27). The BIOLAWEB project was presented briefly, and the representatives of the ICPO and BIOLAWEB team conducted the first survey (questionnaire), which aimed to identify the needs, skills, and competencies required for new ICPO staff.

Figure 27. Representatives of the BIOLAWEB and ICPO team during the in-house promotion at the UB-ICTM

ICPO's goal is to support our researchers in their efforts to submit and implement more high-quality research projects. Collecting data on the needs of UB-ICTM researchers, their ambitions for applying to international projects, and their interest in participating in developing a scientific strategy in the field of biomonitoring is the first step towards achieving this goal.

At the internal scientific conference "ICTM - A Step Forward" held on 14th December 2023, the coordinator of the BIOLAWEB project presented the project as one of the most prestigious

projects of UB-ICTM in 2023 (Figure 28). Conference attendees had the opportunity to hear more about the project itself and the UB-ICTM researchers who participated in its implementation. Finally, the new organizational unit ICPO at UB-ICTM was presented.

Figure 28. Internal scientific conference “ICTM - A Step Forward”

6.3 Reports

UB-ICTM is responsible for collecting, reviewing, and submitting obligatory reports to the EC. Before submitting any reports to the EC, the coordinator is also obliged to deliver a report to the project members, allowing them to correct and make suggestions. The detailed reporting procedure is explained in the Project Handbook, which was delivered on 23rd March 2023. The Project Handbook is a user guide for all project participants and was drafted during the kick-off meeting. It provides guidelines for project partners in project management, quality assurance of deliverables, risk management, and other related issues.

So far, ten reports have been completed and submitted to the EC:

- WP1, D1.1 Data Management Plan (DMP), delivered on 23rd March 2023.
- WP1, D1.2 Project Handbook, delivered on 23rd March 2023.
- WP1, D1.3 Progress report, delivered on April 2024.
- WP1, D1.4 Updated Management Plan, delivered on 29th March 2024.
- WP2, D2.1 Report from expert visits, delivered on 31st October 2023.
- WP2, D2.2 Strategy and Action Plan, delivered on 30th December 2023.
- WP3, D3.1 Reports from joint events, delivered on 30th January 2024.
- WP5, D5.1 The Strategy and AP for IRMO, delivered on 31st December 2023.
- WP6, D6.1 Project website and social media, delivered on 8th March 2023.
- WP6, D6.2 Dissemination and Exploitation Plan, delivered on 27th March 2023.

6.4 Google Drive

The Google Drive platform is used throughout the project to share all files, presentations, deliverables, meeting minutes, templates, and other documents and materials related to the

project with a project member. All project team members have access to and can edit and upload files.

7. Communication plan – external part

The BIOLAWEB external communication activities include communication and dissemination tools to present all project activities and results. Each of the following tools represents a different way of BIOLAWEB project presentation to a specific target group:

- Project website
- Social media
- Promotional materials
- TV appearances
- Interview

7.1 Project website

The BIOLAWEB website is the most essential electronic channel for all project target audiences. The project website was published *online* on 19th November 2022 and is regularly updated with new information regarding the project (Figure 29). It is running on the following address: https://biolaweb.com/. The website is in English, as this is the primary communication language for the project. Most news is also shared on the UB-ICTM webpage (https://www.ihtm.bg.ac.rs/en/).

The BIOLAWEB website contains information on the project's main goal, objectives, consortium with the description of each partner individually (links to beneficiaries), list of participants from each institution, description of each work package and its objectives, and gallery with photos from each event or activity. Section NEWS contains information about project activities (e.g., TV appearances, interviews in the newspaper, fieldwork, STSM) and announcements of events (e.g., Workshops, BgF Summer school). Information and documents such as key outcomes, scientific publications, and public deliverables will be available *online* and regularly updated. So far, 50 news and 32 Gallery folders have been published on biolaweb.com. According to Site Analytics, there have been more than 2.6K visitors since the project website was published. The quantitative indicators for biolaweb.com are given in Table 1.

The project website is linked to BIOLAWEB's social media profiles (Instagram, Facebook, X, ResearchGate, and YouTube). Furthermore, the BIOLAWEB website will be mentioned in all dissemination and communication tools, such as presentations, posters, brochures, and event invitations.

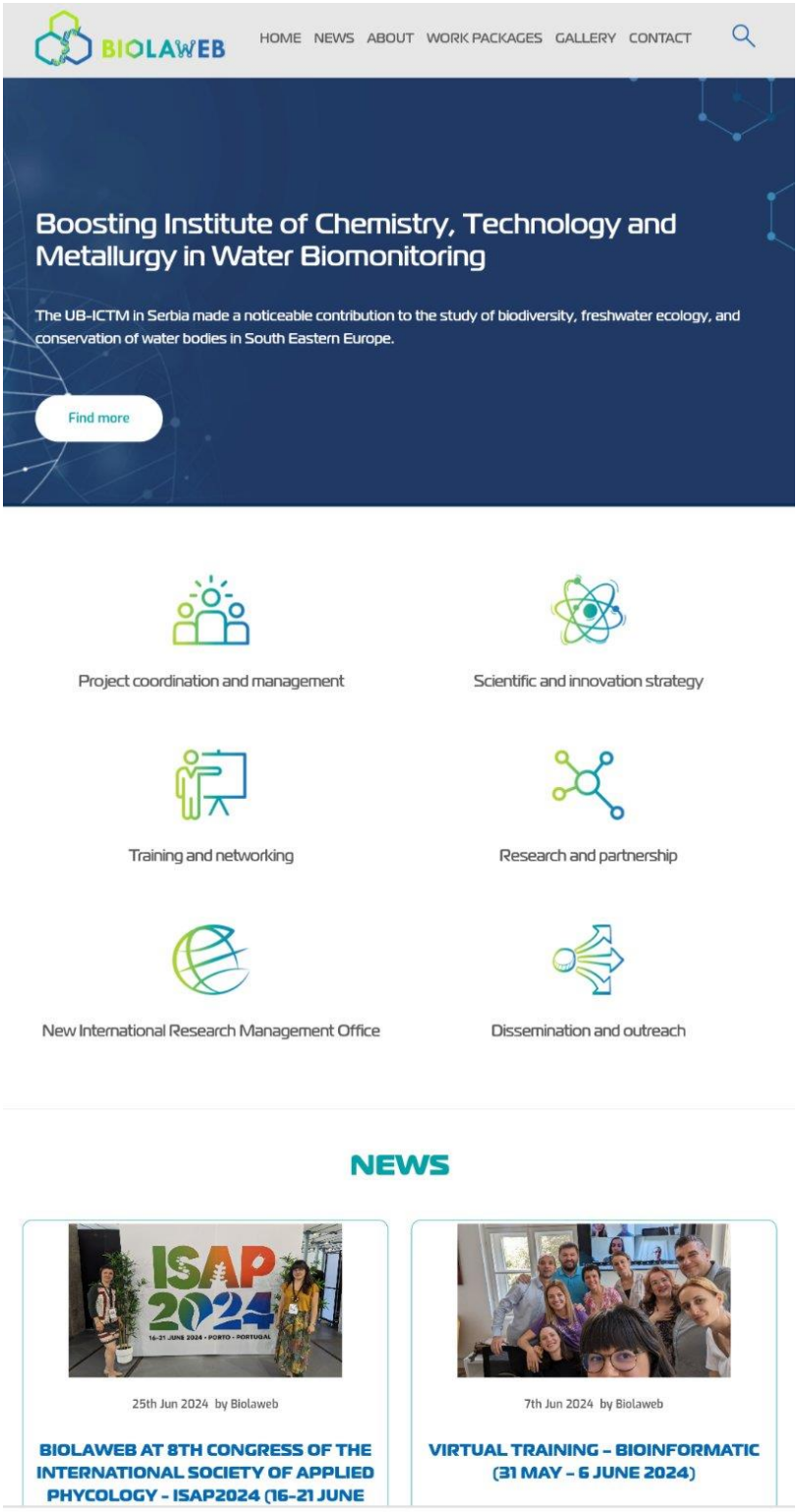

Figure 29. Screenshot of the BIOLAWEB project's webpage

Table 1. The analytics of the BIOLAWEB website (period Feb 2023 - July 2024)

Month	Number of visits	Unique visitors
February 2023	1116	646
March 2023	1128	715
April 2023	1111	698
May 2023	1244	791
June 2023	1220	759
July 2023	1313	792
August 2023	1236	853
September 2023	1444	954
October 2023	1454	905
November 2023	1379	881
December 2023	1395	930
January 2024	1566	1061
February 2024	1461	984
March 2024	1688	1133
April 2024	2173	1397
May 2024	1981	1393
June 2024	2014	1317
July 2024	1480	1124
Total	26403	17333

7.2 Social media

Social media are essential communication and dissemination tools with the potential to reach the broadest audience (researchers, students, different stakeholders, local and regional authorities, and the general public). BIOLAWEB's social media are where users should be able to find out more about the project, consortium members, events, and news.

Moreover, BIOLAWEB's social media will allow our team to follow the profiles of other projects, researchers, and institutions and establish a network for further cooperation.

Facebook, Instagram, X, Research Gate, and YouTube are visible project promotional platforms.

7.2.1 Facebook

The BIOLAWEB Facebook page (Figure 30) was published online on 3rd October 2022, together with an Instagram profile, and has been regularly updated since then (https://www.facebook.com/profile.php?id=100086646482373).

Using this communication tool, we have presented our project, our consortium, coordinating and partner institutions, announced the beginning of different events (e.g., kick-off meeting), announced the upcoming events (e.g., workshops, BgF Summer school), and published posts after every event and project activity. As a project that advocates for ecology, the environment, and gender equality, we will use the BIOLAWEB profile on social networks to promote these values by promoting international days (e.g., International Day of Women and Girls in Science, International Day for Biological Diversity, World Water Day). All realized project activities have

been regularly posted, contributing to better visibility and public awareness of the project, which increased the number of followers.

Since the BIOLAWEB Facebook profile was published, the number of followers has increased (from 125 to 171).

Most posts published on the BIOLAWEB Facebook page are shared on the UB-ICTM page (https://www.facebook.com/IHTM.Bgd).

The BIOLAWEB Facebook page will be updated regularly.

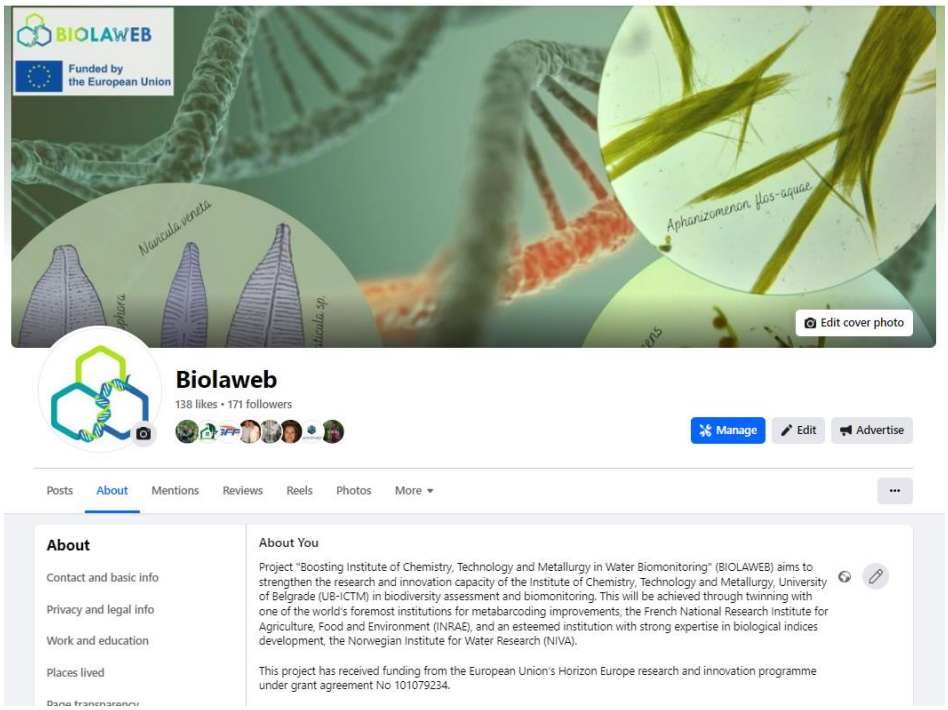

Figure 30. Screenshot of the BIOLAWEB project's Facebook page

7.2.2 Instagram

The Instagram profile (Figure 31) was published online with the Facebook page on 3rd October 2022 (https://www.instagram.com/biolaweb/).

As these accounts are connected, the same information that can be seen on the Facebook page will also be presented on the BIOLAWEB Instagram profile, e.g., information about the project, the consortium, coordinating and partner institutions, various announcements, and posts after each event and project activity. Also, various highlighted folders with posted Stories are available on the Instagram page.

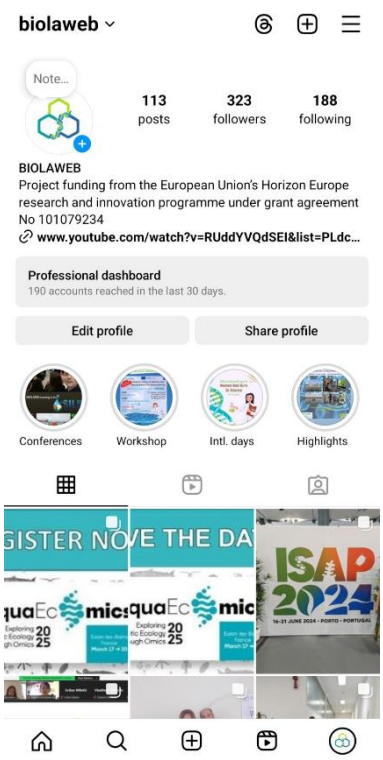

Figure 31. Screenshot of the BIOLAWEB project's Instagram page

Instagram is one of the most popular social networks among young people. Hence, the main goal of this social network is to bring BIOLAWEB activities to young people because they will likely engage in research and science if motivated enough and convinced that science participates in everyday life.

Since the BIOLAWEB Instagram profile was published, a significant increase in followers has been noticed (from 133 to 323).

The majority of posts published on the BIOLAWEB Instagram page are shared on the UB-ICTM Instagram page (https://www.instagram.com/ihtm.bg.ac.rs?igsh=MTQwZWI4dHRtcnl3aA==).

7.2.3 X

BIOLAWEB's X account (https://x.com/biolaweb) was published online on 19th October 2022 (Figure 32). Compared to Facebook and Instagram, which reach the broadest audience, X will allow "networking" with many relevant people and organizations working in similar areas as BIOLAWEB.

Since the BIOLAWEB X profile was published, the number of followers has increased (from 73 to 133).

Using this communication tool, we regularly present the most important general information regarding our project, activities, and events. BIOLAWEB's X account is linked with the BIOLAWEB website so that users can get additional information. However, posts on X are limited by the number of characters.

BIOLAWEB's X profile will be updated regularly.

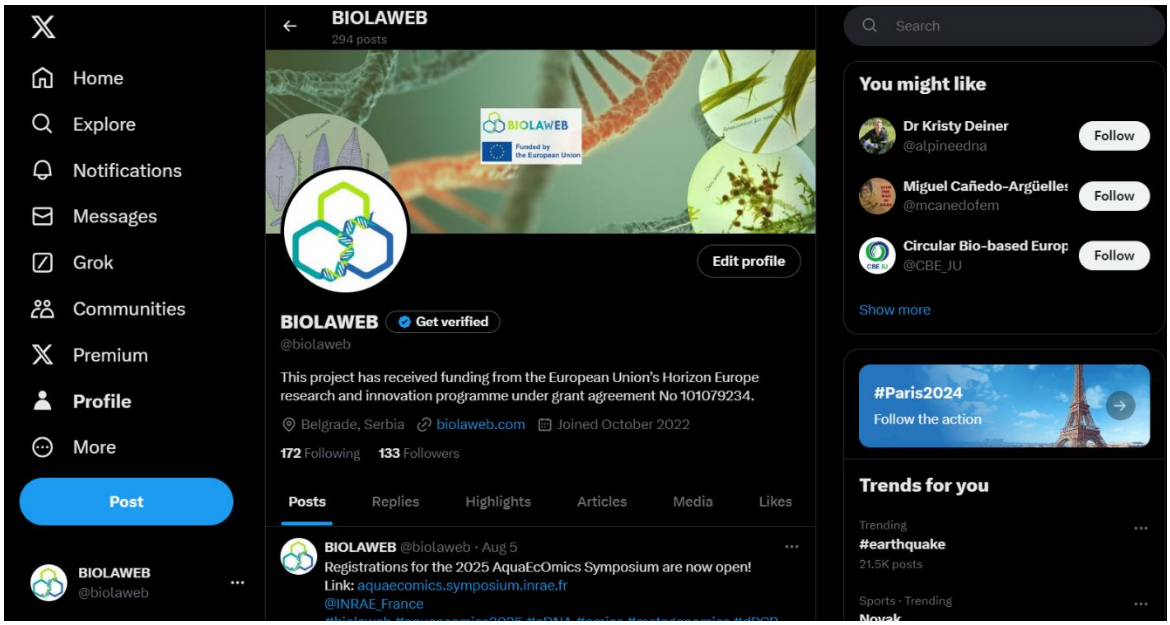

Figure 32. Screenshot of the BIOLAWEB project's X page

7.2.4 ResearchGate

BIOLAWEB ResearchGate profile (Figure 33) was published online on 26th October 2022 (https://www.researchgate.net/project/BIOLAWEB-Boosting-Institute-of-Chemistry-Technology-and-Metallurgy-in-Water-Biomonitoring). ResearchGate is recognized as the main place for online scientific and academic communication.

BIOLAWEB ResearchGate profile was retired on 31st March 2023 due to ResearchGate reorganization. Hence, BIOLAWEB will adjust its presentation on this platform under the possibilities (e.g., using researchers' profiles). BIOLAWEB scientific results will be open-access and visible on our ResearchGate profiles.

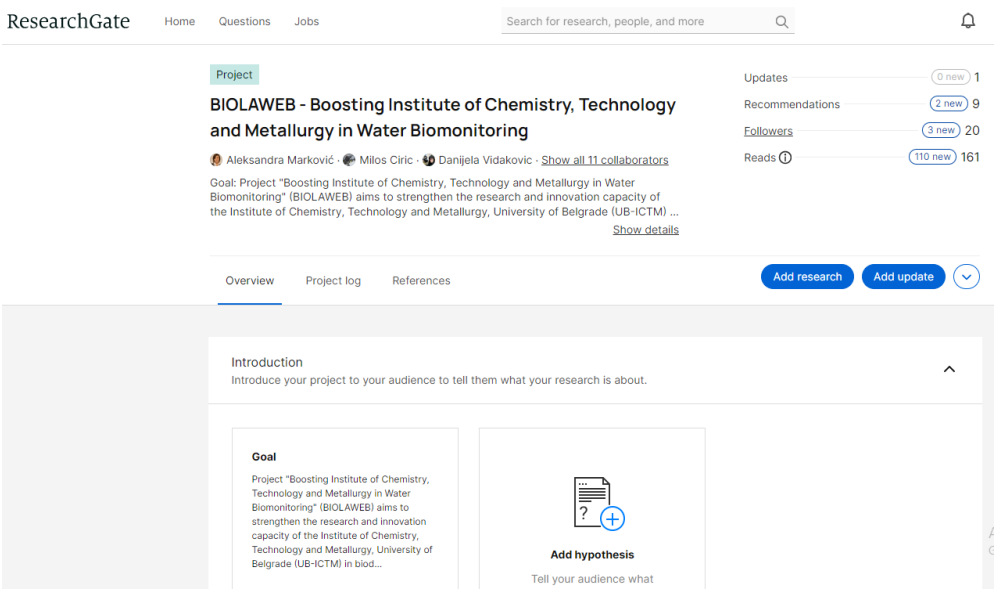

Figure 33. Screenshot of the BIOLAWEB project's ResearchGate page

7.2.5 YouTube

The BIOLAWEB project YouTube channel (Figure 34) was created on 14th December 2022 (https://www.youtube.com/@biolawebproject/featured) to promote the BIOLAWEB project results and activities. TV appearances and promotional videos presenting the project activities and results will be updated regularly.

Since the YouTube channel was created, we shared the first promo video related to the Kick-off meeting, 12 videos of the 1st Workshop regarding metabarcoding, and 4 TV presentations (ICTM and BIOLAWEB at TV station Studio B "Jutro sa Sanjom", BIOLAWEB at RTS' Educational-Scientific Program, BIOLAWEB experts in an exclusive interview for RTS' Edu global and TV show "Eco Perspective: The World in a Drop of Water").

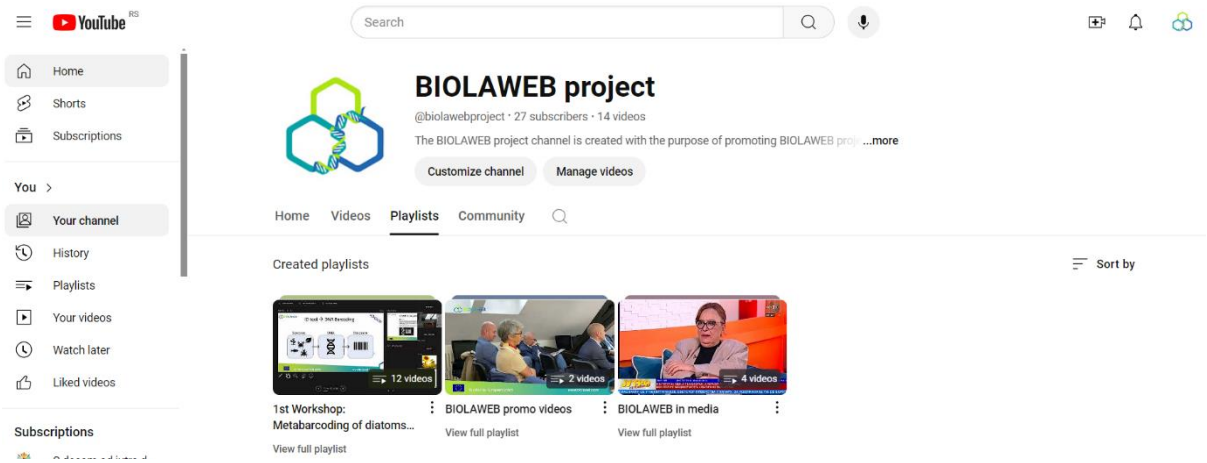

Figure 34. Screenshot of the BIOLAWEB project's YouTube channel

7.3 Promotional materials

To establish the project's visual identity and attract the target group's attention, promotional materials will be distributed and continuously updated during the BIOLAWEB events and activities. All promotional materials have a BIOLAWEB logo printed on them as a project's recognition and a European flag and funding statement, if possible, depending on the material's size and printing options. So far, BIOLAWEB's project promotional material, such as project brochures, pencils, notebooks, bags, USBs, key chains, etc. (Figure 35), was designed and printed during the first two months of the project before the first public event was organized (Kick-off meeting, 22nd - 23rd November 2022). In the following months of RP1, there were two more phases of preparing and printing the promotional materials.

Figure 35. Promotional materials used at the BIOLAWEB events

7.4 External Public Events

During the BIOLAWEB project's lifetime, participation in popular science events, such as the Science Festival and the European Researchers' Night, was planned. These events are open to the general public, and relevant stakeholders will be invited and involved, allowing BIOLAWEB messages to reach wider audiences.

So far, BIOLAWEB participated in the European Researchers' Night and the Science Picnic “Think Green”.

The European Researchers' Night was held on 29th September 2023 in the Museum of Science & Technology in Belgrade. The theme of the BIOLAWEB presentation was "The Wonderful World in a Drop of Water - from the microscope to DNA" (Figure 36).

Figure 36. European Researchers' Night in the Museum of Science & Technology in Belgrade

Science Picnic "Think Green" was held on 17th and 18th May 2024 at the Arboretum of Forestry Faculty in Belgrade. The theme of the BIOLAWEB presentation was "The Wonderful World in a Drop of Water" (Figure 37). The daily newspaper "Danas" announced BIOLAWEB's participation in Science Picnic: https://www.danas.rs/kultura/treci-naucni-piknik-pod-sloganom-misli-zeleno/

Figure 37. Science Picnic "Think Green" at the Arboretum of Forestry Faculty in Belgrade

Visitors of both events had the opportunity to learn about aquatic organisms such as macrophytes, phytoplankton, and diatoms, as well as fundamental chemical analyses and their importance in water biomonitoring.

We plan to participate in the festival "Tate i deca" ("Fathers and Children") (September 2024) and the Science Festival (December 2024).

7.5 TV appearances

To fulfill the goals of the Dissemination and Exploitation strategy, BIOLAWEB is using conventional communication channels to spread the significance of the project to the general public. TV station Studio B and national media outlet RTS' Educational-Scientific Program already presented the BIOLAWEB project and introduced the importance of monitoring the

ecological status of water bodies in Serbia and why cooperation and networking with other European scientific institutions is essential. During the first roundtable Dr Miloš Ćirić (UB-ICTM), Dr Susanne Schneider (NIVA), and Dr Frederic Rimet (INRAE) spoke to Serbia's national media outlet RTS (Radio Television of Serbia), TV show Edu Global, about the crucial role of water monitoring in Serbia. Also, RTS' Educational-Scientific Program (Edu Global) followed the summer sampling season of the BIOLAWEB project, shown by the show titled "Eco Perspective - The World in a Drop of Water".

The link for the TV station Studio B show "Jutro sa Sanjom": https://www.youtube.com/watch?v=91gGf8vC-FQ

The link for the National media outlet RTS' Educational-Scientific Program: https://youtu.be/b2iYQSCRRWw?t=680

The link to the interview for RTS' Edu Global: https://www.youtube.com/watch?v=n_Iwfg15RMk&list=PLdcHHeVPb7ARyvRR5KIVCvMhTkvNvVQn7&t=461s

The link to the show "Eco Perspective - The World in a Drop of Water": https://www.youtube.com/watch?v=RUddYVQdSEI&list=PLdcHHeVPb7ARyvRR5KIVCvMhTkvNvVQn7&index=6

We will continue using this communication method to disseminate our activities to the public.

7.6 Interview

The coordinator Dr Miloš Ćirić gave an interview for the daily newspaper "Politika" in which he presented the BIOLAWEB project and its importance for freshwater resources in Serbia. The link for the article: https://www.politika.rs/scc/clanak/529382/Do-zdravijih-jezera-uz-pomoc-Evrope.

8. Implementation of WP6

The overall implementation of the Dissemination and Exploitation Plan, with Communication Plan, is realized within WP6 – Dissemination and Outreach, led by UB-ICTM. Dissemination, exploitation, and communication activities are carried out over the entire duration of the project (M01 – M36). All planned events are coordinated with the consortium partners two months in advance and promoted at least one month before to gather participants from appropriate target groups.

8.1 Tasks

Activities in WP6, "Dissemination and Outreach," are divided into five tasks (Figure 38).

Task 6.1: Dissemination and Exploitation Plan (DEP) with Communication Plan. The DEP was developed with the document in hand. All consortium members will continue to discuss and develop the DEP throughout the entire project period.

Task 6.2: Communication resources and tools. Resources and tools are used to communicate and widespread awareness of the project and its results are promotional

materials, website, and social networks, all having the same distinguishable BIOLAWEB graphical identity and EU funding recognition.

Task 6.3: Generation of roundtables with relevant stakeholders. Roundtables are organized aiming to identify the needs and problems of all identified target groups.

Task 6.4: Field work with stakeholders. Further promoting the idea of joint collaboration, BIOLAWEB organized an excursion for stakeholders, during which the methods for ecological status assessment were discussed along with challenges and potential solutions for lake management.

Task 6.5: Scientific dissemination. BIOLAWEB researchers started presenting the project's scientific results at national and international conferences, and different workshops, and will finally publish the project results in international journals.

BIOLAWEB		FIRST YEAR												SECOND YEAR												THIRD YEAR											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
WP6	Dissemination and outreach																																				
T 6.1	Dissemination and Exploitation Plan (DEP)																																				
T 6.2	Communication resources and tools																																				
T 6.3	Generation of roundtables																																				
T 6.4	Field work with stakeholders																																				
T 6.5	Scientific dissemination																																				

Figure 38. WP6 Timeline

8.2 Deliverables

There are four main deliverables within WP6:

D6.1 Project website and social media (due month: 2); finalized and submitted to the EC

D6.2 Dissemination and Exploitation Plan (due month: 6); finalized and submitted to the EC.

D6.3 Updated Dissemination and Exploitation Plan (due month: 24);

D6.4 Proceedings of scientific conferences (due month: 36);

9. Monitoring of impact

Dissemination and Exploitation Plan, including measurement of dissemination success, is carefully monitored throughout the project to ensure that the BIOLAWEB's objectives are fulfilled (Table 2). UB-ICTM, as WP6 leader is continuously monitoring dissemination and communication strategy and measuring through quantitative indicators of each activity (e.g., number of followers on social networks, number of website visits, number of participants on different events, number submitted manuscripts, etc.).

Table 2. Indicators for monitoring dissemination and communication activities

BIOLAWEB objectives	Dissemination tools	Measurement of dissemination success
Objective 2. To significantly raise and scale up UB-ICTM's staff competence and knowledge on how indices for the EU WFD are developed, intercalibrated and applied	Workshops, summer school, virtual trainings	Number of participants
Objective 3. To raise the competence and skills of UB-ICTM researchers in DNA-based biomonitoring methods		Number of countries involved
Objective 4: To scale up and develop new approaches in the field of biomonitoring through joint research	Open-access scientific peer-review journal	Number of submitted manuscripts
	Proceedings of (inter)national conferences	Number of abstracts
	On-line repository	Number of abstracts and articles downloads
Objective 5: To set up a fully operational International Research Management Office at UB-ICTM	Leaflets, guidelines for HE calls application	Number of informed researchers/students
	ppt, seminars, webinars	Number of involved researchers/students
	(On-line) meetings, workshops, staff exchanges	Number of contacted ICPOs/individuals
	Google drive	Number of downloads
Objective 6: To considerably enhance strategic networking	Website	Number of visits
	Social networks	Number of followers, likes, etc.
	Roundtables	Number of involved entities
	Common field work	Number of involved entities

10. Dissemination responsibilities

The primary responsibility of the Project Coordinator (UB-ICTM, Dr Miloš Ćirić) and the WP6 leader (UB-ICTM, Dr Danijela Vidaković) is dissemination activities and policies.

It is the responsibility of the coordinator and WP leader to:

- lead the development of the Dissemination and Exploitation plan (DEP)
- identify events where the project and its results can be presented

- control and monitor all project presentations, publications, reports, and deliverables
- make recommendations on which information is suitable for dissemination

Project partners:

- contributed to the dissemination and exploitation plan and suggested modifications where necessary
- actively contribute to discussions on how and which information to disseminate
- Use their institutional dissemination channels to disseminate information on BIOLAWEB where this is deemed beneficial

11. References towards EU/EC/Horizon 2020

Communication (including media relations, conferences, seminars, and information material, such as brochures, leaflets, posters, presentations, social media, etc.), and dissemination of BIOLAWEB project activities (publication, proceedings, protocols, etc.) **acknowledge EU support and display the European flag (emblem) and funding statement.**

The EU flag (Figure 3) was not modified by adding other visual marks, brands, or text. When displayed in association with other logos (e.g., leading or partner institution), the emblem is displayed at least as prominently and visibly as the other logos. All allowed flag options with the funding statement are downloaded from the following link: https://ec.europa.eu/regional_policy/information-sources/logo-download-center_en

The funding statement “Funded by the European Union” and the EU flag are included in all official project documents. Additionally, the statement “This project has received funding from the European Union’s Horizon Europe research and innovation programme under grant agreement No 101079234.” is used where appropriate.

Any communication or dissemination activity related to the project uses factually accurate information and indicates the following disclaimer:

LEGAL NOTICE Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA)/European Commission. Neither the European Union nor the European Research Executive Agency (REA)/European Commission can be held responsible for them.