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**ACTIVITY 1.4**  
**REPORT OF REGIONAL WORKSHOP**  
**NERETVA RIVER DELTA**

**DATE:** May 16, 2025

**TIME/DURATION:** Four hours (9:00 a.m - 1:00 p.m)

**PLACE:** Center for Entrepreneurship Ploče; Address: Crna rika 7a, Ploče, Croatia

**NUMBER OF PARTICIPANTS:** 23

**REPRESENTED SECTORS/ORGANIZATIONS:**

- Public institution for the management of protected natural areas of Dubrovnik-Neretva County (4 representatives)
- Hrvatske vode, Legal entity for water management (1 representative)
- Geonatura ltd (1 bat expert)
- Association "Hyla" (1 insect expert)
- Faculty of Science, Zagreb; Department of Biology (2 representatives)
- Biota ltd. (1 amphibian expert)
- Dubrovnik- Neretva County (1 representative)
- The Regional Development Agency of Dubrovnik-Neretva County (1 representative)
- Center for entrepreneurship Ploče (1 representative)
- Association « Grk leut » (1 representative)
- City of Ploče (1 representative)
- Development agency of City of Ploče (2 representative)
- Adelante, small business (1 representative)
- Association "Malo more" (1 representative)
- Association "Ponosno naše" (1 representative)
- Association "Vipera" (1 representative)
- Fisheries local action group "Malo misto" (1 representative)
- Nature & Adventure (1 expert facilitator)



## SHORT SUMMARY OF THE EVENT:

On Friday, May 16, 2025, from 09:00 a.m. to 1:00 p.m., the first of two workshops took place in Center for Entrepreneurship Ploče located at Address: Crna rika 7a, Ploče, Croatia. The objective of this workshop was to bring together stakeholders interested in sharing practices for landscape governance and addressing the challenges of climate change, particularly those relating to water stress in the Neretva River delta.

During the workshop, the project's results to date were presented. Through group work and guided discussion, the impacts of climate change and how to adapt to them were analysed. A total of 23 persons, representatives of 18 different institutions/organizations/individuals participated in the first workshop.

## DETAILED REPORT

### • WELCOME AND INTRODUCTION

On behalf of the organizers and the BePrepARed project, the representative of the Public Institution for the Management of Protected Natural Areas of Dubrovnik-Neretva County (PI Priroda DNC) welcomed the workshop participants and introduced the facilitator, who then took over the facilitation of the workshop. Other participants/stakeholders introduced themselves by answering questions: who are they, which organization and/or institution they represent and how they are related to the workshop theme. In addition, the workshop rules as well as the presentation of the agenda were proposed.

### • PLENARY SESSION

Four presentations were held during the plenary session.

At the beginning, the PI Priroda DNC representative presented the project objectives and the characteristics of the Neretva River Delta pilot site. She also presented the pressures and threats to values, as well as an overview of the impact of climate change on different sectors, such as water resources, agriculture, fisheries, aquaculture, and biodiversity. The importance of developing an Action Plan for Adaptation to Climate Change was emphasized, as was the need for civil, public, and private sector actors to work together to implement adaptation measures. In addition, the participants were informed about the bePrepARed project activities that have been carried out so far (act. 1.1, 1.2 and 1.3), the ongoing research on biodiversity in the Neretva Valley, and the plan for additional stakeholder engagement, which includes one workshop more and three meetings.

The presentation "Impact of climate change on insects in the Neretva delta" was given by an expert with many years of experience and good knowledge of local ecological conditions. Participants were able to hear more about rare and endangered species, relict species, natural colonizers, and invasive insect species. The conclusion of the research so far is that the Neretva River Delta represents an exceptionally valuable natural heritage of the Republic of Croatia and requires a proactive approach to preserve it. Systematic monitoring of indicator insect groups is crucial for the timely recognition of changes to the ecosystem and for the more effective prediction and mitigation of the consequences of climate change.



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The presentation, “The impact of climate change and anthropogenic impact on green frogs in the Neretva Delta,” highlighted the important issue of biodiversity loss, with a focus on amphibians. The presentation covered the basic ecology of the green frog living in the Neretva Delta and the strong negative impact of climate change. The additional anthropogenic impacts on the Neretva were also highlighted, including intensive agriculture, reduced freshwater inflow, salinization, and the construction of hydrotechnical projects in the upper reaches of the river. The main consideration of the presentations is that the accelerated changes to the Neretva Delta, whether natural or human-induced, significantly impact the fauna. The reduction in freshwater and the intrusion of saltwater are having a negative impact on the narrowing reduction or disappearance of freshwater species.

As part of the presentation “The impact of climate change on bats in the Neretva delta” given by an expert, participants were able to hear more about diversity of bat fauna in the Republic of Croatia, bat ecology – life cycle, shelters, hunting habitats, migrations, methods of bat monitoring, bat fauna in the Neretva Delta, Conservation status of bats in the Republic of Croatia and impact of climate change.

The key impacts of climate change that have been identified are:

- changes in microclimatic conditions within underground and aboveground shelters;
- loss of suitable shelters in the event of further intensification and increasing frequency of extreme weather conditions;
- more pronounced dry periods resulting in prolonged drying of an increasing number of ponds, important sources of drinking water;
- bats are sensitive to temperature increases, due to the ratio of body surface area to volume (wings), they are prone to dehydration, and long periods of drought can also affect the reproductive success;
- possible changes in behaviour that are conditioned by weather conditions;
- changes in the geographic distribution of species are predicted, resulting in changes in species diversity and competition, and consequently in entire ecosystems;
- since bats play a key role in maintaining ecological balance as natural pesticides, serious cascading ecological consequences are possible (e.g. *increased dependence on chemical pesticides in agriculture*);
- a significant reduction in the range of most Mediterranean bat species is predicted by 2050.

The recommendations resulting from the presentations relate to the implementation of conservation measures. These include protecting bat hunting habitats and rookeries, as well as establishing international monitoring, with a particular focus on the most vulnerable species.





## WORKING GROUP ACTIVITIES

To consider the location needs and usual communication methods, adjustments have been made to the project workshop protocol for working group activities. Thus, it was suggested that activity 1 be conducted through discussion within a small group, and activity 2 as a panel discussion method.

### ACTIVITY 1

The facilitator explained the aim of the work and the working method at the beginning. To consider the opinions and needs of different stakeholders, the participants were divided into three groups, with representatives of different sectors in each group. Each group was assigned two or three discussion questions. Participants in groups 1 and 2 discussed the impacts of climate change, while group 3 focused on proposing adaptation measures. Each group was represented by one person, who was tasked with documenting the answers and proposals. These representatives then presented the gathered information to the rest of the group.

#### Question Group 1

What are the main climate change risks affecting your area? What are the main climate change risks/consequences related to water management in your area?

#### Question Group 2

Which economic sectors present in your area are most affected by water-related climate change risks? Which elements or factors in your area do you consider most vulnerable to climate change risks affecting water?

#### Question Group 3

What actions do you consider to be priorities for preserving water resources in your area? What adaptation measures do you consider necessary to reduce the risks of climate change affecting water?

### ACTIVITY 2- PANEL DISCUSSION

To define the urgency as well as the importance of the results that emerged from Activity 1 using the *Eisenhower matrix*, the participants chose a panel discussion as the method.

#### EISENHOWER MATRIX FOR ASSESSMENT OF CLIMATE CHANGES IMPACTS:

##### High impact / frequent exposure

- disappearance of wetlands
- disappearance of pollinators
- salinization of Neretva valley waters
- pesticides, temperature changes, diseases
- impact on the life and health of the valley's inhabitants (*heatstroke, infectious diseases, malignant diseases*)
- changes in the hydrological regime of the Neretva River
- invasive aquatic species



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- soil salinization
- agricultural disasters
- availability and quality of freshwater as a habitat
- inability to irrigate agricultural areas
- increased water demands
- increase in air and water temperatures
- decrease in biodiversity
- impact on the local economy / agriculture, fisheries, tourism, water management)
- economic and business damage (agriculture, property, etc.)

### High impact/ rare exposure

- increased risks of water-related natural disasters/ extreme weather events (floods and droughts)
- sea level rise
- change in precipitation regime

### Low impact/ frequent exposure

- changes in water quality and quantity
- increased energy consumption

### Low impact/ rare exposure

- impact on food choices in local gastronomy
- reduction of agricultural areas

## EISENHOWER MATRIX FOR ACTIONS AND ADAPTATION MEASURES:

### Urgent / important

- raising awareness of the issue of hydropower plant construction in Bosnia and Herzegovina (national and EU level)
- maintaining meadows and grasslands (mowing, livestock farming, controlled burning)
- controlled water consumption
- organic farming
- building a mobile dam to prevent salinization of the Neretva River
- habitat restoration
- preservation and protection of wetlands
- cross-border cooperation
- revitalization of watercourses
- establishing research
- increased supervision of inspection services
- networking, exchange, and availability of data
- declaring the lower Neretva a protected area



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**Not urgent / important**

- reducing the area under monocultures
- planting species that are more resistant to drought
- requirements for improved water management

In addition to the above analysis, participants reflected on the challenges and potential obstacles that could be encountered when implementing some of the solutions. They identified the following common obstacles: unresolved property relations in the Neretva valley, a lack of cross-border cooperation, and the inertness of institutions.

- **WORKING GROUP CONCLUSION**

At the end of the workshop, an oral evaluation of the workshop was conducted, in which all participants expressed the need for continued cooperation and joint action. It was agreed that the second stakeholder workshop will be organized in September or October 2025 in Metković. The topics for the next workshop will be defined once the project partners have provided their guidelines.



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