

Prospects for Ecological Station Vrlika

Business Plan and Recommendations for Increasing its Visibility and Sustainability



Norwegian
University of
Life Sciences



WatNex

Skolevegr
Liechtenstein
Norway
Norwegian grants

Bilateral initiative Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex) is financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants.

Authors of the Document

Mirela Sertić Perić

Associate Professor, University of Zagreb, Faculty of Science, Department of Biology, Zagreb, Croatia

Vesna Gulin Beljak

Research and Teaching Assistant, University of Zagreb, Faculty of Science, Department of Biology, Zagreb, Croatia

Agnieszka Cuprys

Postdoctoral fellow, Norwegian University of Life Sciences, Faculty of Science and Technology, Ås, Norway

Hetty KleinJan

R&D researcher, The CEBEDEAU, Research and Expertise Centre for Water, Liège, Belgium

Thibault Moreels

Water Supply Engineer, De Watergroep, Brussels, Belgium



Norwegian
University of
Life Sciences



WatNex

Budowa [NL] - [NL]
Liechtenstein Norway
Norway grants grants

Bilateral initiative Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex) is financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants.

The authors of this report are participants of the Bilateral initiative **Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex)** financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants, and of the **European Junior Water Programme (EJWP)**.



The **WatNex** initiative aims to empower a multidisciplinary network of experts and stakeholders working on water, energy, and food sustainability by raising their awareness on the importance of biodiversity and ecosystem functioning in the context of climate change in Water-Energy-Biodiversity-Climate-Food Nexus (in short Nexus) systems in the coming decades.

The initiative aims to expand and strengthen the Nexus in regions where the WatNex facilities and/or funding are scarce compared to European standards. Furthermore, the initiative aims to support involvement of underrepresented stakeholders (e.g., junior and/or female experts on biodiversity and climate) in future Nexus actions. Another important goal of the initiative is to provide professional skills development and personal development training to initiative participants, to assist them as future leaders of similar future initiatives that are urgently needed to underpin economic growth with less energy and water consumption to address regional and global environmental concerns.



The **European Junior Water Programme (EJWP)** is H2OPeople's flagship programme. Through an integrated two-year part-time programme, the EJWP provides young European professionals from water and other related sectors (2 - 10 years of experience / < 40 years old) with the necessary skills to address new water and climate challenges.

The EJWP enables the development of key competencies for the future by using the three pillars of EJWP development:

1) Knowledge creation and transfer:

Master classes on European policies, water technology and innovations, and primary water challenges - including local water projects of participating organisations

2) European networking opportunities through building an EJWP community:

Integration in Water Europe, EJWP ambassadors and participation in events

3) Development of personal and professional skills in international teams:

Emphasis on cultural awareness and diversity in project tasks

EJWP specialists provide training on the following topics:

- Personal and communication development
- Co-design strategies and evaluation
- Project and self-management
- Leadership and pro-active strategies
- Skills of the future century for sustainability

For more information, please contact: info@juniorwaterprogramme.eu



Acknowledgments

The authors of this document would like to thank the Head of the Department of Biology (University of Zagreb, Faculty of Science) Prof. Sandra Radić Brkanac, PhD; the Deputy Head Assoc. Prof. Silvija Černi, PhD; and the Head of the Ecological Station Vrlika Prof. Perica Mustafić, PhD for their support in conducting this initiative/case study. A special thanks go to Prof. Perica Mustafić, PhD; Antonio Nieto Rodríguez and Assistant Professor Petra Radeljak Kaufmann, PhD, for conducting masterclasses for the authors of this document during its development. A big thank you also goes to Prof. Sanja Gottstein, PhD, for her support to Mirela Sertić Perić and Vesna Gulin Beljak in their participation in the EJWP programme. The authors of this document would also like to thank the Croatian Association of Freshwater Ecologists (CAFE) and Department of Biology of the Faculty of Science for financial support, and Matea Orešić and Ivana Alpeza for logistical support in organizing the WatNex team meeting in Zagreb, Croatia, September 25-29, 2023. The bilateral initiative "Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness" (WatNex) is funded by the Fund for Bilateral Relations of EEA Grants and Norway Grants.



Bilateral initiative Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex) is financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants.

Table of Contents

Executive Summary	1
Ecological Station Vrlika Facility Description & Background (Landscape, Biodiversity, History, Heritage)	3
Facility Description	5
Vrlika – Landscape and Biodiversity	6
Vrlika – History	8
Vrlika – Heritage	11
Ecological Station Vrlika – Site Management	13
Functions of the Ecological Station and Regulated Use for Educational Activities	14
Income and Costs of the Ecological Station	16
Ecological Station Vrlika within the Framework of the WatNex Initiative (WatNex Planning Efforts)	19
Stakeholder Mapping	22
Market Analysis	23
Anticipated Financial Benefits of Implementing Educational Programmes for Primary Schools at the Ecological Station Vrlika.....	25
Anticipated Non-Financial Benefits of Implementing Educational Programmes for Primary Schools at the Ecological Station Vrlika.....	30
Proposing Stakeholder Engagement Strategy.....	33
Conclusions & Recommendations	34
Supplementary Material	39



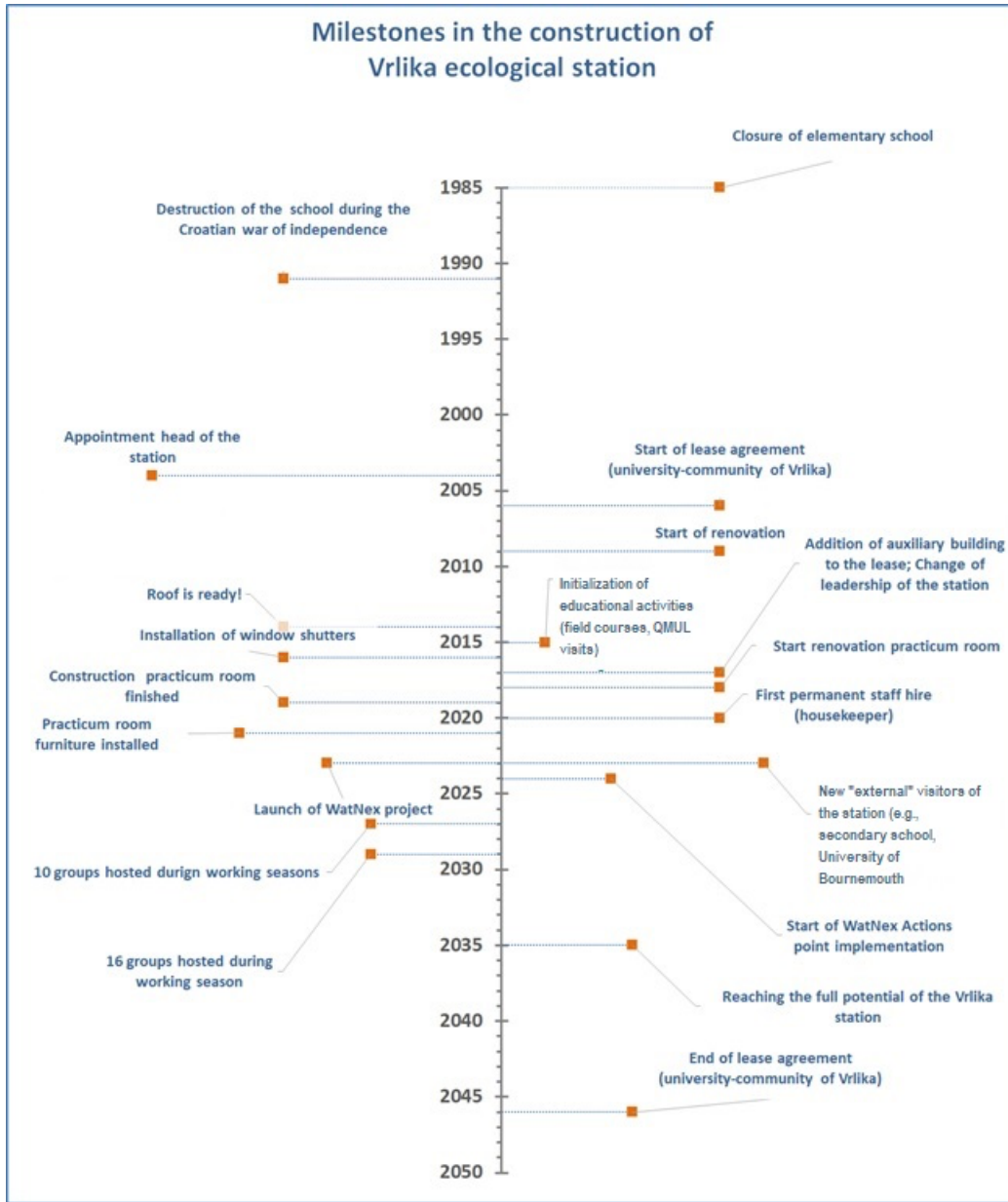
Executive Summary

The Ecological Station Vrlika, located in the village of Ježević, near Vrlika in Croatia, was originally established to support field courses for the Department of Biology at the University of Zagreb. However, as the Department faces financial constraints due to reconstruction after the 2020 earthquake, the Station could serve to generate revenue for the Department and become a model for sustainable practices. The area around the Station is rich in biodiversity and surrounded by historical and geographical attractions. Given the growing interest in natural and cultural heritage and eco-tourism, there is great potential for collaboration and co-creation. To maximize its potential, the Station could engage with the local agricultural community to promote rural tourism. While this offers the opportunity to increase the sustainability of the station, the challenge is to educate and engage the less educated rural population. As part of the WatNex initiative, the authors of this report sought to explore how to: i) increase the financial benefits of the Station's educational activities involving local people over a five-year period; ii) set an example of sustainable practices in the Station's use; iii) develop a business plan for educational activities and visits that would promote scientific literacy and understanding of nexus systems, particularly among primary school students and teachers. Based on an analysis of 25 case studies of ecological stations worldwide and stakeholder mapping, primary schools were identified as key partners. Primary schools could use the Station for mandatory educational activities supported by the Department of Biology and other faculty departments. This collaboration would not only increase the Station's visibility and sustainability, but also provide several financial and non-financial benefits to the Department by offering educational packages tailored to primary school needs. Along with the business plan that proposes to transform the Ecological Station Vrlika into a hub for educational youth tourism center focused on providing tailored *School in Nature* educational programs for primary school students, the authors of this report present several recommendation steps for launching these activities that, when implemented, can expand the Station's reach, increase its impact on environmental conservation, and become a beacon for education and engagement.



WatNex

Budweis
Liechtenstein
Norway
Norway grants grants



Graphical abstract. A timeline showing the development of the Ecological Station Vrlika and the plans for its sustainable use and development in the future (Author of the figure: H. KleinJan)



Bilateral initiative Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex) is financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants.

Ecological Station Vrlika Facility Description & Background (Landscape, Biodiversity, History, Heritage)

Ecological Station Vrlika is located in the village of Ježević, hamlet of Vučemilovići, near the town of Vrlika, in the northernmost part of Splitsko-dalmatinska County (Fig. 1). It can be reached by car: from the city of Zagreb via the A1 highway, exit Sveti Rok and then via the state road D50 or from the nearby city of Split via the state road D1 (Fig. 2). The old school, damaged during the Homeland War (1991 to 1995), was renovated in 2009 and put to a new use as an ecological station. It was originally intended as an accommodation and educational facility for conducting field courses for students of the Department of Biology of the University of Zagreb, but over time it proved to be a suitable facility for conducting field courses for students of other departments of the University of Zagreb as well.

The motivation to establish the station was based on the following facts and the previous experience of the faculty and the management of the Department of Biology:

- ❑ Croatia is a tourist country
- ❑ Hotel accommodations for student excursions were becoming more expensive every year, making them increasingly unaffordable for students with tight budgets
- ❑ Finding the most affordable accommodations for biology student field courses/trips took too much time (i.e., it was exhausting and time-consuming for field course organisers)
- ❑ The annual change of field course location required additional preparation on the part of teachers/field trip organisers
- ❑ Handling organisms (e.g., snakes and lizards) collected during the field courses and preserving them in ethanol and formalin solutions caused inconvenience for hotel staff (therefore, hotels were not really willing to accept students for the field courses/trips)
- ❑ The area around Dinara mountain was insufficiently explored. With the establishment of the Ecological Station in this area, it became a base for various types of research and for increasing knowledge of the flora and fauna of the area.



WatNex

Isle of Man
Liechtenstein
Norway
Norwegian grants



Figure 1. Location of the Ecological Station Vrljika (Author of the map: T. Moreels)

- IN the Dinara Nature Park
- 7 km to the source of Cetina
- 11 km to Ćulum’s Cave
- 23 km to the source of Krka
- 45 km to the source of Zrmanja
- 45 km to Split
- 52 km to Šibenik (NP Krka)
- 73 km to the Vrana Lake Nature Park
- 125 km to Plitvice Lakes National Park



Figure 2. Location of Ježević, the village where the Ecological Station Vrljika is located, and its distance from some natural areas and surrounding larger towns (Author of the figure: P. Mustafić)



Facility Description

The capacity of the Ecological Station Vrlika (**Fig. 3**) is 50 beds. The building itself is divided into 2 parts:

- 1) the first larger one is intended for students and includes a total of 42 beds split into 3 rooms (28 + 8 + 6 beds; first floor), a large common room (ground floor) for study/practical work/dining, which includes a fully equipped kitchen (2 refrigerators, 2 ovens, 2 dishwashers) and a bathroom (3 toilets, 4 showers; also ground floor);
- 2) the second, smaller part is intended for teachers/group leaders, has a capacity of 8 beds (within 2 rooms), and also contains a separate living/studying/dining room/kitchen and toilet/bathroom.



Scan the QR code for a video
about the facilities and
surroundings of the Ecological
Station Vrlika

There is a grocery store near the Ecological Station, and it is surrounded by largely untouched nature, with few households and farmland owned by local people (**Fig. 3**).

The Ecological Station is equipped with basic laboratory and field equipment (microscopes, keys for determining plants and animals).





Figure 3. Ecological Station Vrlika and its surroundings (Photos: M. Sertić Perić)

Vrlika – Landscape and Biodiversity

The territory of Vrlika, one of the youngest towns in Splitsko-dalmatinska County, is located deep in the Dalmatian hinterland, beyond the reach of maritime influences, and covers an area of 243.83 km², i.e., the town of Vrlika and eight other settlements that nestle next to it: Garjak, Ježević, Koljane, Kosore, Maovice, Otišić, Podosoje and Vinalić. The village Ježević, where the Ecological Station is located, is 9 km northeast of Vrlika.

Vrlika is situated at an altitude of 425 m above sea level, but under its administration are also the high mountain areas of Svilaja and Dinara, which are separated in this belt by a series of karst fields – Cetinsko and Paško in the north and the slightly larger Vrlika polje, which is located further south, as well as the Cetina River and the Peruča reservoir.

Cetina, the longest Dalmatian river, begins its 105 km journey to the sea at the foot of Dinara, where it rises from several springs - the Cetina spring at 380 m above sea level (Fig. 4), of which the three most productive are: the largest, Milaševo vrilo, then Vukovića vrilo and Batica vrilo (all three belong to the neighboring Šibensko-kninska County). The river flows along the eastern edge of the field, and after 25 km the calm river is stopped by the Peruča dam, built in 1958 for the needs of the hydroelectric power plant.





Figure 4. The largest spring of the Cetina River (Glavaš), explored to a depth of 115 metres (Photo: M. Sertić Perić)

From the magnificent mountain massifs of Dinara and Svilaja, from whose pastures, depressions and forests people once lived, to the lowlands of Vrlika, blessings of a different kind are emanating today - mountain heights and expanses are becoming desirable destinations for followers of ecologically oriented and adventurous tourism, numerous natural mountain habitats and individual plant and animal species that inhabit them are recognized for their special value, which is why Dinara as a whole has been included in the European ecological network Natura 2000.

In February 2021, this area was declared a nature park (Dinara Nature Park). The name probably comes from the Illyrian tribe of Dindari, who used this mountain as a herding mountain. Dinara is the highest mountain in the Republic of Croatia, and at its foot the first Croatian state was founded. Today, Dinara is in a way a symbol of Croatian statehood.

The Dinara Nature Park includes part of the Dinara massif in the wider sense (Dinar, Troglav and Kamešnica), the source and upper reaches of the Cetina River, and the karst fields along the Cetina River. In terms of landscape, this area is characterized by the contrast between the water-poor high mountain karst area with often steep and inaccessible cliffs, but also extensive



mountain pastures, and the river Cetina, along whose course moist, fertile, and life-rich karst fields have formed.

The valley through which the Cetina flows, in some places along its course, still provides habitat for plant and animal species typical of endangered habitats - wet grasslands and swamps in the Dinaric karst fields. In addition, the areas along the Cetina in the Vrlika area are home to bird species whose nests are the only ones on Croatian territory, namely the common redshank (*Tringa totanus*) and the moustached warbler (*Acrocephalus melanopogon*).

The village Ježević, where the Ecological Station is located, is 9 km northeast of Vrlika. The parts of the settlement are several hamlets on the northeastern edge of Lake Peruča: Božinovići, Žeravice, Dražići, Modrići, Kaselji, Vučemilovići, Ćorići, Milani, Plazonići, Forići, Budiše, Duvnjaci and Marinci. It is known that the inhabitants went on pilgrimage to the church of St. Rescue on Cetina. Because of the difficulties and prevention of the pilgrimage between 1967 and 1969, they built their new church of St. Rescue, which was destroyed by the Chetniks during the Homeland War. After the Homeland War, a new church was built in the same place.

Vrlika – History

The oldest traces of human life in this area date back to the Palaeolithic period (about 30,000 BC). Not far from the source of the Cetina, in the Gospodska peća north of the village of Milaši, fragments of a ceramic bowl and a bone awl were found. The spring and the protected habitat (cave) have always attracted people in the oldest period of history. Shepherds, carriers of copper and bronze culture, formed a prehistoric cultural group, the Cetinska culture (between 1900 and 1600 BC). In the area of Vrlika, numerous traces of this culture have been found near castle settlements and burial mounds (tumuli) with graves. Castle Baleč (Vinalić), Vlaka (Otišić), a cave near Otišić where valuable finds were made: prehistoric bronze sword, prehistoric jewellery, etc. According to the findings from the Bronze Age, it can be said that the entire area of the Vrljic region was very densely populated in the Copper Age.

In the late Bronze Age, this region was inhabited by the Illyrian tribe of Delmati, who were not only shepherds but also excellent warriors and resisted the attacks of the Roman invaders for a long time. In the 9th year AD. Chr. they were, however, conquered by the superior Romans and the province of Dalmatia was established. The subjugation and Romanization of the Delmata took place slowly, as the pastoral population held on to traditions more than the rural population who lived in the lowlands. Nevertheless, the strong Roman presence and organisation is evidenced by numerous archaeological sites where valuable and numerous ancient objects have been found (Koljani, Kukru, Matkovina, Vinalić, Stražina). With the weakening of the Roman Empire, the area of Vrlika came under the influence of barbarian tribes who plundered and conquered it and



WatNex

Isleland 056-05
Liechtenstein Norway
Norway grants grants

introduced a new system of government in new settlements. Modest remains from this period testify to the presence of the Germanic Goths (5th century AD). From the 7th century onwards, Avarian, Slavic and Croatian finds appear in the graves.

The town of Vrlika was first mentioned in written sources in 1069 as the seat of the municipality of Cetinje, an ancient Croatian municipality that included the following villages: Glavaš, Prozor, Sinj, Trilj, Stolac, Gradac, Nutjak, Tugare and Poljička župa. Of the five Old Croatian municipalities (Imotska, Zminjska, Kliška and Dridska) located on the territory of today's Splitsko-dalmatinska County, the municipality of Cetinje was the largest. In the Middle Ages, a chain of fortresses was built on its outskirts, marking the borders of the surrounding municipalities. Thus, near the municipality of Imot, the fortress Čačvina was built, in the south, towards Kliška, the fortress Nutjak, and in the north, towards the municipality of Knin and the road to Bosnia, the fortress Glavaš. In the period between the 10th and 11th centuries, the northern part of the municipality of Cetinje was divided into an independent municipality - Vrlička, which bordered the municipality of Knin to the north and the municipality of Cetinje to the south (near today's Dragović Monastery).

Above the settlement, on an inaccessible rock, rises the medieval fortress of Prozor, which dominates the village and the view of the wider surroundings. It was first mentioned after the Turks invaded the village of Vrhrike (Cetina) and the inhabitants of that time fled to the Prozor fortress built by Hrvoje Vukčić Hrvatinić. Later, the same defectors founded a settlement below the fortress and gave it the old, but slightly changed name Vrlika. Vrlika was not a castrum - a fortified town like Glavaš and Prozor, but its location was naturally protected by water. In the second half of the 15th century, because of the frequent incursions of the Turks through the Uništa gorge, the inhabitants of the center of old Vrlika fled to the area of the municipality of Vrlika to the fortified town of Vrlika ("Castrum Werhlychky"). This town is actually the town of Prozor, which King Ladislav of Naples gave to the inhabitants of Vrlika in 1406.

From 1805 to 1813 Vrlika was under French administration. In 1811, the municipality of Vrlika was established and belonged to the district of Knin (Šibenik district). In 1822 Vrlika was still a municipality, but this time under Austrian rule and belonged to the Sinj district (Split district). In 1854 Vrlika was elevated to the rank of a district and now belonged to the district of Split. During this period, the Municipal House was built to commemorate the 200th anniversary of the liberation from the Turks (1888). Until the end of the First World War, Vrlika, like all of Dalmatia, was under Austro-Hungarian rule.

After the collapse of the Austro-Hungarian Empire (1918), the multinational Kingdom of Serbs, Croats and Slovenes was formed, and from 1931 the Kingdom of Yugoslavia. The four-year war had numerous tragic consequences for the population of the Vrlika region. Shortly after the establishment of the state, the Serbs, rallying around the Serbian Radical Party, won the majority



WatNex

Isle of Man
Liechtenstein Norway
Norwegian grants

in the elections. Since 1923, the Croatian Republican Peasant Party of the Radić brothers (1925 Croatian Peasant Party - HSS) gained increasing support in the Vrlika region. After the assassination attempt in the Belgrade Assembly, in which HSS leader Stjepan Radić succumbed to his injuries, Croatian national consciousness matured. When Banovina Hrvatska was established in 1939, Croat Niko Plazonić was elected head in Vrlika for the first time. The Serbs could not come to terms with this and did not recognize the Banovina either.

Twenty-four times, the chroniclers of Vrlika report, Vrlika changed from one belligerent to another. In this peaceful and idyllic region, sparks turned into fires, from which especially the innocent population suffered. The Serbs were not satisfied with Banovina Hrvatska and waited, the Communists sympathized with Soviet Russia, the supporters of the HSS expected a Western democracy, and the Ustasha joined the Axis powers. In the middle of the war (1941), the Independent State of Croatia was founded on the ruins of the defeated Yugoslavia. The Chetniks, with the help of Italian forces, began to destroy everything Croatian. When the Italian forces tried to destroy the partisans in 1942, they devastated the villages around Vrlika. In 1943, the Chetnik duke Pop Momčilo Đujić killed many innocent inhabitants of the area around Vrlika and had all the houses burned down to eliminate Croatian traces. A large part of the population also died in partisan actions. On July 31, 1944, the German army entered Vrlika. In November 1944 Vrlika was occupied by the partisans.

In the past centuries, all the world wars have passed through this region, always leaving scorched earth, death, and suffering. The Byzantines, the Turks, the Venetians, the Hungarians, the French and finally the Serbs reached for this region during the Homeland War. August 27, 1991 was the beginning of the Homeland War, when the Serbs shelled the building of the Health Center in Vrlika, despite all international conventions. The Serbs could not accept the independent state of the Republic of Croatia, which was internationally recognized in 1992. Who knows how many times the Vrlika region was devastated and the deprived population had to go into exile. And this war cost the lives of many young people. In the military operation "Storm" Vrlika was liberated in 1995. The liberation was greeted by destroyed churches, looted art treasures and devastated buildings. Nothing could stop the inhabitants of Vrlika, who immediately after the liberation began to return to their wounded town to raise this region from the ashes and bring it back to life, because it has numerous prerequisites for this. The inhabitants of Vrlika have won the war imposed on them and, as masters at peace, are step by step reviving this region rich in natural resources.



WatNex

Iceland
Liechtenstein
Norway
Norway grants grants

Vrlika – Heritage

The folk costume of Vrlika (Fig. 5) belongs to the top of the national ethnographic treasure of the Croats. It is not only the most recognizable segment of the entire ethnographic heritage, but also a part of history. The first weaver took the basic ornament from the ancient Croatian stone sculpture, which she transformed into jewelry and tradition with her skillful fingers. And so, it goes on for centuries. Threads are strung, colors are matched and woven deep into the night, so that everything merges into a unique costume for men and women, girls and children, indispensable in all rituals and important events, whether ecclesiastical or secular.

According to all its features, the way it is made and the motifs of its decoration, as well as the type of jewelry inventory, the folk costume of Vrlika, despite all the social, political, and historical turmoil in the region, has managed to preserve the stylistic features of the medieval cultural inventory and tradition with exceptional quality and consistency. The calm, static forms, the multicolored embroideries that constitute a dense ornament very similar to that of the ancient Croatian stone sculpture, and the preferred ornamental forms are almost the same as in the ancient settlement of Vrh Rika, so we can justifiably say that the folk costume of Vrlika brought the basic features of the ancient Croatian cultural heritage into the modern folk tradition and preserved them until the end of the second millennium.



Figure 5. The Vrlika folk costume (Source of the photo: <https://www.vrlika.hr/index.php/grad-vrlika/bastina>)

Nijemo kolo (translated: silent circle) is a folk dance characteristic of the Vrlika region (Fig. 6). In November 2011, it was included in the list of Intangible Cultural Heritage of Humanity by UNESCO. Nijemo kolo is unique in the way it is performed. Without musical accompaniment, or independently when there is it (with the traditional instrument dipel, bellows, bagpipes or a



WatNex

Budapest 2016-2018
 Liechtenstein Norway
 Norway grants grants

special way of singing in small groups by shaking the voice - rera, ganga, vojka), it is performed only in the Dalmatinska Zagora region in a circle that is occasionally divided into pairs, or throughout the dance in pairs moving in a circle or freely on the dance floor.

The Nijemo kolo is still danced spontaneously at carnivals, fairs and holidays, and weddings (although much less frequently than before the 1960s). Nowadays, the Nijemo kolo is performed mainly by village folklore groups at local, regional or international folklore shows (mainly in Croatia, as they rarely travel abroad) and at local performances on the occasion of the feast of the patron saint of their communities. It continues to be passed down from generation to generation, today increasingly through the activities of cultural associations, whereas in the past it was passed down more spontaneously. Most of these activities are supported by local authorities and state institutions as part of their programs to meet public needs.



Figure 6. The Nijemo kolo folk-dance (Source of the photo: <https://www.vrlika.hr/index.php/grad-vrlika/bastina>)



Ecological Station Vrlika – Site Management

Ecological Station Vrlika was established in **2006** on the basis of a contract between the Town of Vrlika and the Faculty of Science, Department of Biology. The **contract was signed for 40 years**, and the contracting parties undertook that the Department of Biology would not have to pay any fees for the use of the premises intended for the Ecological Station, that it would be allowed to use the Ecological Station exclusively for educational purposes (never for tourism), and that it would be allowed to furnish the premises for the Ecological Station according to its needs and at its own expense.

In **2015**, a **regulation** on the Ecological Station Vrlika was prepared, harmonized with the Statute of the Faculty of Science of the University of Zagreb. This regulation defines in more detail the structure, management, purpose, use and financing of the Ecological Station, and other related issues. Accordingly, the Ecological Station Vrlika is an **organizational unit of the Department of Biology of the Faculty of Science, University of Zagreb**. It has a Head who manages and organizes the activities and operation of the Station, and the procedure for the proposal and election of the Head of the Station is regulated by the regulations of the Department of Biology.

The **Head of the Ecological Station** organizes and coordinates the work and ensures the implementation of the activities of the Station, namely:

- promotes and coordinates the activities related to the maintenance of the buildings
- coordinates the users and sets the schedule for the use of the facility
- submits an annual report on the work of the Station to the Council of the Department of Biology of the Faculty of Science, University of Zagreb.

The Head of the Ecological Station proposes to the Department of Biology, Faculty of Science, University of Zagreb how the Ecological Station can be used, giving priority to the use of the Ecological Station for field courses of the students of the Department of Biology. Only on the days outside the teaching hours, the Ecological Station can be used for other teaching or research purposes. Users of the Ecological Station are required to abide by the provisions of the House Rules. Students in the Department of Biology who are taking field courses and their leaders use the Ecological Station free of charge to conduct field courses. Employees of other departments of Faculty of Science, other scientific research organizations from the Republic of Croatia, as well as universities and scientific research organizations outside Croatia, may use the Ecological Station for teaching purposes, contributing to the costs of maintenance of investments, overhead costs and future investments to improve accommodation and teaching conditions, in accordance



WatNex

Budapest 1988-1995
Liechtenstein Norway
Norway grants grants

with the special resolution of the Council of the Department of Biology, Faculty of Science, University of Zagreb.

Functions of the Ecological Station and Regulated Use for Educational Activities

Originally, the Station was intended as an accommodation and educational facility for conducting field courses for students of the Department of Biology of the University of Zagreb, but over time it proved to be a suitable facility for conducting field courses for students of other departments of the University of Zagreb. The station is also used by research teams conducting research in the fields of biology, geology, geography, or any other science studied at the Faculty of Science, University of Zagreb.

Field courses for undergraduate and graduate students of various biology courses at the Department of Biology are held regularly (every summer semester) at the Ecological Station. The station has a practical laboratory/classroom equipped with stereomicroscopes, microscopes, and other instruments for simple ecological, biological, and chemical analyzes for the purpose of field teaching (Fig. 7).



Figure 7. Laboratory/classroom as a part of Ecological Station Vrlika for the purposes of field instruction (Photo: M. Sertić Perić)

Since 2015, in cooperation with the Croatian Association of Freshwater Ecologists, two-week field course in ecology (Ecological interactions) has been organized at the Ecological Station for students from Queen Mary University of London from the UK. In 2023, field courses were also held for the first time for students from Bournemouth University from the UK.



WatNex

Bilateral
Liechtenstein Norway
Norway grants grants

Faculty members and PhD students from the Department of Biology frequently stay at the Ecological Station as part of their scientific field research. Faculty members of other departments of the Faculty of Sciences and other faculties of the University of Zagreb (e.g., the Faculty of Agriculture) also sometimes stay overnight at the Ecological Station. In addition, sometimes hikers also spend the night in the Station.

Since the Ecological Station Vrlika is part of an institution of higher education, **no commercial activities related to tourism are allowed there**, but only those that are listed as allowed in the Statute of the Faculty of Science, i.e., as **registered activities in the Court Register of the Republic of Croatia**, and these are the following activities:

- Sale of textbooks and other printed materials necessary for the performance of the Faculty's activities
- Professional activities in the field of environmental protection
- Expert opinions, standardization of measurement methods, measurement, and quality control
- Library activities for scientific and educational needs in the subjects of mathematics, physics, chemistry, biology, geology, geography and geophysics
- Scientific-research activity
- Preparation of scientific and professional reports, technical documentation, analyzes, certificates and expert opinions
- Organization and implementation of various forms of permanent or occasional training of students or trainees
- Publishing activity and IT for the needs of teaching and scientific and professional work
- Providing services to enterprises and other organizations, if this serves the development of basic activity and more rational use of space and equipment
- Organizing and conducting undergraduate, graduate, and postgraduate studies in mathematics, physics, chemistry, biology, geology, geography, geophysics, and computer science
- Providing expertise for appropriate activities in mathematics, physics, chemistry, biology, geology, geography, geophysics, and computer science
- Cultivation and maintenance of experimental and wild animals, plants and fungi, plant and animal cell cultures, and cultures of microorganisms in the laboratory
- Conducting animal experiments for the purposes of teaching and scientific research
- Organization and holding of scientific and professional conferences
- Conducting specialized studies and teaching in mathematics, physics, chemistry, biology, geology, geography, geophysics, and computer science
- Adult education and life-long training in mathematics, physics, chemistry, biology, geology, geography, geophysics and computer science



WatNex



- Organizing and conducting workshops, professional internships, symposia, and seminars that serve the core activities of the Faculty
- Sale of plants produced during the implementation of activities
- Photographic activity
- (Photo-, video-) shooting from the air
- Services of the information society.

It should be added that the Statute of the Faculty of Science states that the Faculty may carry out other activities if they serve the core activity and contribute to a more complete utilization of the spatial and personnel capacities of the Faculty.

Income and Costs of the Ecological Station

After the signing of the contract between the Town of Vrlika and the Faculty of Science, Department of Biology, the renovation of the Ecological Station was started, which since then has been financed from the funds of the Faculty of Science, Department of Biology, and to a large extent from the funds of the applied projects of Prof. Mrakovčić, who initiated the idea of signing the contract, renovation and use of the Ecological Station ([Table 1](#)).

Field instruction for the students of the Department of Biology is free of charge for the students, and the teachers are included in the teaching standard and do not receive any additional remuneration for this service. Faculty staff and PhD students in the Department of Biology who are in the Ecological Station as part of their scientific field research also receive no charge for their time in the Ecological Station. Faculty members from other departments in the Faculty of Sciences who stay overnight at the Ecological Station must pay for their stay at the Station, but often they are not charged for their stay for collegial reasons. Overnight stays of hikers at the Station are treated as educational activities (in accordance with the Statute of the Faculty of Science, University of Zagreb, and the relevant regulations of the Ecological Station) and the income from such visits is minimal.

The educational programs with Queen Mary University of London and the University of Bournemouth are financed through contracts with the foreign universities, and the income generated is used mainly for the travel costs of the professors from the Department of Biology who deliver these courses to the visiting students, as well as for the costs of maintenance, utilities, and food at the Ecological Station during the guests' stay.

The Ecological Station is also financed by funds collected based on user fees, donations and sponsorships from individuals and legal entities.



WatNex

Budowa i rozwój
Liechtenstein Norway
Norwegian grants

Table 1. The costs to date for the renovation of the Ecological Station Vrlika, indicating the sources of funding for each renovation item.

Year	Payer	Cost	Amount	Today's equivalent
2009.	PMF	renovation	48.855,84 €	70.078,82 €
2009.	prof. Mrakovčić	beds, furniture, appliances	18.579,96 €	26.651,09 €
2010.	Dep. Of Biology	furniture, maintenance	13.283,71 €	17.697,89 €
2010.	prof. Mrakovčić	furniture, appliances	3.349,55 €	4.462,61 €
2011.	prof. Mrakovčić	lawn trimmer, TV	1.446,71 €	1.876,67 €
2014.	prof. Mrakovčić	bills, cleaning lady	3.859,12 €	5.006,05 €
2014.	Div. Of Zoology	electricity, water 12, 13	1.887,60 €	2.388,76 €
2014.	Dep. Of Biology	electricity, water 2014	3.202,36 €	4.052,58 €
2009-2015.		Total	94.464,86 €	132.214,48 €

The Station's non-personnel costs are funded in part by non-personnel funds from the Biology Department. The overhead costs of the Ecological Station are covered by the Department of Biology of the Faculty of Science, University of Zagreb.

The revenues (income) and total costs of the Ecological Station Vrlika from 2015 to 2022 are shown in **Fig. 8**. As mentioned above, revenues are mainly based on educational activities for different user groups (e.g., visiting students and researchers, hikers).



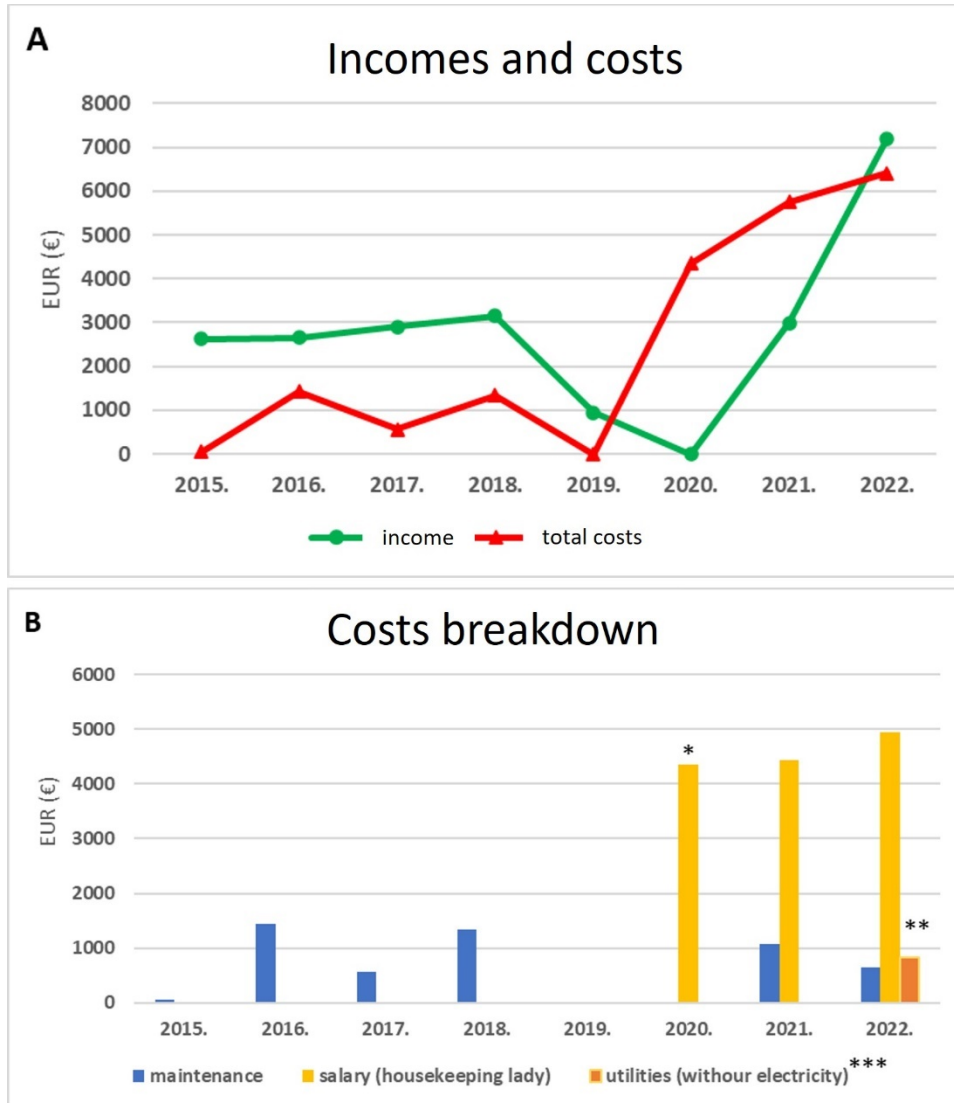


Figure 8. Incomes, total costs (A), and breakdown of costs (B) excluding electricity costs for Ecological station Vrljka from 2015 to 2022. Department of Biology pays all utility costs, including electricity costs, for the station. Electricity costs are about 200-330 EUR per month in 2022, according to the invoices of the last six months. Annually, electricity costs amount to about 2500 EUR, so the station is not self-supporting despite the high income in 2022. The year 2022 is perhaps the best indicator, as it includes costs for salaries (housekeeping lady), utilities and ongoing maintenance.



Ecological Station Vrlika within the Framework of the WatNex Initiative (WatNex Planning Efforts)

To raise awareness of the importance of biodiversity and climate in the context of the Water-Energy-Biodiversity-Climate-Food Nexus, it is necessary to explain the importance of biodiversity and climate for the functioning of aquatic ecosystems, preferably using a "living example" - **directly in nature**, in the ecosystems themselves. To this end, Faculty of Science would utilize the existing Ecological Station Vrlika, which could serve as a hotspot to bring together various potential stakeholders and communicate the importance of biodiversity and climate to the Nexus.

Since the Department of Biology is currently in an unenviable **financial situation**, considering the cost of rebuilding the building as part of the complete reconstruction after the 2020 earthquake, the Ecological Station Vrlika could serve as a venue that would provide an additional source of income for the Department of Biology. However, there are many **challenges** in realizing these intentions, as the full potential of the Ecological Station is difficult to realize considering the Faculty of Science statute and its fundamental mission (especially when it comes to renting the station to foreign users/guests, there are also some fiscal limitations).

Since the Ecological Station is located in a sparsely populated rural area where the population is predominantly elderly and engaged in agriculture and traditional livestock rearing, there is an opportunity to incorporate **local community** activities into the sustainability and viability of the Ecological Station and to create collaboration between the rural community and the users of the station that would also benefit local rural tourism. However, it could be a challenge to involve the rural communities as they are usually not well educated nor familiar with all the ways to attract human resources for further development of rural tourism. As tourists' interest has recently been increasingly focused on natural and cultural heritage, rural life, and spending time in wild and unspoiled nature, there is great potential for **co-creating** these activities. The challenge is **to raise the profile and sustainability of the Ecological Station Vrlika**, and use its full potential to contribute to the financial growth of the Department of Biology.

As part of the WatNex initiative, the authors of this report wanted to **explore whether there is a way for the Department of Biology to:**

- 1) **benefit financially** from educational activities conducted at the Vrlika Ecological Station over a five-year period (with maximum participation of the local community),
- 2) **provide an example of good and sustainable practices** in the use of the Ecological Station,
- 3) **create a (business) plan for educational activities and/or organization of visits** to the Ecological Station, that would promote the development of scientific literacy and



WatNex



understanding of the concept of the Water-Energy-Biodiversity-Climate-Food Nexus and the importance of biodiversity and climate to the Nexus systems among various stakeholders (from primary school students and teachers to local community members).

To achieve these goals, the WatNex team worked on 4 work packages and deliverables:

- ✓ **Raising the context** (participation in Masterclasses on the background of Ecological Station Vrlika and development of a Project Canva)
- ✓ **Case study analysis** (setting the framework and planning strategy for Ecological Station Vrlika based on examples of best practices of ecological stations worldwide)
- ✓ **Stakeholder mapping** (mapping of potential users of Ecological Station Vrlika, including those with the most power and interest in using the station)
- ✓ **Development of a business plan** with ideas for activities (preparation of a list of possible educational activities that could be carried out in the Ecological Station Vrlika) and **recommendations** for sustainable development of the Ecological Station.

Based on the **three Masterclasses**:

- 1) Antonio Nieto Rodríguez: *The Project Canvas - A New and Simple Framework to Manage your Projects*
- 2) Perica Mustafić: *The Background of the Ecological Station Vrlika – The Background of the Ecological Station Vrlika – From Its Establishment to Its Current Operation*
- 3) Petra Radeljak Kaufmann: *Sociogeographical Background of the Dinarides Region,*

and the analysis of **25 case studies** (i.e. examples of good practices of ecological stations worldwide), the authors of this report have found the framework for the development of a (business) plan for educational activities and organization of visits to the Ecological Station, which would (within five years) provide a financial benefit to the Department of Biology of the Faculty of Science of the University of Zagreb, as well as a new example of good and sustainable practices in the use of the Ecological Station.



WatNex

Budowa 2014-2020
Liechtenstein Norway
Norway grants grants

Using the Project Canva framework (**Supplement 1**), a **list of 14 activities** was created (**Supplement 2**), each of which was identified by the:

- **WHY** – explaining the rationale and business case, i.e., answering what **benefits** are expected from the introduction of the activity, and **purpose** and **passion**, i.e., answering why the activity is being introduced;
- **WHO** – specifying who is the **executive sponsor** of the activity, i.e., who is responsible for the success of the activity, and who has been appointed to **lead** the activity, i.e., who is responsible for what part of the activity;
- **WHAT-HOW-WHEN** – defining **what** the activity will produce and deliver, **when** the activity will be completed, **how much** it will cost to launch/execute the activity, **how many** resources will be needed to deliver the activity, how quality standards for the activity will be ensured, what are the key identified risks to delivering the activity (and whether there is a Plan B), how to manage/procure external contributors to the launch/executing the activity, what human resources and skills are needed to implement the activity, how to keep the activity team motivated, whether key and affected stakeholders support the activity, how to engage stakeholders and remove barriers to change that the activity is expected to bring, and whether the organization and culture (i.e., organizational structure, priorities, competencies) are adapted to succeed in a project-driven world.

As Antonio Nieto Rodríguez pointed out during the Masterclass, the Project Canva framework can be used as a starting point for any project to assess how well it is defined and/or if it needs further refinement, but it can also be used throughout the project lifecycle to assess the state of the project and the areas that need attention. The main advantages of the Project Canva framework are: i) it is easy to use; ii) it focuses on the basics in a simple way; iii) it identifies weak and strong areas; iv) it stimulates dialogue about important things rather than papers; v) it creates alignment with the project.

Based on the activity list that resulted from the application of the Project Canva framework, and additionally through the application of the stakeholder mapping approach (see below), a total of **38 stakeholders were identified (Supplement 3)** as having the potential (i.e., *power* and *interest*) to influence the implementation of the listed activities. The stakeholder list then served as the basis for developing a specific business plan example for the next five years.



Stakeholder Mapping

Stakeholder mapping involves a **collaborative process** encompassing research, deliberation, and discourse that draws from various viewpoints. This process is very important for stakeholder engagement as it aims to ascertain and give priority to a comprehensive list of stakeholders spanning the entire spectrum. It also entails recognizing the interests, influence, and interconnections among stakeholders within the concerned organization (BSR 2011¹).

The process of stakeholder mapping comprises four distinct stages: 1) **Identification**: Compilation of pertinent groups, entities, and individuals; 2) **Analysis**: Comprehension of stakeholder standpoints and concerns; 3) **Visualization**: Depiction of relationships vis-à-vis objectives and other stakeholders; and 4) **Prioritization**: Arrangement of stakeholder significance and identification of pertinent matters.

The process described above was used to identify organizations and individuals (as accurately as possible) that could potentially have the **power and interest to influence** the prospects for improving the visibility and sustainability of the Ecological Station Vrlika. Given the lack of a unified definition of *power* in the stakeholder literature (Ackermann and Eden 2011)², the concept of *power* was based on the personal perceptions of the members of team conducting the mapping (how much positively and/or negatively can they affect the realization of the goal).

After the visualization and prioritization stage of the stakeholder mapping, **primary schools** were identified as one of the stakeholders with the greatest potential (i.e., *power* and *interest*) to increase the visibility and sustainability of the Ecological Station Vrlika (**Supplement 4**), through using the station as a destination for conducting **educational activities** (e.g., field course, school in nature) for primary school children that are mandatory according to the primary school curriculum. These activities could be based on the **professional leadership and support of the teaching and research staff** (especially junior staff) of the Department of Biology and other departments of the Faculty of Science, which in turn would have an interest in carrying out activities to popularize natural sciences, in supporting educational institutions at the lower educational level, but also in the financial benefits from providing educational packages to meet the needs of primary school.

¹ BSR (2011) Stakeholder mapping. Available from: <https://www.bsr.org>. [date accessed 9.10.2017]

² Ackermann F, Eden C (2011) Strategic management of stakeholders: theory and practice. Long Range Planning 44: 179-196.



WatNex

Isle of Man
Liechtenstein
Norway
Norwegian grants

Market Analysis

The data pertaining to the participation of primary schools, class departments, students, and teachers from across Croatia in educational activities at the Ecological Station Vrlika are summarized in [Tables 2, 3, and 4](#). To illustrate, as of the beginning of the 2022/23 school year, there were a total of **1,971 regular primary schools**³ in Croatia, encompassing both public and private schools (as indicated in [Table 2](#)). These schools house over 17,000 class departments (also shown in [Table 2](#)). This substantial figure underscores the considerable potential market for the implementation of educational programs at the Ecological Station Vrlika.

One notable example is the outdoor school programs (so called **School in Nature program**), a form of multi-day education designed in accordance with the *Regulation on School Trips, Excursions, and Other Educational Activities Outside School* (MZO 2021⁴). These programs typically target **students in the 3rd and 4th grades**, with an average enrollment of approximately 37,400 students across Croatia ([Table 3](#)).

Furthermore, there exists a promising opportunity to conduct pilot educational initiatives at the Ecological Station Vrlika through collaboration with so-called **training schools**. These institutions have entered into agreements with the Faculty of Science to facilitate methodological internships for prospective STEM teachers. Currently, there are **nine primary schools** participating in these internship programs within the Department of Biology, with the majority of them situated in Zagreb. However, in alignment with the WatNex project's ethos, it would be beneficial to **extend involvement** to schools located in counties that are underrepresented ([Table 4](#)) or experiencing less favorable financial circumstances than the City of Zagreb.

One such opportunity lies within **Splitsko-dalmatinska County**, where the Ecological Station Vrlika is situated. This County is home to a total of **208 primary schools**, boasting a combined total of **2039 class departments and 4027 teachers**. These schools could be provided with the chance to conduct *School in Nature* programs within the immediate environs of the Vrlika Ecological Station. Beyond the advantages extended to students, educational programs at the Ecological Station Vrlika would yield significant benefits for **teachers**, and there is a substantial number of educators in Croatia ([Table 4](#)). Even in the least densely populated counties, there are more than 500 teachers. If these educators were to undergo initial training for the implementation *School in Nature* programs, delivered by experts from the Faculty of Science, they would acquire the necessary skills to independently execute top-tier educational programs within the natural setting of the Ecological Station Vrlika following their initial training.

³ Croatian Bureau of Statistics (2023) Announcement – end of school year 2021/2022 and beginning of school year 2022/2023 in primary schools; <https://podaci.dzs.hr/2023/hr/58233>

⁴ MZO (2021) Regulation on School Trips, Excursions, and Other Educational Activities Outside School; https://narodne-novine.nn.hr/clanci/sluzbeni/2014_06_67_1280.html



WatNex

Isle of Man
Liechtenstein
Norway
Norwegian grants

Table 2. Total number of regular public and private primary schools in Croatia and associated class departments. Source: Croatian Bureau of Statistics (2023)³

	Number of schools	Number of class departments
Primary schools – regular	1 971	18 110
Public	1 948	17 902
Private	14	101

Table 3. Total number of students in each grade in regular primary schools in Croatia. Source: Croatian Bureau of Statistics (2023)³

	Number of students
Primary schools – regular	303 786
I. grade	35 358
II. grade	36 483
III. grade	36 717
IV. grade	38 146
V. grade	37 850
VI. grade	38 702
VII. grade	40 846
VIII. grade	39 684

Table 4. Total number of schools, class departments and teachers in Croatia as a whole and in individual Croatian Counties. Source: Croatian Bureau of Statistics (2023)³

County	Number of schools	Number of class departments	Number of teachers
Croatia (in total)	2 065	18 446	36 533
Zagrebačka	123	1 378	2 529
Krapinsko-zagorska	82	603	1 116
Sisačko-moslavačka	90	682	1 372
Karlovačka	71	515	1 045
Varaždinska	73	780	1 486
Koprivničko-križevačka	90	533	1 044
Bjelovarsko-bilogorska	98	553	1 091
Primorsko-goranska	108	1 135	2 355
Ličko-senjska	45	238	505
Virovitičko-podravska	78	406	689
Požeško-slavonska	58	333	603
Brodsko-posavska	115	690	1 324
Zadarska	119	817	1 591
Osječko-baranjska	186	1 390	2 532
Šibensko-kninska	52	454	962
Vukovarsko-srijemska	89	804	1 694
Splitsko-dalmatinska	208	2 039	4 027
Istarska	101	902	1 964
Dubrovačko-neretvanska	67	601	1 282
Međimurska	59	588	1 130
Grad Zagreb	153	3 005	6 192



WatNex

Budowa 2014-2020
Liechtenstein Norway
Norway grants

Anticipated Financial Benefits of Implementing Educational Programmes for Primary Schools at the Ecological Station Vrlika

By targeting primary schools and delivering *School in Nature* programmes through the expertise of the Faculty of Science, the Ecological Station Vrlika can pave the way for sustainable future growth and development. The Ecological Station stands to generate revenue through the provision of educational programmes tailored for primary school students participating in these *School in Nature* initiatives. An illustrative and approximate cost projection for each primary school student, as well as the potential income (revenue) derived from such programmes for the Ecological Station, is detailed in [Table 5](#). These calculations are derived from a model provided by a travel agency that typically arranges *School in Nature* programmes for primary schools in Zagreb, Croatia, with a standard duration of four days, equivalent to a three-day programme.

The calculations outlined in [Table 5](#) are based on the premise of hosting **groups of 30 students**, each accompanied by two teachers, as per the standard requirement of one teacher for every 15 students. Additionally, these groups may include members of the Faculty of Science, who can either be teacher-in-training or faculty staff engaged in teaching and research.

According to the calculations provided in [Table 5](#), the Department of Biology would generate an **income of €17.45 per student per night** (referred to as "Vrlika amortization" in [Table 5](#)). This amount encompasses accommodation costs, utilities, and Station cleaning services. However, it's important to note that items like towels, soap, and other personal hygiene products are not included in this fee. Additionally, one to two accompanying teachers are exempt from charges, but a **nominal fee of €3.30 per student per night** is applicable for pedagogical support provided to the group of 30 students.

To achieve the desired revenue and ensure sustainable growth and development, the objective for the Ecological Station Vrlika is to accommodate **10 groups annually in the near term (within the next 3 years) (Table 6; Fig. 9)**. **In the longer term, this capacity can be expanded to accommodate up to 16 groups annually (Table 7; Fig. 9)**. The operational season typically spans **from late March to the end of September**. Notably, the Station will be reserved for field courses conducted by the Department of Biology during the final week of May, as well as for students from Queen Mary University of London during the Easter holidays. Primary and secondary schools typically conclude their academic year around June 20th. During the annual Faculty holidays (from the end of July to the end of August), the Station will remain closed. However, it will be available for university researchers between the end of June and the end of August.



WatNex

Iceland
Liechtenstein
Norway grants grants

Table 5. An illustrative and approximate cost projection for the *School in Nature* educational programme per primary school student and the potential income (revenue) for the Ecological Station Vrlika. The calculations presented in the table are based on a model provided by a travel agency that typically organizes *School in Nature* programmes for primary schools in Zagreb, Croatia. This model reflects the standard programme duration of four days, which is equivalent to a three-day programme. The data is current as of September 2023. Text in red signifies income-related items for the Ecological Station Vrlika.

	Price		Unit	Pax		EUR/child
Bus	2.50		1000 km	30		83.33
Bus driver	300.00		1	30		10.00
INDIVIDUAL COSTS						
Vrlika amortisation	17.45		3 nights	1		52.35
NP Krka (National park entrance)	15.00		1	1		15.00
Lunch	20.00		4	1		80.00
Dinner	10.00		3	1		30.00
Breakfast	5.00		3	1		15.00
Civitas Sacra (historical museum visit)	2.00		0	1		0.00
OTHER COSTS						
	Price	day	No.	Pax		
Civitas Sacra guide	20.00	1	1	30		0.67
Local guide	60.00	1	1	30		2.00
Per diem allowance for the teaching staff/pedagogical support	50.00	4	2	30		3.33
Tour guide	60.00	4	1	30		2.00
Insurance	5.00		1	1		5.00
Total (net price/person, i.e., child):						298.68 €
Agency provision					12%	35.84 €
Total price / person, i.e., child						300.00 €

Regarding **costs**, the Department of Biology is responsible for the **ongoing maintenance and upkeep** of the Ecological Station building. This encompasses the costs associated with a **janitor** or housekeeping personnel (equivalent to 0.5 full-time employment), **utilities** such as water, electricity, and heating, as well as garbage collection (as shown in **Fig. 8**). Furthermore, members of the Department Staff are entitled to compensation for their workdays spent at Vrlika while participating in the educational programmes. The Department has set a cap of **€1,000 per person per year** as the maximum compensation limit. Additionally, **teachers-in-training**, such as



WatNex

Bilateral initiative
Liechtenstein Norway
Norway grants

students pursuing degrees in biology and chemistry education, may also be eligible for compensation, which can be covered by the nominal fee paid by primary school students participating in the programme.

Table 6. An illustrative and approximate mid-term balance sheet (covering the next 3 years) for the implementation of the *School in Nature* educational programme at the Ecological Station Vrlika, including potential income, costs, and profit (revenue before taxes) for the Ecological Station Vrlika, i.e., the Department of Biology at the Faculty of Science, University of Zagreb. The calculations featured in this table are grounded in data as of September 2023.

BALANCE SHEET mid term (within 3 years)

YEARLY GOAL (within 3y)	
INCOME (implementing educational programmes)	€ 18,702.00
# students/week	30
# nights/week	3
# WEEKS/Y	10
Price /night (EUR)	€ 17.45
Pedagogical support	€ 3.33
COSTS	€ 10,587.63
Water	€ 121.25
Electricity	€ 1,500.00
Utility	€ 131.25
Garbage	€ 20.20
OTHER	€ 14.93
Janitor (0.5 FTE)	€ 4,800.00
Teaching staff (4P)/Y	€ 4,000.00
PROFIT (REVENUE) (before taxes)	€ 8,114.38



Table 7. An illustrative and approximate long-term balance sheet (covering the next 5 years) for the implementation of the "School in Nature" educational programme at the Ecological Station Vrlika, including potential income, costs, and profit (revenue before taxes) for the Ecological Station Vrlika, i.e., the Department of Biology at the Faculty of Science, University of Zagreb. The calculations featured in this table are grounded in data as of September 2023.

BALANCE SHEET long term (within 5 years)

YEARLY GOAL (within 5y)	
INCOME (implementing educational programmes)	€ 29,923.20
# students/week	30
# nights/week	3
# WEEKS/Y	16
Price /night (EUR)	€ 17.45
Pedagogical support	€ 3.33
COSTS	€ 11,660.20
Water	€ 194.00
Electricity	€ 2,400.00
Utility	€ 210.00
Garbage	€ 32.32
OTHER	€ 23.88
Janitor (0.5 FTE)	€ 4,800.00
Teaching staff (4P)/Y	€ 4,000.00
PROFIT (REVENUE) (before taxes)	€ 18,263.00



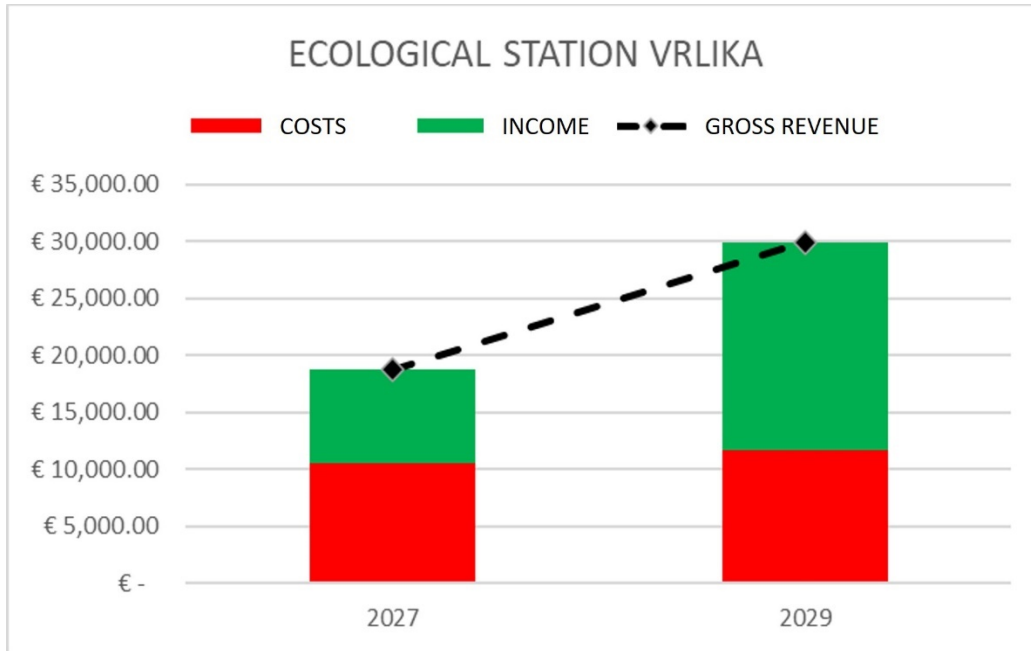


Figure 9. A summary of the mid-term (encompassing the next 3 years) and long-term financial projections (spanning the next 5 years) for the implementation of the *School in Nature* educational programme at the Ecological Station Vrlika. This summary incorporates potential income, expenses, and profit (revenue before taxes) for the Ecological Station Vrlika, which is part of the Department of Biology at the Faculty of Science, University of Zagreb. The financial forecasts presented in this figure are based on data available as of September 2023.



Anticipated Non-Financial Benefits of Implementing Educational Programmes for Primary Schools at the Ecological Station Vrlika

The Ecological Station Vrlika is poised to be an exceptional venue for excursions and diverse educational activities outside the traditional school setting. Moreover, it has the potential to become a destination for various contemporary forms of educational tourism, such as **edu-tourism**⁵, **ecotourism**⁶ and **education for sustainable development**. This broader vision includes ample opportunities for the **local community to actively participate** by sharing their insights into **local traditions, culture, and practices**. Additionally, it provides a platform for offering and promoting locally sourced, homemade, and domestic products to visiting students and teachers.

Previous practice in Croatian schools necessarily involved *School in Nature*, for which hotel accommodation and services were mainly used. However, as in the organization of field trips for biology students at the University, **schools often encounter the following problems in organizing such educational activities**:

- ❑ Hotel accommodations for student field trips become more expensive every year, making such programmes unaffordable for students with lower financial status
- ❑ Finding the most affordable accommodations for student field trips takes too much time
- ❑ Changing the venue for such educational programmes every year requires additional preparation of the teachers who are supposed to conduct educational activities with the students at the selected venue that are related to what the students are being taught
- ❑ Hotels are not very receptive to accommodating children and organizing educational activities within their capacity, as they cater to more affluent clients and/or do not provide logistical support for conducting educational activities within their capacity.

For teachers, organizing educational activities in the Ecological Station would be an excellent solution, as in addition to the content related to nature and society, students could **learn some skills necessary for daily life**, such as practical skills in preparing breakfast and dinner, self-reliance in cleaning their beds and the room where they sleep, study and eat. In addition to the content of STEM, students (and their teachers) would have the opportunity to learn about **ancient traditional practices and crafts, rural lifestyles, growing fruits, vegetables, and livestock, and the cultural and traditional heritage** of the surrounding areas as part of the educational programmes at the Ecological Station (e.g., Krka National Park, the town of Šibenik, PP Dinara, Lake Vrana, etc.).

⁵ Alipour, H., Fatemi, H., Malazizi, N. 2020. Is Edu-Tourism a Sustainable Option? A Case Study of Residents' Perceptions. Sustainability, 12, 5937; doi:10.3390/su12155937

⁶ UNWTO 2023. Ecotourism and protected areas. <https://www.unwto.org/sustainable-development/ecotourism-and-protected-areas>



WatNex

Isle of Man
Liechtenstein
Norway
Norwegian grants

An additional benefit for conducting such educational activities for school children within the framework of the Ecological Station Vrlika is the **possibility of involving students and young faculty members** (teaching/research assistants) in conducting educational activities. This would give these young staff members the opportunity to gain experience in planning and implementing educational activities, which would be a great benefit to their CV. If the involvement of the young educators could be paid for by the Department of Biology, this would provide an additional financial incentive for the involvement of motivated young staff.

Since the Department of Biology trains future professors of biology and chemistry, as well as offers programmes of additional methodological training for those who wish to work in schools after completing their biology studies (**i.e., teachers-in-training**), there is also the possibility that students from these programmes could be **involved in the design and implementation of educational programmes** for primary school students within the Ecological Station Vrlika as part of their teaching practice.

An additional benefit could be achieved by conducting **parallel workshops for primary and secondary school teachers**, where scientists and educators from the Department of Biology could teach teachers about interesting simple scientific/research activities and teaching methods during the implementation of educational programmes at the Vrlika Ecological Station, after which they themselves would be trained as teachers in the future to independently organize, plan and implement similar educational activities with their future generations of students.



School of Nature programmes → Link to the legal basis:

According to the *Regulation on School Trips, Excursions, and Other Educational Activities Outside School*⁴, which prescribes the methods, conditions, safety measures and the rights and obligations of users and service providers in activities related to excursions, field trips and other forms of educational activities in the place and outside the place where the primary or secondary school or dormitory is located, in the function of implementing the national curriculum and the curriculum, there are several types of such activities that could be carried out within the framework of the Ecological Station Vrlika as specific forms of **Extracurricular instruction** - a form of teaching that involves the implementation of planned programme content outside the school facility.

Extracurricular instruction includes: school trips, school excursions, field classes and school in nature.

- **A school trip** is a form of extracurricular instruction that involves a half-day or full-day joint trip of students and teachers to the place where the school is located or outside of it and that is organized by the school for the purpose of fulfilling specific educational goals and tasks.
- **A school excursion** - a form of extracurricular instruction that includes a trip lasting several days to visit natural, cultural, historical, sports and technical centers, organized by the school to fulfill specific educational goals and tasks.
- **Field classes** - a form of extracurricular instruction conducted in the original reality with the aim of getting to know it, which may include the use of research methods.
- **School in nature** - a form of multi-day teaching conducted away from home in a natural place, with suitable conditions adapted to learning and teaching in closed and open spaces. It is usually organized for students of the third and/or fourth grade of primary school, i.e., according to the developmental possibilities of students with developmental disabilities.

Other educational activities outside the school can be: swimming school swimming, attendance or participation in cultural and sports manifestations and events, as well as other activities designed to achieve the educational goals and objectives of the cultural and public activity of the school institution, carried out in a place of special value (archeological, geological, botanical...), institutions (museum, gallery, theater, cinema, factory, power plant, fire department...), etc., **in order to achieve certain educational goals and objectives.**

The location and duration of each extracurricular activity must be consistent with the student's age and the prescribed curriculum or subject syllabus. Depending on the duration, extracurricular instruction may be half-day, full-day, or multi-day. Extracurricular instruction may take place at the place of residence, in the immediate home country, in another part of the Republic of Croatia or abroad. In the case of extracurricular education lasting several days, at least half board must be arranged, i.e., at least two meals must be provided for the beneficiaries.

Extracurricular instruction for primary school students shall be organized on the territory of the Republic of Croatia or abroad if there is a written consent of the parents and a decision of the School Board.

Extracurricular instruction lasting up to six sunny hours may be organized for all students, regardless of their age. Full-day or multi-day extracurricular instruction may be organized for students from the third grade of primary school through the last grade of secondary school. Multi-day extracurricular instruction can last up to five instructional days for primary school students and up to seven instructional days for secondary school students. **As a rule, multi-day extracurricular education is organized for III. and IV. Primary school classes as school in nature and for students in the last grades of primary and secondary school as a school trip.**



WatNex

Budapest 2016-2017
Liechtenstein Norway
Norway grants grants

Proposing Stakeholder Engagement Strategy

The primary objective of stakeholder management and engagement is to **craft a vision for effectively involving stakeholders who are pertinent to the realization of the organization's strategic goals** (Ackermann & Eden, 2011). **Table 8** outlines a proposed engagement strategy, essentially an action plan crafted by the Department of Biology at the Faculty of Science, University of Zagreb, to engage with a specific target stakeholder—primary schools. The aim is to enhance visibility and ensure the sustainable utilization and development of the Ecological Station in the future.

Table 8. Proposed engagement strategy, i.e., action plan of Department of Biology of the Faculty of Science, University of Zagreb, for engaging the target stakeholder (i.e., primary schools) for increasing the visibility and sustainable use and development of the Ecological Station in the future.

CHOSEN STAKEHOLDER	➤ primary schools
ACTION STEP (What to do?)	➤ increasing the visibility of the Ecological Station, its location ("putting the station in the map"), purposes, mission and vision
ENGAGEMENT METHOD (By which methods/procedures to carry out the action?)	<ul style="list-style-type: none"> ➤ organize <i>School in Nature</i> programme for primary schools ➤ involve students and young department members (teaching/research assistants) in conducting educational activities for primary schools engage students (teacher-in-training) in the design and implementation of educational programmes for primary and secondary school students within the Ecological Station
COMMUNICATION CHANNEL (...needed to carry out the action/engagement method...)	<ul style="list-style-type: none"> ➤ Education and Teacher Training Agency ➤ social media ➤ newsletter/webpage of the faculty ➤ new website for the Ecological Station Vrlika ➤ student organizations ➤ personal connections/contacts ➤ alumni
RESPONSIBLE PERSON (Who is responsible/who participates in carrying out the action/engagement method?)	<ul style="list-style-type: none"> ➤ lead of the Ecological Station Vrlika ➤ working groups from the department that develop educational programmes ➤ Education and Teacher Training Agency
READINESS (Is the action/method feasible? Are there any prerequisites needed for implementing the action/method implementation? What is missing?)	<p>Feasible (short term):</p> <ul style="list-style-type: none"> ➤ organize <i>School in Nature</i> programme for primary schools (now, independent) ➤ involve students and young department members (teaching/research assistants) in conducting educational activities for primary schools (now, depends on faculty) <p>Feasible (long term):</p> <ul style="list-style-type: none"> ➤ engage students (teacher-in-training) in the design and implementation of educational programmes for primary and secondary school students within the Ecological Station (later)



WatNex



Conclusions & Recommendations

Thanks to substantial contributions from the Department of Biology at the Faculty of Science, University of Zagreb, the Ecological Station Vrlika has undergone significant development since 2006. It has evolved into a fully functional field station equipped with essential amenities, including year-round student accommodation, separate housing for faculty staff, kitchen and dining facilities, and basic research and teaching resources. **During the extensive rehabilitation project that spanned from 2006 to 2023, the station successfully achieved its intended objectives, transforming into what it is today:**

- ✓ A permanent starting point for annual student field courses.
- ✓ Capable of accommodating educational groups of up to 52 members, eliminating the reliance on external hotels, thereby saving time and simplifying planning.
- ✓ Equipped with facilities for the storage of biological materials, separate from the living and sleeping quarters.
- ✓ A pivotal base for numerous investigations and studies related to the local flora and wildlife, contributing to the enhanced understanding and conservation of these precious habitats.
- ✓ Looking ahead to the future beyond 2023, the Ecological Station Vrlika aims to secure long-term financial sustainability and stability by expanding its existing operations and activities. Despite experiencing substantial income in recent years, the station has not yet achieved self-sufficiency.

The presented business plan outlines the development of a specific activity concept—transforming the Ecological Station Vrlika into a hub for educational youth tourism by offering tailored *School in Nature* educational programmes designed for primary school students aged 6 to 14. This initiative aims to generate income through customized educational programmes. **The *School in Nature* programme was selected due to its demonstrated high potential and likelihood of long-term success in generating consistent revenue.** The rationale for this choice includes:

- Expressions of interest from school teachers.
- Existing national and school curricula that mandate extracurricular activities.
- Research indicating that school children aged 6 to 18 constitute the primary audience interested in educational programmes at such stations across Europe.
- The added benefits of promoting mental well-being, social cohesion, and sustainability awareness among the next generation of adults.



- The substantial potential market, considering there are 1,971 regular primary schools throughout Croatia. Among these, nine primary schools have agreements with the Department of Biology to facilitate methodological internships for prospective biology and chemistry teachers, making them ideal pilot schools for implementing the proposed *School in Nature* programmes.

Based on the established framework and research findings, we **recommend the following steps for launching the proposed activities targeting primary schools at the Ecological Station Vrlika:**

- Forming groups of up to 30 primary school students, each accompanied by two experienced teachers, along with an additional student in a teacher-in-training role.
- Anticipating the first revenue stream (from hosting 10 groups) after three years, with the potential for significant revenue growth between 2027 and 2029 if the full working season (16 weeks = 16 groups) is fully utilized.
- Maintaining current educational activities within the Station, while gradually expanding the number of educational groups that can be accommodated over the next five years, leading up to 2029.

The **overarching recommendation** for Ecological Station Vrlika is to **develop a comprehensive communications and action plan**. This plan should identify specific objectives, timelines, responsible parties, and key performance indicators. By having a clear roadmap, the station can ensure that its initiatives are carried out systematically and that progress is measurable. In addition, an effective communication strategy is essential to keep all stakeholders informed and engaged throughout the process. Regular updates, both online and offline, can help generate enthusiasm and support for the Station's efforts and foster a sense of ownership in the community and among partners. With a solid plan, the Ecological Station can achieve its goals with greater efficiency and transparency, contributing to its long-term success and impact.

Below are a series of **specific recommendations**. They are aimed at improving and expanding the activities and development potential of the Ecological Station Vrlika. These suggestions aim to increase the Station's impact on cultural and natural heritage conservation, engage a broader audience, and foster collaboration with diverse stakeholders while minimizing environmental impacts.

1. **Use social networks for outreach:** connect with universities, alumni, and other relevant groups through social networks. This will help build a strong community around the Ecological Station.



2. **Use digital technology for engagement:** use digital technologies to engage new audiences and enhance the visitor experience. This includes creating interactive digital exhibits and using online platforms to showcase the station's work.
3. **Seek additional funding sources:** Explore opportunities for additional funding, such as from the European Commission, to support edutourism projects. These projects can be designed to engage children and youth and help educate and inspire the next generation of conservationists.
4. **Engage diverse stakeholders:** Involve a variety of stakeholders in the planning phase to ensure a well-rounded and inclusive approach to conservation. This includes representatives from academia, local communities, environmental organizations, and other organizations.
5. **Community integration:** actively involve the local community in station activities. Encourage community representatives to become involved with the station, and establish a close relationship with the local educational institutions to ensure continued support of station programmes.
6. **Involve students:** Provide opportunities for university students to participate in station activities. Involving students not only provides them with valuable experience, but also enhances their resumes and makes them more marketable in the future.
7. **Target multiple groups at once:** Work with a variety of groups, including environmental organizations such as the natural history museum. Working with multiple entities can increase the impact of the Station.
8. **Conduct participant surveys:** Develop a comprehensive survey strategy to gather feedback and insights from participants. This data will help refine and better tailor the station's programmes to the needs and interests of visitors.
9. **Encourage interdisciplinary collaboration:** encourage the inclusion of diverse disciplines and subjects, such as arts and sciences, and foster collaboration among students from different academic backgrounds. This approach creates additional skills and competencies among participants.
10. **Expand network integration:** Explore the possibility of integrating the station into a broader network, possibly at the national level. This could increase the station's visibility and access to resources.
11. **Teacher training initiatives:** develop training programmes for teachers to equip them with the tools and knowledge they need to effectively incorporate ecological education into their classrooms.
12. **Establish an Ecological Station group:** form a dedicated Ecological Station group composed of volunteers, enthusiasts, and experts who can actively contribute to and advocate for the station's activities.



13. **Improve the Station's environment and infrastructure:** improve the station's immediate environment by adding green spaces and amenities to make it more inviting to visitors. Invest in the infrastructure of the Ecological Station, including creation of picnic areas and establishing a bike share center to promote sustainable travel in the region.
14. **Support student projects:** Provide funding for student-run projects at the station to empower the younger generation to take an active role in ecological research and conservation.

By implementing these recommendations, the Ecological Station Vrlika can broaden its reach, strengthen its impact on environmental preservation, and become a beacon for education and engagement.

A comprehensive timeline featuring sub-activities designed to enhance the visibility and ensure the sustainable utilization and development of the Ecological Station Vrlika is available in [Table 9](#).



Table 9. A timeline with listed sub-activities designed to enhance the visibility and ensure the sustainable utilization and development of the Ecological Station Vrlika in the short (2023 – 2027), intermediate (2027 – 2029) and long term (2030 – 2046).

		SUGGESTED TIMELINE			
SHORT TERM		2023	Launch of WatNex project	LONG TERM ONGOING TASKS	(1) Set-up of train the teacher programme – a base of teachers to chose from that is permanently available (2) Engage students (future professors of biology and chemistry) in the design and implementation of educational programmes for elementary and high school students within the Ecological Station (later) - a change of statute may be required (3) Implementation of Nature camp activity as obligatory part of school programme (required lobbying, networking, ...)
		2024	Maintain previously initiated activities (Queen Mary, Gymnasium, ..)		
			Active communication strategy targeting primary/secondary schools; Actively engage schoolteachers via marketing strategy and personal network;		
			Definition and creation of preset/ready to launch educational programmes and activities for groups		
			Invite first groups at the Ecological Station in spring 2024. Thorough evaluation after + action plan for next year(s)		
	2025-2027	maintain activities, increase number of groups that are hosted, development of communication plan about activities done / groups hosted (social channels) / diffusion			
INTERMEDIATE		2027	Hosting 10 groups during the working season - 8K profit		
		2029	Hosting 16 groups during the working season - 18K profit		
LONG TERM			maintain activity, reflection about potential investments, maintaining activities		
			Fixed team of X persons occupied with organization, planning, teaching, facility management, ...		
		2035	Reaching the full potential of the Vrlika station - financial sustainability; 100K revenue since 2029 with full occupation; reflection on new investments?		
		2046	End of lease agreement (university-community of Vrlika)		



Supplementary Material



Norwegian
University of
Life Sciences



WatNex

Skoleva 25B-25C
Liechtenstein Norway
Norway grants grants

Supplement 1. Project Canva framework developed by Antonio Nieto Rodríguez

PROJECT CANVAS

The Project Revolution



at Antonio Nieto-Rodríguez



© Antonio Nieto-Rodríguez



Bilateral initiative Empowering the Water-Energy-Food Nexus by incorporating biodiversity and climate awareness (WatNex) is financed through the Fund for Bilateral Relations of EEA Grants and Norway Grants.

Supplement 2. Activity list shaped according to the Project Canva framework.

Activity 1: "Putting Vrlika station on the map": increasing its visibility, its location, purposes, mission, and vision.	
WHY	
Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	Increased public accessibility to the Ecological Station, and hence a broadened network of professionals sharing the similar interests in biological education & research who could exploit the station to obtain larger meaningful research and educational projects
Purpose & Passion <i>Why is this activity introduced?</i>	Increase the visibility of the Ecological Station by creating a social and cultural hub in the region.
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance <i>Who is responsible for which segment of the activity?</i>	Dean of the Faculty of Science, Head of the Department of Biology - creating opportunities for networking with external interested stakeholders, PR of the Faculty of Science - advertising/promoting the station's activities/offers
WHAT-HOW-WHEN	
What will the activity produce and deliver?	(1) A collaborative local platform/hub presenting the Vrlika station, its sister stations, and research and educational institutions in the area, gathering interested parties regionally, nationally, and beyond; (2) On site info boards with QRs codes referring to local events, hotspots, historical, geographical, and environmental facts about the region, and self-guided leisure activities (thematic trails, hiking routes, etc.) (3) Promoting the use of the station as a starting point for externally organized guided, trips in nature (sustainable, ecofriendly small-scale). (4) Delivery of products 1,2,3 is facilitated by the elaboration of a detailed communication plan, exploiting the web and social media/networks for announcements of events, presenting the inventory of leisure activities, and promoting exchange of info and news from platform participants.
When will the activity be completed?	1st year [short term goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Promotive material costs and costs related to the maintenance of webpage
How do we assure the quality standards of the introduced activity?	Feedback/surveys



Have the key risks been identified? Do we have a plan B?	Insufficient agility of the Faculty of Science PR office (plan B - announcements within the internal web/social networks/announcement of the Department of Biology, using Linked-In)
How are we going to manage/procure the external contributors to introducing/executing the activity?	Lobbying towards the Faculty of Science PR office, visualizing the benefits of the above-mentioned activities; careful monitoring whether goals (and the benefits) are achieved (make it quantitative)
What human resources and skills are needed? How are we going to keep the Team motivated?	Networking/international relations, PR management
Are key and impacted stakeholders supporting the activity?	They may be, but engagement of students, faculty members in networking and increasing visibility is required.
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholders

Activity 2: Education about local culture, heritage, local practices, tradition

WHY	
Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	Besides the generation of financial revenue for the Ecological Station, this activity will contribute to the preservation, celebration, and transmission of cultural knowledge from one generation to the next and help educate about local culture, heritage, practices, and traditions.
Purpose & Passion <i>Why is this activity introduced ?</i>	The educational activities will have economic and social benefits to the local community and will increase the visibility of the Ecological Station towards future visitors in the region; it will promote sustainable economic growth of the station in accordance with local needs.
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Local government officials, educational institutions; local businesses; tourism boards
Governance <i>Who is responsible for which segment of the activity?</i>	Citizens of Vrlika, Local community leadership (municipality head), Education and Teacher Training Agency
WHAT-HOW-WHEN	
What will the activity produce and deliver?	(1) The creation and shaping of a set of organized cultural events (dances, village parties, music, festivals) that could take place in and around the Vrlika Ecological Station,



	emphasizing the cooperation of local participants/contributors to enhance knowledge exchange. (2) idem as in 1, but with a focus on knowledge transfer from the local community outwards, meaning the organization of practical classes, DIY type of activities, etc (3) organize an EU wide sustainability challenge, having the Vrlika station as end destination (get there without motorized transport)
When will the activity be completed?	> 1 year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Costs related to organizational personnel, and executive employees (teachers); costs may be covered by the activity organizer and/or local community members, sponsors and/or ticket fees from visitors.
How do we assure the quality standards of the introduced activity?	Success will be measured by the evaluating the feedback and reactions of tourists/visitors/buyers and local community members via post-event organized survey
Have the key risks been identified? Do we have a plan B?	Insufficient agility and/or willingness of local community members (and other stakeholders) to contribute to this activity. Plan B will be the involvement of external agencies and activity organizers (from outside the region).
How are we going to manage/procure the external contributors to introducing/executing the activity?	Emphasizing long term benefits and pride towards local/cultural heritage; point out that the activity contributes to the preservation of local knowledge and that it may have additional economic benefits.
What human resources and skills are needed? How are we going to keep the Team motivated?	Networking, managing relations, local knowledge, organizational skills, communication
Are key and impacted stakeholders supporting the activity?	They may be, but the engagement of local community members is vital.
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties, emphasize long term benefits.
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 3: Educational activities in nature - multiple days

WHY

Rationale& business case

What are the expected benefits of introducing this activity?

The educational activities organized on site, will bring financial benefits to the Ecological Station i.e., by renting out the facilities, or via the provision of educational resources (workshops, teachers)



WatNex



WHO	
Purpose & Passion <i>Why is this activity introduced?</i>	Educational activities taking place outside in nature are known to be beneficial to health and mind – and (most) kids/people enjoy it. It will also aspire for the future generation to study in the fields of biology, chemistry, or similar field, and/or be aware of their surroundings, and eventually generate sustainability awareness starting at a young age. Seeing the beauty and value of the (local) area with your own eyes is unforgettable and the shared positive experiences from the participants will help to improve its image and visibility.
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	head of Vrlika station;
Governance <i>Who is responsible for which segment of the activity?</i>	Teaching staff; primary and secondary schools; Education and Teacher Training Agency
WHAT-HOW-WHEN	
What will the activity produce and deliver?	(1) Organized educational activities, such as summer schools, green school, school camps, nature camp, school in nature, targeting for primary and secondary school student from Croatia and broader. One can think of a 5-day nature camp for kids/young adults (6-18), scouts or other alike groups. (2) Idem as activity 1, but targeting schoolteachers, nature friendly tourists, families, ...
When will the activity be completed?	> 1 year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Facilities adapted to accommodate groups of up to 52 persons. Develop programme of activities with/for; appoint concierge. Marketing/ promotion to appropriate target group
How do we assure the quality standards of the introduced activity?	Feedback/surveys
Have the key risks been identified? Do we have a plan B?	Insufficient agility and/or willingness of primary/secondary educational institutions to engage. Plan B will be organizing promotional activities at the school's first, and a marketing campaign via proper channels.
How are we going to manage/procure the external contributors to introducing/executing the activity?	Marketing campaign, networking, and/or lobbying towards governmental agencies as to get their support; They may



	make “nature school” type activities an integral part of the educational curriculum, and/or they may provide financial support to those with fewer means as to guarantee the widest possible participation.
What human resources and skills are needed? How are we going to keep the Team motivated?	Guides, teachers, facility manager, cook, cleaner; Motivation comes by enthused participants sharing their stories afterwards. Some financial benefit to the workshop teachers/guides/organizers.
Are key and impacted stakeholders supporting the activity?	Primary school teachers are in favor of ‘nature camps’ like activities are already part of the curriculum at some schools.
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties, emphasize long term benefits (financial, visibility, image, ...)
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 4: Educational activities in nature – day trips

WHY

Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	Similar as described for activity 3.
Purpose & Passion <i>Why is this activity introduced ?</i>	Similar as described for activity 3;

WHO

Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Organizer of the trip, educator(s)/teachers, head of Vrlika station
Governance <i>Who is responsible for which segment of the activity?</i>	Teaching staff; primary and secondary schools;

WHAT-HOW-WHEN

What will the activity produce and deliver?	(1) Organized educational interactive day-activities taking place outdoors, in nature, that are adapted to kids/young adults (6-18 years), scouts or other alike groups. (2) Idem as activity 1, but targeting schoolteachers, nature friendly tourists, families, ...
When will the activity be completed?	> 1 year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Facilities adapted to accommodate groups of up to 52 people (but excluding sleeping facilities). Develop programme of activities with/for; appoint concierge. Marketing/ promotion to appropriate target group



WatNex



How do we assure the quality standards of the introduced activity?	Feedback/surveys; se up safety procedure adopted for the activity; detailed schedules/programmes to be developed with input from teachers/locals/...
Have the key risks been identified? Do we have a plan B?	Insufficient agility and/or willingness of primary/secondary educational institutions to engage. Plan B will be organizing promotional activities at the schools instead of them coming on site.
How are we going to manage/procure the external contributors to introducing/executing the activity?	Similar as described for activity 3.
What human resources and skills are needed? How are we going to keep the Team motivated?	Guides, teachers Motivation comes from enthused participants sharing their stories afterwards. Some financial benefit to the workshop teachers/guides/organizers.
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties, emphasize long term benefits (financial, visibility, image, ...)
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 5: Educational in-situ professional and personal development courses (“workation”)

WHY	
Rationale& business case <i>What are the expected benefits of introducing this activity?</i>	The organized activity will bring financial benefits to the station via the participation fees and/or via renting out the facilities. It will also help in raising awareness for different topics (biology, ecology, depending on the course). An increase in attendance is to be expected compared to <i>traditional</i> courses taking place in the classroom.
Purpose & Passion <i>Why is this activity introduced?</i>	Offering educational opportunities to university students and professionals, including those outside traditional academic settings (managers, motivated citizens, educators from different fields), empowers them to acquire new skills and knowledge. Enable participants to invest time in their personal and professional development in a flexible way (“workation”) so that individuals can combine/balance their learning with their other responsibilities, making it easier for them to invest time in their personal and professional development. Expanding the scope of the courses given at PMF will help to advocate multidisciplinary (e.g., via joint



	courses) and promote exchange of students from different backgrounds.
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	University/educational institutions. Head of the Vrlika station.
Governance <i>Who is responsible for which segment of the activity?</i>	The organizer of the course/workshop, workshop participants;
WHAT-HOW-WHEN	
What will the activity produce and deliver?	(1) The organization of in-situ tailor-made educational programme, that address specific needs and challenges faced by the relevant target group. An activity guide / agenda will be published; topics to choose from may be i.e., permaculture, land management, aquatic biology, but also personal development, scientific/research/educational skills.
When will the activity be completed?	> 1 year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Costs are related to the organization of the activities (paying organizers/teachers), and the communication/marketing strategy. Creating the activity booklet.
How do we assure the quality standards of the introduced activity?	Feedback/surveys
Have the key risks been identified? Do we have a plan B?	Lack of funding for university to have a course there; courses not compatible with the syllabus (plan B: changing the syllabus; application for national or international funds to enable the organization). Lack of interest from external organizers (plan B: announcements in different portals, national and international, organization of workshops by the Faculty/Station to increase the visibility).
How are we going to manage/procure the external contributors to introducing/executing the activity?	Lobbying towards the Faculty of Science & PR office, visualizing the benefits of the above-mentioned activities; careful monitoring whether goals (and the benefits) are achieved (make it quantitative); demonstrate the need, do a survey among the relevant target group beforehand).
What human resources and skills are needed? How are we going to keep the Team motivated?	Organizational skills, communicative, negotiation, ... public relations,
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties, emphasize long term benefits (financial, visibility, image, ...), increased student participation/attendance



Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder
Activity 6: Educational citizen science day activities	
WHY	
Rationale& business case <i>What are the expected benefits of introducing this activity?</i>	The organized activity will bring financial benefit to the station. Gaining extra funds for citizen science activities
Purpose & Passion <i>Why is this activity introduced ?</i>	Strengthening the citizens' awareness of nature, promoting children's interaction with nature and STEM subjects, and sustainable practices.
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance <i>Who is responsible for which segment of the activity?</i>	Dean of the Faculty of Science, Head of the Department of Biology - creating opportunities for citizen science activities within the Ecological Station; Faculty members, teachers, scientists, students - execution of the citizen science initiatives
WHAT-HOW-WHEN	
What will the activity produce and deliver?	(1) The activity will involve the organization of different types of interactive educational/citizens science activities, and the publication of an activity agenda in which the activities are planned. This list of activities may include: <ul style="list-style-type: none"> • Hiking tours including education about sustainable living and importance of biodiversity, gathering environmental data by hiking citizens • Thematic (science) trails, style “Pokémon go” • Researchers' night, girl's academy workshop, school science projects • Clean up nature activities (picking trash for example) • Educating local citizens about sustainable practices • Organize citizen science project in which teachers and children may conduct simple environmental observations and contribute to real scientific research.
When will the activity be completed?	> 1 year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Costs of educators/students/researchers to conduct the citizen science activities in the Ecological Station; organizing citizen science initiatives
How do we assure the quality standards of the introduced activity?	Feedback/surveys



Have the key risks been identified? Do we have a plan B?	Lack of interest for citizen science initiatives among broader public and lack of motivation for the executors of the citizen science activities (plan B - volunteering of students, guest scientists/educators in return for free usage of Ecological Station spaces for their own research);
How are we going to manage/procure the external contributors to introducing/executing the activity?	Volunteering of students, guest scientists/educators in return for free usage of Ecological Station spaces for their own research
What human resources and skills are needed? How are we going to keep the Team motivated?	Educators, scientists, students willing to share their knowledge to interested citizens; shaping volunteering agreements
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 7: Nature awareness activities

WHY

Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	It can bring several financial benefits to the Ecological Station while raising awareness of various ecological issues and increasing the station's visibility. The fee for nature bootcamp may cover the cost of organizing the bootcamp, including instructor fees, materials, lodging, and meals; it can offer membership programmes with special benefits to participants who become Ecological Station members, such as discounts on future bootcamps, exclusive access to certain events, or educational materials; nature bootcamp can increase the stations' visibility through media coverage/ media attention, resulting in news reports and articles that raise the station's profile
Purpose & Passion <i>Why is this activity introduced?</i>	awareness of nature

WHO

Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance	Leadership of the Faculty of Science, Department of Biology



WatNex



Who is responsible for which segment of the activity?	
WHAT-HOW-WHEN	
What will the activity produce and deliver?	nature bootcamps
When will the activity be completed?	1st year onwards [short term]
How much will the introduction/execution of the activity cost? How many resources do we need?	Costs of educators/students/researchers to conduct the activities in the Ecological Station, organizing initiatives
How do we assure the quality standards of the introduced activity?	Feedback/surveys
Have the key risks been identified? Do we have a plan B?	lack of funding for university to have a course there or lack of interest to participate
How are we going to manage/procure the external contributors to introducing/executing the activity?	Survey to see the interest; promotional activities
What human resources and skills are needed? How are we going to keep the Team motivated?	Teachers, educators
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 8: Promoting research activities

WHY	
Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	Income for the faculty + improving the image of the Vrlika station; increased visitor numbers;
Purpose & Passion <i>Why is this activity introduced ?</i>	Improved image of the university & it's research activities; new competences for employees/researchers (hands-on, field work, ...) dealing with new aspects of research that are less/not experienced when working in the office; on the long term, boosting interest in ecological research/surveillance = value for nature conservation; enrichment of research network; promoting exchange between researchers/students as a driver for development/new research ideas and future collaborations; boosting interest in ecological research/surveillance = value for nature conservation; spark interest in the younger generation = future leaders
WHO	



WatNex



Executive Sponsor <i>Who is accountable for the success of this activity?</i>	university head of department, head of the Vrlika station; communication department
Governance <i>Who is responsible for which segment of the activity?</i>	university head of department, head of the Vrlika station
WHAT-HOW-WHEN	
What will the activity produce and deliver?	exchange student experiences, conducting joint student research projects, host small student events, activities that promote ecology/biodiversity/WatNex principles;
When will the activity be completed?	1 year onward [short term]
How much will the introduction/execution of the activity cost ? How many resources do we need?	The cost of promotional activities, cost of research activities
How do we assure the quality standards of the introduced activity?	idem to above
Have the key risks been identified? Do we have a plan B?	lack of interest to participate;
How are we going to manage/procure the external contributors to introducing/executing the activity?	Survey to see the interest; an action plan composed of research promoting activities + communication strategy that promote/share about new but also ongoing research activities;
What human resources and skills are needed? How are we going to keep the Team motivated?	Personnel to prepare the station for research activities (depending on the needs)
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder
Activity 9: Shaping a scientific biodiversity NEXUS hub for aquatic biodiversity research	
WHY	
Rationale& business case <i>What are the expected benefits of introducing this activity?</i>	increasing the scientific interest in biological station, increasing attractiveness of the station for research purposes, attracting funding
Purpose & Passion <i>Why is this activity introduced ?</i>	helping young researchers to conduct their research, more research done in the region
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Department, Vrlika station



WatNex



Governance <i>Who is responsible for which segment of the activity?</i>	head of Vrlika station, head of department
WHAT-HOW-WHEN	
What will the activity produce and deliver?	research projects that focus on the area by organizing/submitting proposals for students that specifically study the Vrlika surroundings; launch or continue a long-term monitoring study that is clustered at Vrlika;
When will the activity be completed?	1 st year onward [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	cost of stay, cost of expendables
How do we assure the quality standards of the introduced activity?	feedback/surveys
Have the key risks been identified? Do we have a plan B?	insufficient interest in applying for the stays, lack of funding
How are we going to manage/procure the external contributors to introducing/executing the activity?	an action plan composed of research promoting activities + communication strategy that promote/share about new but also ongoing research activities
What human resources and skills are needed? How are we going to keep the Team motivated?	Scientists, other universities / research groups (in aquatic science / ecology)
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 10: Create a Vrlika/WatNex ambassador programme/network

WHY	
Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	create a platform for self-sufficient sustainable use of the station
Purpose & Passion <i>Why is this activity introduced ?</i>	create a network of loyal users of the station
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance	Dean of the Faculty of Science, Head of the Department of Biology - creating opportunities for loyalty programmes, PR



WatNex

Isle of Man
Liechtenstein
Norway
Norwegian grants

Who is responsible for which segment of the activity?	of the Faculty of Science - advertising/promoting the station's activities/offers
WHAT-HOW-WHEN	
What will the activity produce and deliver?	loyalty programme for the users of the Ecological Station
When will the activity be completed?	2nd year [long goal]
How much will the introduction/execution of the activity cost? How many resources do we need?	office for promoting, administering, and branding the loyalty programme
How do we assure the quality standards of the introduced activity?	Feedback/surveys
Have the key risks been identified? Do we have a plan B?	Insufficient interest for involving into the loyalty programme, insufficient regulation experience in leading loyalty programmes and in increasing the motivation for participation in such programmes
How are we going to manage/procure the external contributors to introducing/executing the activity?	promotional activities
What human resources and skills are needed? How are we going to keep the Team motivated?	loyalty programme leadership and administration, creating bonuses for loyalty programme users (donations and sponsorships for such programmes)
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 11: Promoting art & science interaction

WHY	
Rationale & business case <i>What are the expected benefits of introducing this activity?</i>	increase the connection between science and art but also provide income for Faculty (educational programmes - incorporating art into educational programmes can make learning about ecology more enjoyable and memorable); increase visibility of the station (Art/Science exhibitions, installations, and workshops that highlight ecological themes can attract a wider audience, including those who may not typically engage with scientific content)
Purpose & Passion <i>Why is this activity introduced ?</i>	promoting interaction between art and science can greatly benefit the work of an Ecological Station by fostering creative thinking, enhancing public engagement, and communicating complex ecological concepts in accessible ways;
WHO	



WatNex



Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance <i>Who is responsible for which segment of the activity?</i>	Head of Vrlika station
WHAT-HOW-WHEN	
What will the activity produce and deliver?	painting, singing, community gardening; venue for creative activities, organizing/setting up exhibitions, promoting heritage, local culture, creating a small museum/visitor center and get it in the lonely planet
When will the activity be completed?	1st year onwards [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Cost of space usage
How do we assure the quality standards of the introduced activity?	Feedback/surveys
Have the key risks been identified? Do we have a plan B?	Lack of interest in the activities
How are we going to manage/procure the external contributors to introducing/executing the activity?	To be determined by relevant stakeholder
What human resources and skills are needed? How are we going to keep the Team motivated?	personnel to conduct activities, cost of consumables
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder
Activity 12: Venue for hosting private events	
WHY	
Rationale& business case <i>What are the expected benefits of introducing this activity?</i>	financial benefits for the station, local producers
Purpose & Passion <i>Why is this activity introduced ?</i>	increase the visibility of the station, local products, culture
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	head of Vrlika station, organizers of the events
Governance <i>Who is responsible for which segment of the activity?</i>	head of Ecological Station



WatNex



WHAT-HOW-WHEN	
What will the activity produce and deliver?	events that will also have some cultural aspect connected to the region (e.g. birthday parties, weddings, other celebrations)
When will the activity be completed?	2 nd year [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Preparation of the station for the events (catering, food, decorations)
How do we assure the quality standards of the introduced activity?	feedback/surveys
Have the key risks been identified? Do we have a plan B?	insufficient interest to hold an event there (clients), insufficient interest to have an event there (station)
How are we going to manage/procure the external contributors to introducing/executing the activity?	an action plan composed of promoting activities + communication strategy that promote/share about new activities
What human resources and skills are needed? How are we going to keep the Team motivated?	Communication team, catering team
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder
Activity 13: Vending point for local products	
WHY	
Rationale& business case <i>What are the expected benefits of introducing this activity?</i>	Financial benefits for local producers
Purpose & Passion <i>Why is this activity introduced ?</i>	Increase the visibility of the local products/heritage/culture
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Local community leadership (municipality head)
Governance <i>Who is responsible for which segment of the activity?</i>	Head of Ecological Station - creating opportunities for networking with local community/producers; municipality leadership - engaging local producers to offer their products to the users of the Ecological Station
WHAT-HOW-WHEN	
What will the activity produce and deliver?	occasional fairs of local products during educational and scientific activities in the Ecological Station (e.g. food market)



	on site, cafe/stand within in the station shops with local items (merchandise)
When will the activity be completed?	from the 3rd year onwards [long goal]
How much will the introduction/execution of the activity cost ? How many resources do we need?	promotive material costs, infrastructure needed for organizing/setting up the occasional fairs
How do we assure the quality standards of the introduced activity?	Feedback/surveys among the end users/buyers/users of the Ecological Station
Have the key risks been identified? Do we have a plan B?	Insufficient interest of the local community to involve into the occasional fairs, quality control of the local products offered
How are we going to manage/procure the external contributors to introducing/executing the activity?	mediation by local community leadership/municipality
What human resources and skills are needed? How are we going to keep the Team motivated?	creating convenient relationship with the local community
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Activity 14: Creating a spot for remote workers (IT, data scientists, digital nomads, woofing..)

WHY	
<p>Rationale& business case <i>What are the expected benefits of introducing this activity?</i></p>	<p>Creating a space for remote workers and other professionals, such as data scientists, digital nomads, and woofers, can provide several benefits: financial income (IF renting out space to remote workers, digital nomads can bring diverse expertise and educational benefit to the station; interactions between ecologists and these professionals can lead to innovative ideas, collaborations, and solutions; this can bring knowledge exchange: the presence of remote workers can facilitate knowledge sharing and cross-pollination of ideas between different disciplines - ecologists can learn from IT professionals, and vice versa; this could also bring volunteer support: Woofers (Willing Workers on Organic Farms) can provide labor for various tasks, such as refurbishment projects, gardening, and maintenance, reducing the station's labor costs and supporting its operations; maybe also long-term benefit -</p>



	professionals visiting the station may be interested in participating in educational programmes or workshops, increasing the station's outreach and impact
Purpose & Passion <i>Why is this activity introduced ?</i>	Increase the visibility of the Ecological Station
WHO	
Executive Sponsor <i>Who is accountable for the success of this activity?</i>	Leadership of the Faculty of Science, Department of Biology
Governance <i>Who is responsible for which segment of the activity?</i>	Head of the Station
WHAT-HOW-WHEN	
What will the activity produce and deliver?	hotspot for remote workers' gatherings, idea exchange; providing a place for woofers - e.g., if the station needs the refurbishment, this option can be chosen
When will the activity be completed?	1 st year [short term]
How much will the introduction/execution of the activity cost ? How many resources do we need?	Cost of stay for each participant, catering if needed (depending on the arrangements with the participants, if they want to cook by themselves or it is provided by the station)
How do we assure the quality standards of the introduced activity?	Feedback, surveys
Have the key risks been identified? Do we have a plan B?	Lack of interest
How are we going to manage/procure the external contributors to introducing/executing the activity?	an action plan composed of promoting activities + communication strategy that promote/share about new activities
What human resources and skills are needed? How are we going to keep the Team motivated?	Communication team (promoting activities), 'housekeeping' team
Are key and impacted stakeholders supporting the activity?	To be determined by relevant stakeholder
How are we going to engage the stakeholders and remove barriers to change ?	Consider mutual benefits of all involved parties
Has the organization and culture been adapted (structure, priorities, competencies) to succeed in a project-driven world?	To be determined by relevant stakeholder

Division of the activity list into short-term and long-term achievability

Short-term

Activity 1: "Put Vrljka Station on the map": improve visibility, location, goals, mission and vision

Activity 7: Nature awareness activities

Activity 8: Promotion of research activities



Activity 14: Create a place for remote workers (IT, data scientists, digital nomads, wuffing...)

Long-term

Activity 2: Education about local culture, heritage, local practices, traditions

Activity 3: Educational activities in nature - several days

Activity 4: Educational activities in nature – day trips

Activity 5: Educational courses for professional and personal development in the field (“workation”)

Activity 6: Educational citizen science day activities

Activity 9: Creation of a scientific center for the study of aquatic biodiversity NEXUS

Activity 10: Creation of a Vriika/WatNex ambassador programme/network

Activity 11: Promote interaction between the arts and sciences

Activity 12: Venue for private events

Activity 13: Point of sale for local products



Norwegian
University of
Life Sciences



WatNex

Skolaun 101
Liechtenstein Norway
Norway grants

Supplement 3. List of stakeholders that could potentially have the "power" and "interest" to influence the prospects for improving the visibility and sustainability of the Ecological Station Vrlika, resulting from the activity list that emerged from the application of the Project Canva framework, and additionally from the application of the stakeholder mapping approach.

Stakeholder	
1.	Leadership of the Department of Biology
2.	Leadership of the Faculty of Science, University of Zagreb
3.	International Relations Office of the Faculty of Science, University of Zagreb
4.	PR Office of the Faculty of Science, University of Zagreb
5.	Heads of Departments of the Faculty of Science, University of Zagreb
6.	Teaching staff of the Faculty of Science, University of Zagreb
7.	Research staff of the Faculty of Science, University of Zagreb
8.	Students (BSc, MSc, PhD) of the Faculty of Science, University of Zagreb
9.	EU research programmes
10.	COST Action leaders
11.	PIs of research/applied/developmental projects
12.	Student associations
13.	Primary schools
14.	Secondary schools
15.	Universities from abroad
16.	Local community leadership (municipality heads)
17.	Civil society associations
18.	Citizens of Vrlika
19.	Alumni of the Faculty of Science, University of Zagreb
20.	NGOs (non-governmental organizations)
21.	Ministry of Science and Education
22.	Education and Teacher Training Agency
23.	Agency for Mobility and EU Programmes of the Republic of Croatia
24.	Agency for Science and Higher Education of the Republic of Croatia
25.	Croatian Academy of Sciences and Arts
26.	Croatian Science Foundation
27.	Croatian Geological Survey
28.	National/nature parks
29.	Ruđer Bošković Institute
30.	University of Zagreb



31. Other Faculties of the University of Zagreb
32. Other Croatian universities (Rijeka, Split, Osijek)
33. Scout organizations
34. Artists organizations
35. Private companies
36. Public companies
37. Family-owned businesses
38. Governmental agencies for environment



Norwegian
University of
Life Sciences



WatNex

Iceland Liechtenstein Norway
Norway grants grants

Supplement 4. "Power-interest" grid visualizing the potential (i.e., power and interest) of individual stakeholders (organizations and individuals) to increase the visibility and sustainability of the Ecological Station Vrljika

