

Action plan for improving ecological connectivity on dry karst grasslands in the Pilot region Slovenia - Croatia

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This document contains information and instructions for developing Action plans for pilot regions. The purpose of Action plans is to improve transnational cooperation in reducing fragmentation and improving ecological connectivity, conservation of biodiversity, and delivery of ecosystem services in the pilot regions. Action plan is one of the main deliverables of project DinAlpConnect.

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1. Introduction

DinAlpConnect project was launched in March 2020 with the aim to strengthen transnational and sectoral cooperation in improving ecological connectivity (EC) throughout Dinaric Mountains, connecting them with the Alps, and enabling long-term protection of biodiversity, particularly in view to current and future climate changes. The project is expected to improve transnational cooperation in maintaining and improving EC and biodiversity by bringing together institutions from different sectors whose activities impact the ecological connectivity (nature conservation, agriculture, forestry, business support) from seven ADRION countries.

In order to improve ecological connectivity, eleven DINALPCONNECT partners from seven countries established the network of pilot regions with the purpose of strengthening transboundary linkages between Natura2000 sites and respective protected areas where EC will be explored in more details and consolidated. The main aim of the Action plan is to improve EC of transboundary habitats in pilot regions based on guidelines for agricultural and forestry practices protecting biodiversity.

The main topic of this Action plan within the DINALPCONNECT project is the improvement of ecological connectivity within the transboundary pilot region Slovenia - Croatia and the long-term conservation of dry grasslands focusing on the habitat loss issue and consequently proactively tackling the challenge of ecological connectivity (EC) of the remaining patches.

Trans-border cooperation in dealing with the ubiquitous problem of dry grasslands' disappearing is crucially meaningful and necessary. Working together deepens our understanding of the complexity of the nature conservation and agriculture practice and regulative framework. Cross-border associations significantly improve any particular stakeholders' ability to access EU funding.

2. Description of the Pilot region

The second connection spot on the Dinaric - Alpine route is near the border between Slovenia and Croatia. It includes the Karst Plateau in Slovenia, Učka Nature Park in Croatia and Ćićarija mountain range, spreading through Slovenia and Croatia.

The Karst Plateau, in Slovenia, locally called Kras, is renowned for its caves and represents the birthplace of Karst studies. It is officially protected as Natura 2000 area (which also includes a part of Ćićarija, which lies in Slovenia) with nature conservation focusing largely on dry grassland habitat types and the associated species. Speleologists discover new caves in Slovenia every year, currently over 14.000 have been registered, but only about 20 among them have public access. The most visited cave is the Postojna Cave, integral part of the largest cave system in Slovenia.

On Croatian side, Učka Nature Park is a place with many different habitats that are home to numerous endemics, threatened and protected plant and animal species for which Učka Nature Park represents Natura 2000 site.

Ćićarija is a karst mountain range stretching over the border, connecting the Karst Plateau and Učka. The resulting large interconnected karstic area stretches through both countries in the Dinaric direction from northwest to southeast.

The three areas together represent one of four DINALPCONNECT pilot regions where ecological connectivity will be explored and consolidated. Project team members are working side by side with associated partners and local experts to prepare an Action plan that will highlight the needs of the pilot region in order to adequately respond to the challenge of improving ecological connectivity. (Pilot region SLO-CRO ID card, 2021)

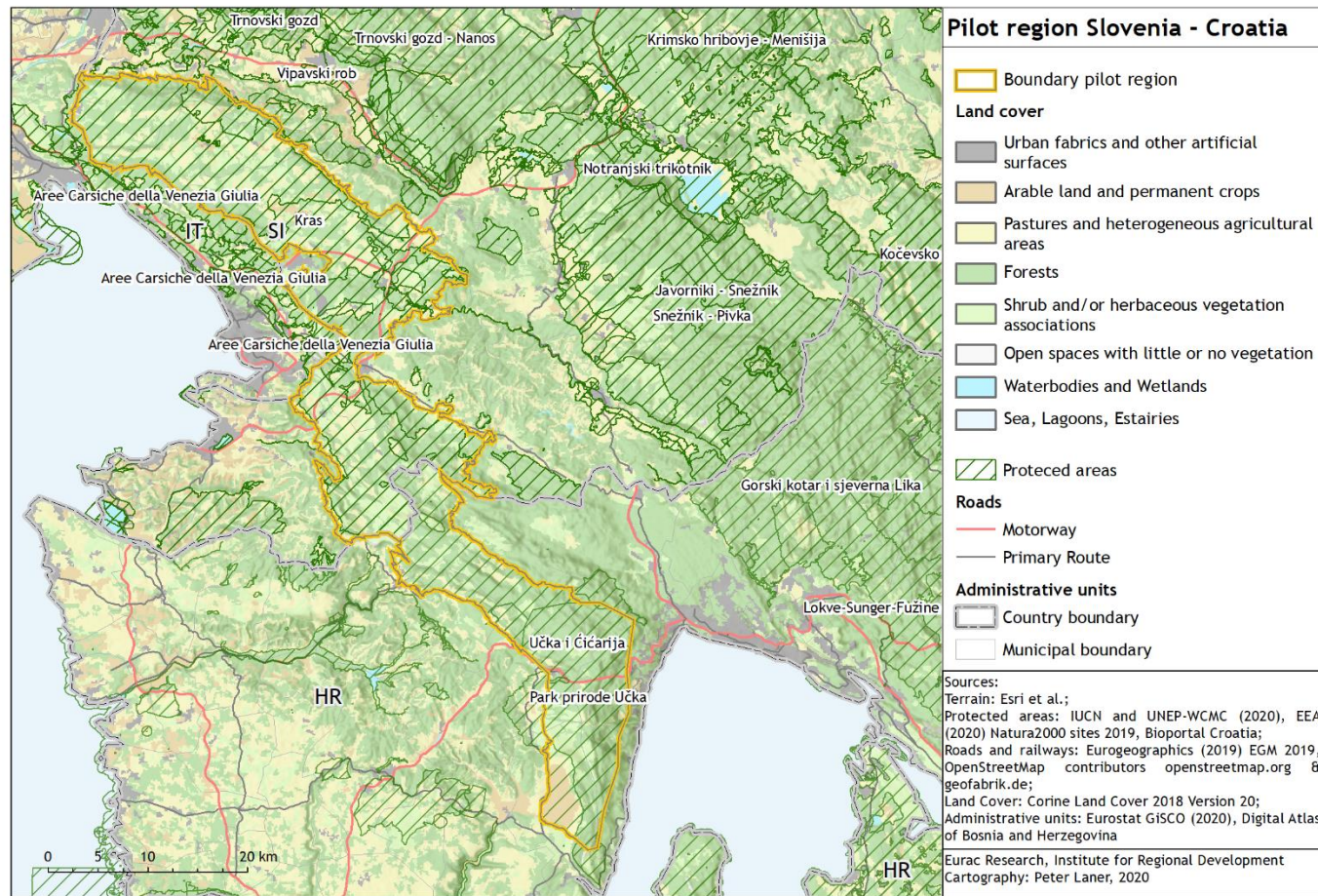


Figure 1. Map of the Pilot region Slovenia - Croatia.

3. Action plan for pilot region Slovenia - Croatia

3.1. Vision of the Pilot region

The trend of dry grasslands disappearing on account of overgrowing has been stopped and reversed. The long-term survival of dry grasslands is ensured by sustainable land management practices integrating knowledge from the fields of nature conservation and agriculture.

Pilot region Slovenia - Croatia encompassing areas of Kras, Učka, and Ćićarija - The karst border area of Slovenia and Croatia is a place of rich cultural heritage and preserved biological diversity where grasslands and people are connected. The presence of man maintains the biological diversity of karst grasslands, and the sustainable management of natural values makes this area a space for gaining new knowledge, education and interpretation of the harmonious relationship between man and nature.

The participants of the workshop for the preparation of the DINALPCONNECT Action plan agreed that such joint interdisciplinary meetings are an excellent opportunity for continuing systematic approach to further comprehensive management of not only dry grasslands, but the region.

3.2. Theme and evaluation of the theme

Table 1. Theme and evaluation of theme

Theme A. Conservation of dry grasslands on Pilot region Slovenia - Croatia (Kras and Učka and Ćićarija)
<p>Evaluation of the Theme A</p> <p>The DinAlpConnect pilot project region of Slovenia - Croatia (Kras, Učka and Ćićarija) is a mountainous area of a vibrant biodiversity, which is supported by the specific relief located in a relative proximity to the Adriatic. There are specific climate conditions favoring not only rich forest vegetation but also diverse grassland habitats hosting numerous endemics, rare, endangered, and protected plant and animal species (www.pp-ucka.hr). The Croatian side of the pilot region is covered by Natura 2000 area HR1000018 Učka and Ćićarija encompassing Učka Nature Park. The Park itself is located in the western part of Croatia, covering the eastern side of the Istrian peninsula. With its twenty-kilometer stretch along the coast of the northern Adriatic, it covers the entire massif of the Učka mountain and only a part of the Ćićarija mountainous area. (Management plan for the Učka Nature Park and associated protected areas and areas of ecological network (PU 6018)). A rather long history of human settlement and activity has shaped the entire space, especially in terms of vegetation. The area is interesting for its mosaic landscapes and vegetation, dominated by forest habitats covering over 70% of the Park territory. Man-created grasslands are especially important since these habitats add immensely to the richness of local flora and fauna. Depending on the management method and ecological conditions, such as geological substratum, soil depth, slope, amount of precipitation, and altitude, different types of grasslands can be found here.</p>

During the last few decades, active use of grasslands has been reduced to very small areas, mainly around the rural settlements of Vela Učka, Brest, and Mala Učka. Many of grassland habitats have been affected by a strong process of succession (Brana et al., 2013), while at the same time grasslands around Mala Učka are excessively grazed (Surina and Modrić Surina, 2019b). The grasslands of Učka and Ćićarija present valuable biodiversity hotspots, thus being one of the most endangered ecosystems in need for a consistent, sound, and balanced management. Since the Neolithic period, sheep herding has been the basis of human life style and survival in the area. The local landscape of mountainous grasslands with ponds was created through interaction between nature and genuine pastoral communities that lived in the pilot region for a long period of time (Frangješ, 2010).

According to topographical maps of Austro-Hungarian cadaster (Österreichisches Staatsarchiv) from 1830, 66% of the area of today's Učka Nature Park was covered by grasslands. A map of habitats made back in 2008 (OIKON, 2008) records only 12% of the area covered by grasslands, and 92% of these grasslands are in a more or less advanced stage of succession. A detailed survey of Učka grasslands was performed in 2019, and the condition of all types of grasslands was assessed as poor (Surina, 2019b), this being in line with aforementioned negative trends. As a part of DinAplConnect project activities, detailed field research was conducted and it confirmed that the Učka and Ćićarija grasslands are heavily jeopardized by succession. (Škunca, Grgić, 2021)

A majority of grasslands in the pilot region are of anthropogenic origin and thus need to be regularly maintained by grazing or mowing. If there is no such activity, they will become progressively overgrown with woody vegetation. In the entire pilot project region, the population is mostly leaving or abandoning their old life-style, and this is followed by a decreasing number of animals using and thus maintaining grasslands. Also, due to a series of aggravating social and political circumstances, many farmers are giving up livestock breeding for good. One of the main problems, regularly emphasized by local stakeholders, is legal status of agricultural land and pastures which makes it difficult to lease and consolidate useful land on a large number of plots.

Inconsistency of the legal framework, creating the situation of different laws being implemented and often colliding with each other (Law on Forestry, Law on Agricultural Land, and Law on Nature Protection), as well as an inadequate system of state

incentives only adds to the unfavorable situation. In the area of Čićarija, there is an additional problem of numerous ponds now disappearing for being neglected and not used by animals any more, changing progressively the entire ecosystem. Bringing water to animals in remote areas is time-consuming and expensive. All these elements demotivate the local population and herders to invest their time and effort in breeding domestic animals. Without these activities, valuable grassland habitats in the area are being lost irreversibly and irreparably. Also, overgrown grasslands create favorable conditions for the spread of summer fires, thus endangering forest habitats. (Kostelić, Grgić, Novoselc and Favili, 2021.)

In Slovenian part of Pilot region landscape identity of the Karst has undergone a considerable change in the last 250 years with decline of grassland from 82 to 20% and forest progress from 17 to 73%. The published model predictions (Kaligarič, Ivanjšič, 2014) predict that the grassland will shrink to 6 km² by 2100 (3% of the landscape).

The loss of patchy land mosaic by forest overgrowth is causing loss of exceptional biodiversity in the Karst region. It is therefore extremely important to keep the share of grasslands within the area above certain threshold (at least 15%), which would enable sufficient connectivity between grassland fragments.

Table 2. General and specific objectives for the Pilot region Slovenia - Croatia, Kras, Učka and Ćićarija

<p><u>General objective A</u></p> <p>Valuable karst grasslands in the area of the Slovenia-Croatia pilot region, associated species and a unique landscape are preserved and connected through the regulation of sustainable use of natural resources and the promotion of their values.</p>
<p><u>Specific objective AA</u></p> <p>In the next 10 years, on the Pilot area Slovenia-Croatia, Kras and Učka and Ćićarija the favorable condition of dry karst grasslands has been soundly managed and preserved</p>
<p><u>Specific objective AB</u></p> <p>In the next 10 years administrative procedures and institutional framework are adjusted and provide favorable conditions for effective grassland management on Učka and Ćićarija</p>
<p><u>Specific objective AC:</u></p> <p><u>Adjusting of administrative procedures to provide favorable conditions for the lease of agricultural land and resolving legal relations where there is an interest in the lease in the Kras area</u></p>
<p><u>Specific objective AD:</u></p> <p>Specific objective AD: By 2033, all preconditions for encouraging local population to engage in extensive livestock breeding and breeding of indigenous breeds, have been met.</p>
<p><u>Specific objective AE:</u></p> <p>By 2033 local population and the public understand the values of the grasslands on Učka and Ćićarija and the importance of their preservation.</p>

General objective A

Valuable karst grasslands in the area of the Slovenia-Croatia pilot region, associated species and a unique landscape are preserved and connected through the regulation of sustainable use of natural resources and the promotion of their values.

Specific objective AF:

By 2030, the local farmers understand the value of pastures and cooperate on their conservation in Kras area

Specific objective AG:

In the next 10 years at least four common cross-border harmonized guidelines for improved conservation and ecological connectivity of dry grassland have been prepared.

3.3. Activities on the Pilot region Slovenia - Croatia

The stakeholders in Slovenia clearly recognise the need for systematic reform in terms of interlinking the national agricultural and nature-conservation policies and practices which currently run in parallel with little regard for one another. But while identifying the problem is simple enough, the solution remains elusive as the stakeholders refuse to commit to concrete actions and steps towards the solution and intertwining of closely associated yet separate spheres. Furthermore, Slovene stakeholders did not have sufficient knowledge to estimate the costs of some of these activities, therefore these fields are left empty. (* in Table 3)

On the Croatian side, the pilot region manager of the protected area is the Public Institution of the Učka Nature Park. During the development of this Action Plan, a new Management Plan for the Učka Nature Park and associated protected areas and areas of the ecological network (PU 6018) for a 10-year period (2023 - 2033) was also developed. The Public

institution recognized the importance of this Action Plan and included the activities defined here in the Management Plan. Also, in the first year of implementation of the management plan, the adoption of this Action Plan and the continuation of its implementation are foreseen.

Table 3. Table with activities, indicators, timeframe and associates on the Pilot region Kras, Učka and Čićarija

List of the abbreviations:

SLO: Slovenia, CRO: Croatia, KIS: Kmetijski inštitut Slovenije, KGZS: Kmetijsko gozdarska zbornica Slovenije, PŠJ: Park Škocjanske jame, UNI-LJ BF: Biotehniška fakulteta Univerze v Ljubljani, MKGP: Ministrstvo za kmetijstvo gozdarstvo in prehrano RS, ZRSVN: Zavod RS za varstvo narave, LAG: Lokalna akcijska skupina, PI NP Učka: Nature Park Učka Public Institution MP: Management plan for Nature Park Učka, NGO: Non - governmental organization, PBB: pro-biodiversity business

Priority - **Priority 1:** These are key activities that must be carried out in order to achieve management objectives and must be undertaken for the duration of the plan; **Priority 2:** activities that are also crucial but a temporary delay in implementation should not have serious consequences; **Priority 3:** is assigned to activities that are important in the long run but can be delayed (desirable activities).

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Specific objective AA: In the next 10 years, on the Pilot area SLO-CRO, Kras and Učka and Čićarija the favorable condition of dry karst grasslands has been soundly managed and preserved																
Indicator for the specific objective AA - 200ha is restored grasslands in the next 10 years, preserved area and habitat conditions of dry grassland habitat types, characteristic grasslands species are present and in favorable conditions, trend of grassland bird populations is stable or increasing.																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of impleme ntation	Financial coast
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y 10			
AA1	Organizing activities of removing woody vegetation from valuable grasslands within Park area and pilot region. (Activity AB18 in Učka NP's MP)	Area of valuable grasslands maintained annually. Area of grasslands sustainably maintained. Number of organized grasslands bush removal activities. Numbers of volunteers participating in grasslands restoration activities.	1											PI NP Učka, BIOM, Croatian Forests, volunteers, local farmers and hunters, other external experts	CRO	270.000€
AA2	Development and implementation of guidelines for the organization of grasslands restoration actions on Učka and Čićarija	Guidelines developed by 2023. Reports from grassland restoration actions	1											PI NP Učka, BIOM, Rijeka Nature History Museum, other external experts	CRO	15.000 €

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AA3	Developing rapid assessment method and monitoring protocol for karst grasslands and setting up the pilot region grasslands database.	Rapid grassland assessment method developed and implemented. Monitoring protocol developed. Field studies report. Report on grassland database.	2											PI NP Učka Rijeka Nature History Museum, Public Institution "Natura Histrica", BIOM, other external experts.	CRO	15.000 €
AA4	Analysis of the current state and categorization of grasslands in the Park area and determination of priorities for their revitalization. (Activities AB1, AB2, AB15 in Učka NP's MP)	Report on prioritization and categorization of grasslands in the Učka and Ććarija by 2023 Report on ecological connectivity of grasslands in the pilot area. Report on mapping of grassland with georeferenced data.	1											PI NP Učka, BIOM Rijeka Nature History Museum, Public Institution "Natura Histrica", other external experts	CRO	90.000 €

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				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y 10			
AA5	Inventorying and determining ecological and structural condition of selected ponds in the Učka and Čićarija area including implementation of conservation and restoration activities. (Activities AD6 and AD7 in Učka NP's MP)	List of ponds within Park area with geo-referenced data. List of recommendations for restoration and/or conservation of selected localities. Number of restored and revitalized ponds.	1											PI NP Učka, BIOM, Croatian Forests, Croatian Waters, hunting associations, mountaineering associations, NGO Dragodid, other external experts	CRO	45.000 €
AA6	Define status and implement monitor of the target dry grassland species <i>Himantoglossum adriaticum</i> and <i>Serratula lycopifolia</i> in pilot area. (Activity AB4 In Učka NP's MP)	Monitoring reports with georeferenced data on species number, distribution, habitat quality with assessment of pressures and threats, including management recommendations.	2											PI NP Učka	CRO	10.000€

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				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y 10			
AA7	Determining conditions and monitor target species of birds (<i>Sylvia nisoria</i> , <i>Emberiza hortulana</i> , <i>Lanius collurio</i> , <i>Anthus campestris</i> , <i>Lullula arborea</i> , <i>Alectoris graeca</i> , <i>Crex crex</i>) dependent on dry grasslands habitat in the pilot area of Učka and Čićarija. (Activities AB6, AB8, AB11 in Učka NP's MP)	Monitoring reports with georeferenced data on populations' abundance, distribution, habitat quality and size for respective bird species, including assessment of pressures and threats, with management recommendations.	1											PI NP Učka	CRO	37.000 €
AA8	Carry out monitoring of target grassland habitats, with special reference to rare, endemic, and endangered species	- Monitoring reports with georeferenced data	1											ZRSVN, PŠJ, PI NP Učka, external experts	SLO/CRO	20.000 € CRO
AA9	Revise the habitat maps with high accuracy, using remote sensing and field observations (Activity AB14 in Učka NP's MP)	-revised map of habitat types	2											ZRSVN, PŠJ, PI NP Učka, external experts	SLO/CRO	100.000 € CRO
AA10	Carry out the removal of overgrown vegetation with the help of volunteers and park rangers	-5 organized actions to remove shrubs from grasslands by the end of 2033	1											PŠJ, volunteers,r esponsible PP	SLO	*

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				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y 10			
AA11	Promoting sustainable grazing for regular habitat maintenance	-increase in sustainably grazed pasture area	2											KGZS, KIS, PŠJ, ZRSVN	SLO	*
AA12	Restoration of typical Karst ponds (watering holes for animals)	-increase in the number of restored typical Karst ponds	3											PŠJ	SLO	*
AA13	Drywall restoration (Activity B6 in Učka NP's MP	-numbers of drywall restored, number of organized volunteers' actions	2											PŠJ; PI NP Učka, Dragodid, other external experts	SLO, CRO	28.000 € CRO
AA14	Farmer subsidies for prevention of grassland overgrowth adapted to the local area of Kras	-improved and to Karst adapted subsidies available to local farmers	2											MKGP, external experts	SLO	*
AA15	Carry out the removal of invasive species in the field (any locally problematic invasive species should be targeted)	number of organized actions for removal of invasive species	2											PŠJ, ZRSVN, KGZS	SLO	*

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Specific objective AB: Administrative procedures and respective institutional framework developed/improved in order to provide/ensure all necessary preconditions for effective grassland management in pilot area of Učka and Čičarija.																
Indicator for the specific objective AB - Increased number of the signed memorandum and joint initiatives, prepared and implemented collaborative grassland conservation projects, improved cooperation with partner institutions and stakeholders in the area enabling efficient grassland management.																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implementation	Financial coast
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
AB1	Advocating for solving problems related to land ownership, respective administrative procedures, and more efficient institutional framework in ensuring effective grassland management in Učka and Čičarija.	At least 5 meetings with stakeholders and users of dry grassland. Number of cooperation, joint project, and initiatives.	2											PI NP Učka Local governments, respective governmental bodies, LAGs, other external experts	CRO	10.000 €
AB2	Supporting proactive cooperation between stakeholders and space/resources managers in Učka and Čičarija	At least 5 meetings with stakeholders. Number of cooperation, joint projects and initiatives.	3											PI NP Učka Local governments, respective LAGs, Croatian Forests, local hunting associations, local farmers, other external experts	CRO	10.000€

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AB3	Fostering cross-border cooperation within pilot region and sharing good practices in sustainable management of dry grasslands.	At least 3 meetings organized. At least 2 transboundary projects or/and initiatives developed and launched.	1											PI NP Učka, Park Škocjanske jame	CRO/SLO	25.000 €

General objective A Valuable karst grasslands in the area of the Slovenia-Croatia pilot region, associated species and a unique landscape are preserved and connected through the regulation of sustainable use of natural resources and the promotion of their values.																
Specific objective AC: Adjusting of administrative procedures to provide favorable conditions for the lease of agricultural land and resolving legal relations where there is an interest in the lease in the Kras area.																
Indicator for the specific objective AC - Increasing the number of beneficiaries of the overgrowth prevention measure for 10 %, degree of grassland overgrowth does not increase.																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implementation	Financial coast
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
AC1	Adapting the eligibility criteria for the implementation of shrub removal in farmland.	Increasing the number of beneficiaries of the overgrowth prevention measure provided by	1											KGZS, MKGP	SLO	*

		national funds (Ministry of agriculture)															
AC2	Adapting of CAP measures to the specifics of the Karst region by placing additional species on the list of invasive gardens (<i>Senecio inaequidens</i> , <i>Ailanthus altissima</i>)	Increase the number of beneficiaries of measures for removal of invasive plant species	1												MKGP	SLO	*
AC3	Ensure medium and long-term availability of funds for implementation of shrub removal which will enable farmers to modify spatial planning documents	Increasing the number of beneficiaries of the overgrowth prevention measure provided by national funds (Ministry of agriculture)	2												KGZS, MKGP	SLO	*
AC4	Arranging favourable conditions for renting agricultural land and resolving legal relations where there is interest in renting	Increasing the number of rented agricultural land	2												LOCAL GOVERNMENT	SLO	*

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General objective A																
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Specific objective AD: By 2033, all preconditions for encouraging local population to engage in extensive livestock breeding and breeding of indigenous breeds, have been met.																
Indicator for the specific objective AD - increased number of livestock farmers and domestic animals, increased number of products and services of the local community promoted by the Public Institution of NP Učka, increased number of pro-biodiversity business in area																
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AD1	Supporting development and promotion of local pro-biodiversity business products coming from pilot region of Učka i Čičarija.	Number of PBB exhibitors and products actively promoted by the Park and at the Učka Fair. Mark of genuine local origin or quality label created. Database of PBB producers and products supplemented in the 5th and 10th years of AP implementation.	2											PI NP Učka, LAGs, local governmen ts, tourist boards, local farmers, other external experts	CRO	100.000€
AD2	Lobbing for developing specific incentive measures in agriculture for restoration and sustainable management of karst grasslands	Number of beneficiaries using incentive measures for sustainable grasslands management. Area under implementation of the incentive measures.	1											PI NP Učka, LAGs, local governmen ts, local farmers, other external experts	CRO	20.000 €
AD3	Encouraging extensive livestock breeding (Activity D4 in Učka NP's MP).	At least 2 joint initiatives. Area of grasslands sustainably used and soundly managed.	3											PI NP Učka, LAGs, local farmers, local governmen ts, other external experts	CRO	3.000 €

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Specific objective AE: Local population and general public progressively appreciate values of Učka and Čićarija grasslands and fully understand the importance of their preservation.																
Indicators for the specific objective AE - improved cooperation with LAG, the local community supports and understands the importance of grassland conservation																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implem entation	Financial coast
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y 10			
AE1	Encouraging and supporting local farmers to manage grasslands in Učka and Čićarija.	At least 5 meetings with respective LAGs. Number of lectures held for local farmers in cooperation with LAGs. Grassland sustainable management issues integrated within LAG development strategies. Number of local initiatives.	2											PI NP Učka, LAGs, local farmers, Advisory service, other external experts	CRO	15.000€
AE2	Organizing and implementing educational activities and other respective events for local communities and concerned public related closely to the issue of karst grasslands preservation and management in Učka and Čićarija. (Activity D2 in the Učka NP's MP)	At least 5 organized lectures, presentations, and events. Number of participants per event. Number of educational and interpretive materials developed.	3											PI NP Učka, BIOM, Rijeka Nature History Museum, Public Institution "Natura Histrica", Public Instution "Priroda", LAG Terra Liburna, LAG Northern Istria, other external experts	CRO	7.000 €
AE3	Researching, promoting, and acquiring more elaborated and more extensive	Number of cooperation agreement realized with local community actors. Reports of annual sheep	2											PI NP Učka, BIOM, local farmers,	CRO	10.000 €

Theme A Conservation of dry grasslands on Pilot region Slovenia - Croatia																
General objective A																
Valuable karst grasslands in the area of the Slovenia-Croatia pilot region, associated species and a unique landscape are preserved and connected through the regulation of sustainable use of natural resources and the promotion of their values.																
Specific objective AE: Local population and general public progressively appreciate values of Učka and Ćićarija grasslands and fully understand the importance of their preservation.																
Indicators for the specific objective AE - improved cooperation with LAG, the local community supports and understands the importance of grassland conservation																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implem-entation	Financial coast
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
	knowledge about cultural practices related to the practical preservation of ecological connectivity between karst grasslands in the pilot area.	migrations. Number of collaborations with students in the Učka and Ćićarija												volunteers, respective faculties and students' associations, other external experts		
AE4	Supporting education of tourist guides as interpreters and promoters of the natural and cultural heritage conservation. (Activity CB8 in Učka NP's MP)	Training program developed for guides, interpreters, and educators. Number of attendees.	3											PI NP Učka, tourist boards, Faculty of Tourism and Hospitality Management Opatija, tourist-guides associations, other external experts	CRO	4.000 €

Theme A Conservation of dry grasslands on Pilot region SLO-HR, Kras and Učka and Čićarija																
General objective A																
Valuable karst grasslands on Pilot region SLO-CRO, related species and a unique landscape have been preserved and connected through the regulation of the sustainable use of natural resources and the promotion of their values.																
Specific objective AF: By 2033 the local farmers understand the value of pastures and cooperate on their conservation.																
Indicator for the specific objective AF -Number of farmers understanding the value of pastures has risen by 20% by 2030 (measured through questionnaire), increased number of farmers participating in subsidies for sustainable grassland management in the region by 20% by 2033																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implementation	Financial cost
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
AF1	Education of local farmers about the importance of grasslands and sustainable use of grasslands	3 educational lectures for local farmers on sustainable grassland management per year 5 organized events for public on grassland importance and conservation by 2030 50% of local farmers participated in educations by end of 2030 1 meeting per year with local government and local farmers representatives	1											KGZS, ZRSVN, PŠJ, KIS, UNI-LJ BF	SLO	13.500 €
AF2	Conducting the questionnaire for local people and farmers on understanding the value of grasslands	10% of local farmers participated in the questionnaire 150 local people participated in the questionnaire	3											PŠJ, LAG, KIS, ZRSVN	SLO	5000 €
AF3	Promotion of farming practices in the area through education	number of local farmers is increasing each year	1											LAG, KGZS, MKGP, ZRSVN	SLO	*
AF4	Raising awareness and knowledge on invasive species in the area	3 lectures educating farmers on how to use the climate fund and	1											KGZS, ZRSVN, PŠJ,	SLO	*

Theme A Conservation of dry grasslands on Pilot region SLO-HR, Kras and Učka and Čićarija																
General objective A																
Valuable karst grasslands on Pilot region SLO-CRO, related species and a unique landscape have been preserved and connected through the regulation of the sustainable use of natural resources and the promotion of their values.																
Specific objective AF: By 2033 the local farmers understand the value of pastures and cooperate on their conservation.																
Indicator for the specific objective AF -Number of farmers understanding the value of pastures has risen by 20% by 2030 (measured through questionnaire), increased number of farmers participating in subsidies for sustainable grassland management in the region by 20% by 2033																
Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implementation	Financial cost
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
		the CAP measure to finance the removal of invasive species 1 lecture for construction companies on spread of invasive species											KIS, UNI-LJ BF			

Theme A Conservation of dry grasslands on Pilot region Slovenia - Croatia

General objective A

Valuable karst grasslands in the area of the Slovenia-Croatia pilot region, associated species and a unique landscape are preserved and connected through the regulation of sustainable use of natural resources and the promotion of their values.

Specific objective AG: In the next 10 years at least two common cross-border harmonized guidelines for improved conservation and ecological connectivity of dry grassland have been prepared

Indicator for the specific objective AG - Common database of high nature value agricultural areas, Exchange of good practices and approaches for renaturation of dry grasslands between Slovenia and Croatia, model for prioritization of grasslands for shrub removal with high potential for conservation.

Code of activity	Activity	Indicators	Priority	Timeline of implementation										Associates	Country of implementation	Financial cost
				Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10			
AG1	Exchange of good practices and approaches for renaturation of dry grasslands between Slovenia and Croatia	1 common plan for regular exchange of good practices	2											PŠJ, ZRSVN, PI NP Učka	CRO/SLO	2.000€ CRO
AG2	Development of a common methodology for determining priority areas for the establishment of dry grasslands	1 common methodology for priority areas 1 GIS workshop	1											KIS, PŠJ, PI NP Učka, ZRSVN	CRO/SLO	4.000€ CRO
AG3	Defining a set of common rules for the restoration of dry grasslands in different locations	Set of common rules produce	1											KIS, PŠJ, PI NP Učka, ZRSVN	CRO/SLO	2.000€ CRO

3.4. Risks, assumptions, and mitigation measures

Table 3. Possible risks, impact on the Action plan implementation, and mitigations measures

Risk (description of possible risk)	Likelihood that the risk will occur (low, medium or high)	Impact of the risk on implementation of action plan (what impact it will have on implementation of action plan; low, medium, high)	Mitigation measures (description of mitigation measures)
Lack of systemic funding	high	Making the implementation of the action plan more difficult; high	Stakeholders are looking for implementation options within their existing funding sources
A large number of stakeholders	medium	Delays in implementation due to more difficult coordination of activities, medium	Commitment of stakeholders to place activities in their work plans
Inactivity of an individual stakeholder	medium	Takeover of work by other stakeholders; medium	Ongoing search for alternative implementation options
Differences in legislation, different implementation rates between Slovenian and Croatian side.	high	high	Continuous communication, harmonization of legislation and implementation of individual activity.

4. Literature

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5. Appendices

- Pilot Region ID Card
- List of important stakeholders on the Pilot region
- List of pro-biodiversity and biodiversity-based businesses in the Pilot region