LIFE Project Number

LIFE19 NAT/HR/001070

Mid-term / Final Report

Covering the project activities from 01/10/2020[1] to 31/12/2025

Reporting Date[2]

31/03/2026

LIFE PROJECT NAME or Acronym

Establishing control of invasive alien species Ailanthus altissima (tree of heaven) in Croatia - LIFE CONTRA Ailanthus

Data Project

Project location:	Republic of Croatia
Project start date:	01/10/2020
Project end date:	01/04/2025 **Extension date:** 31/12/2025
Total budget:	2,591,937 €
EU contribution:	1,555,161 €
(%) of eligible costs:	60.00 %

Data Beneficiary

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[1] Project start date

[2] Include the reporting date as foreseen in part C2 of Annex II of the Grant Agreement

This table comprises an essential part of the report and should be filled in before submission
Please note that the evaluation of your report may only commence if the package complies with all the elements in this receivability check. The evaluation will be stopped if any obligatory elements are missing.

Package completeness and correctness check	
Obligatory elements	**✓ or N/A**
Technical report	
The correct latest template for the type of project (e.g. traditional) has been followed and all sections have been filled in, in English *In electronic version only*	✓
Index of deliverables with short description annexed, in English *In electronic version only*	✓
Mid-term report: Deliverables due in the reporting period (from project start) annexed Final report: Deliverables not already submitted with the MTR annexed including the Layman's report and after-LIFE plan Deliverables in language(s) other than English include a summary in English *In electronic version only*	✓
Financial report	
The reporting period in the financial report (consolidated financial statement **and** financial statement of each Individual Beneficiary) is the same as in the technical report with the exception of any terminated beneficiary for which the end period should be the date of the termination.	✓
Consolidated Financial Statement with all 5 forms duly filled in and signed and dated *Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets + full Excel file)*	✓
Financial Statement(s) of the Coordinating Beneficiary, of each Associated Beneficiary and of each affiliate (if involved), with all forms duly filled in (signed and dated). The Financial Statement(s) of Beneficiaries with affiliate(s) include the total cost of each affiliate in 1 line per cost category. *In electronic version (pdfs of signed sheets + full Excel files) + in the case of the Final report the overall summary forms of each beneficiary electronically Q-signed or if paper submission, signed and dated originals**	✓
Amounts, names and other data (e.g. bank account) are correct and consistent with the Grant Agreement / across the different forms (e.g. figures from the individual statements are the same as those reported in the consolidated statement)	✓
Mid-term report (for all projects except IPs): the threshold for the second pre-financing payment has been reached	✓
Beneficiary's certificate for Durable Goods included (if required, i.e. beneficiaries claiming 100% cost for durable goods) *Electronically Q-signed or if paper submission signed and dated originals* and in electronic version (pdfs of signed sheets)*	✓
Certificate on financial statements (if required, i.e. for beneficiaries with EU contribution ≥750,000 € in the budget) *Electronically Q-signed or if paper submission signed original and in electronic version (pdf)*	N/A
Other checks	
Additional information / clarifications and supporting documents requested in previous letters from the Agency (unless already submitted or not yet due) *In electronic version only*	✓
This table, page 2 of the Mid-term / Final report, is completed - each tick box is filled in *In electronic version only*	✓

**signature by a legal or statutory representative of the beneficiary / affiliate concerned*

Instructions:

Please refer to the General Conditions annexed to your grant agreement for the contractual requirements concerning a Mid-term/Final Report.

Both Mid-term and Final Technical Reports shall report on progress from the project start-date. The Final Report must be submitted to the Agency no later than 3 months after the project end date.

Please follow the reporting instructions concerning your technical report, deliverables and financial report that are described in the document Guidance on how to report on your LIFE 2014-2020 project, available on the LIFE website. Please check if you have the latest version of the guidance as it is regularly updated. Additional guidance concerning deliverables, including the layman's report and after-LIFE plan, are given at the end of this reporting template.

Regarding the length of your report, try to adhere to the suggested number of pages while providing all the required information as described in the guidance per section within this template.

1. Table of contents

2. List of key-words and abbreviations

MESD	Ministry of Economy and Sustainable Development
MEPGT	Ministry of Environmental Protection and Green Transition
NPK	Javna ustanova "Nacionalni park Krka"
DNZ	Javna ustanova za upravljanje zaštićenim dijelovima prirode Dubrovačko-neretvanske županije
VRT	Vrtlar d.o.o. za javno zelenilo i hortikulturu
IAS	Invasive alien species
Union list	list of invasive alien species of Union concern defined by Regulation (EU) No 1143/2014 of the European Parliament and of the Council of 22 October 2014 on the prevention and management of the introduction and spread of invasive alien species and implemented by Commission Implementing Regulation (EU) 2016/1141, 2017/1263, 2019/1262, and 2022/1203
National IAS Act	Act on the prevention and management of the introduction and spread of alien and invasive alien species (OG 15/18, 14/19)

Key words: ailanthus, Natura 2000, habitat type, 32A0, 6220*, cultural heritage centres, eradication, removal, control, NP Krka, Pelješac, Dubrovnik

3. Executive Summary (maximum 2 pages)

The LIFE CONTRA Ailanthus project plans to establish control over one of the most invasive alien tree species in Croatia, named ailanthus (*Ailanthus altissima*). This species is fast-growing, ecologically dominant woody species, with extremely high reproduction and dispersal potential. Due to competition, shading, and production of phytotoxins (most known is *ailanthone*), it has a strong negative impact on native plant communities and soil biota, leading to decline in habitat quality. Also, ailanthus is common in urban and anthropogenic habitats, where it is an agricultural pest, allergen, and where its extensive root system damages cultural heritage. It is widespread in Croatia, but most abundant in Mediterranean region where it has become a serious problem in National parks and other protected areas, including Natura 2000 habitats.

The project area of LIFE CONTRA Ailanthus is situated in Mediterranean Croatia, and includes:

- project area Krka, including Natura 2000 sites SCI HR2000918 Šire područje NP Krka and SPA HR1000026 Krka i okolni plato
- project area JI Pelješac, including Natura 2000 sites SCI HR2001364 JI dio Pelješca and SPA HR1000036 Srednjedalmatinski otoci i Pelješac
- project area Dubrovnik (cultural heritage centre)
- project area Ston and Mali Ston (cultural heritage centre)

On project area Krka, ailanthus threatens Natura 2000 habitat type that occurs only in Croatia: 32A0 *Tufa cascades of karstic rivers of the Dinaric Alps*, where it grows from tufa barriers and causes changes in water flow. On project area JI Pelješac, ailanthus threatens priority Natura 2000 habitat type 6220* *Pseudosteppe with grasses and annuals of the Thero-Brachypodietea*, by growing in near proximity, with great potential of spreading to it. On project areas

Dubrovnik, Ston and Mali Ston, ailanthus grows in historic city centres, where its roots endanger the building and city wall construction.

In scope of the LIFE CONTRA Ailanthus project, establishing control over ailanthus was carried out by achieving tree specific objectives:

1. Eradication of ailanthus from targeted Natura 2000 sites.
2. Prevention of further introductions and spread.
3. Adaptation of protocol for ailanthus removal and national legislative.

To achieve set objectives, in project area Krka plan was to eradicate ailanthus from 45 ha on habitat type 32A0 and establish control on additional 164 ha. On project area JI Pelješac ailanthus was to be removed from 4 ha in proximity to priority habitat type 6220*. To prevent further introductions and spread of ailanthus, removal of ailanthus was conducted from the corridors of spread (roads, railways) and urban areas surrounding native habitats (Žuljana, Skradin, Janjina) or cultural heritage centres (Dubrovnik, Ston, Mali Ston). Prevention of new introductions and spread was done by training the stakeholders in ailanthus control techniques, establishing cooperation with horticultural companies, and raising public awareness about the negative impacts of ailanthus, and IAS in general. Based on knowledge gained and results achieved in the project, national eradication protocol for ailanthus in Croatia with accompanying legislation ("Order on Taking Measures to Remove Ailanthus altissima" pursuant Article 22 of the national IAS Act) was to be developed. Also, early detection and rapid response network, with rapid response protocol for at least five plant species from Union list is developed.

The main conservation actions of LIFE CONTRA Ailanthus project refer to removal of ailanthus from targeted area. Ailanthus is very hardy plant, and literature data indicate that efforts should be implemented for at least 3 years to eradicate it or establish control over it. Preparatory actions (A actions) for implementation of conservation (C actions) and monitoring actions (D actions) included mapping of the project area, preparing of the removal and monitoring protocols, training of the project team in ailanthus removal techniques and acquiring necessary permits for conducting further actions. All preparatory actions are finalized, but due to administrative and COVID-19 related problems and drawbacks, all were delayed. This delay affected all other activities, mostly causing their later start and longer duration. The implementation of concrete conservation actions on most localities included first, second, third and fourth removal of ailanthus and conducting accompanying monitoring of these actions. All main targets are achieved.

To ensure the project visibility and enable the replication of project results, technical and public workshops were conducted throughout the project duration, together with other awareness raising (media, promotion, public talks etc.) and dissemination activities (national eradication protocol, leaflets, brochures, notice boards etc.). Experience gained through this project is transferred for developing Early detection and rapid response (EDRR) system with rapid response protocols for at five terrestrial plant species from the Union list. Dissemination and awareness raising activities started with the delay, but all were finished until the end of the project. Due to challenges and deviations at the beginning of the project (administrative drawbacks, COVID-19, etc.), almost all project activities planned started latter then planned and were behind the schedule but finished in the end as planned This delay did not call into question the objectives and results of the project.

4. Introduction (maximum 2 pages)

Invasive alien tree species *Ailanthus altissima* (tree of heaven, ailanthus) is a severe threat to the biodiversity of species and habitat types in Europe. Ailanthus is a fast-growing, ecologically dominant woody species, with extremely high reproduction and dispersal potential. It is a successful pioneer of open habitats, often grows in monoculture, and has a strong negative impact on native plant communities and soil biota, due to competition, shading, and production of phytotoxin *ailanthone*. The species is common in urban and anthropogenic habitats, where it is an agricultural pest, allergen, and where its extensive root system damages cultural heritage.

In Croatia, ailanthus is present in all three biogeographic regions. Based on the current data, in the Continental and Alpine regions ailanthus is mostly associated with anthropogenic habitats, but it is also spreading to some protected areas. In the Mediterranean region, the species has become a serious problem in National parks and other protected areas, including Natura 2000 habitat types.

The LIFE CONTRA Ailanthus project area includes Natura 2000 sites SCI HR2000918 Šire područje NP Krka and SPA HR1000026 Krka i okolni plato on project area Krka, SCI HR2001364 JI dio Pelješca and SPA HR1000036 Srednjedalmatinski otoci i Pelješac on project area JI Pelješac, as well as cultural heritage centres Dubrovnik, Ston and Mali Ston. In project area Krka ailanthus threatens Natura habitat type that occurs only in Croatia: 32A0 *Tufa cascades of karstic rivers of the Dinaric Alps*. By growing on tufa near the tufa cascades, ailanthus is increasing accumulation of organic material and succession and subsequently changing the hydrology of the small water flows, causing changes in water flow over cascades itself. Tufa cascades were the principal reason why Krka was designated as National Park in 1985 and are one of the two prime sites (other is NP Plitvice lakes) for this habitat type for the entire European Union. Habitat type 32A0 in NP Krka accounts for about 20 % of its total area in Croatia and EU, and for 36 % of its total area in the Mediterranean biogeographic region. On project area JI Pelješac ailanthus threatened priority Natura 2000 habitat type 6220* *Pseudosteppe with grasses and annuals of the Thero-Brachypodietea*. Succession and subsequent shading are main threats to open Mediterranean habitats, and ailanthus is a particularly successful and rapid pioneer. In project area Dubrovnik (UNESCO heritage site), Ston and Mali Ston ailanthus is a threat because it grows in historic city centres, where its roots endanger the building and wall construction. Removal of ailanthus from historic city centres, besides the preservation of valuable cultural heritage, also contributed to the visibility of the actions as those sites are famous and well-known nationally and internationally.

Project LIFE CONTRA Ailanthus has tree specific objectives: 1. eradicate ailanthus in targeted Natura 2000 sites, 2. prevent further introductions and spread and 3. adapt protocol and national legislative. By eradication and establishing control of ailanthus in Natura 2000 sites, we improved the conservation status and prevented further degradation of targeted habitat types (primarily 32A0 and 6220*). Prevention of further introductions and spread of ailanthus is done by establishing control over it on corridors and sources of spread within and near the targeted Natura 2000 sites, but also by networking with other stakeholders and by increasing awareness of general public about its negative impacts. Accomplishing third objective – adopted protocol and national legislative – will enable the future replications of project outcomes, removal of ailanthus from privately owned land, communicate the severity of the negative impacts, and in general contribute to the long-term sustainability of the project at the national level.

Expected results and impacts of the project LIFE CONTRA Ailanthus include:

- directly improved conservation status or halted decline for habitat types present on project area Krka (total eradication from 45 ha on habitat type 32A0, established control on additional 164 ha) and JI Pelješac (ailanthus is removed from 4 ha in proximity (few meters) to priority habitat type 6220*);
- mitigated sources of future introductions and spread of ailanthus by eradication from main roads and nearby cities, and, where appropriate, replacement with native trees;
- improved preservation of cultural heritage centres Dubrovnik, Ston and Mali Ston by removing about 10.000 shoots and trees;
- increased capacity for IAS control by training at least 25 stakeholders in ailanthus removal techniques;
- National protocol on removal of ailanthus and accompanying legislative ("Order on Taking Measures to Remove *Ailanthus altissima*");
- established Early detection and rapid response network (EDRR) with rapid response protocols developed for five plant species from the Union list
- raised public awareness and knowledge on ailanthus and other IAS by 10 %.

The replication of project results will be ensured through maintaining communication and collaboration with colleagues from other LIFE and non-LIFE projects targeting similar issues. Also, National protocol for ailanthus removal will summarize the tested methodology and contain a clear protocol for the eradication of ailanthus, and it will be published in both Croatian and English, which will enable replication of our project actions in other states with similar problem. Replication of project results to other protected areas, urban areas, neighbouring countries, and projects with similar scope will be done through technical eradication workshops. The experiences and knowledge gained throughout our project will be transferred through the development of Early detection and rapid response (EDRR) system, including the preparation of rapid response protocols for at least five terrestrial plant species from the Union list. We will also keep promoting the use of the IAS smartphone application for the participation of the public in data collection which will contribute to early detection of new introduction, raise public awareness in general, and long term facilitate the prevention of introductions of invasive alien species in Croatia.

5. Administrative part (maximum 1 page)

Although the project started in October 2020, the lead partner (MEPGT) hired the first employees in March 2021. Although the project application envisaged that the project manager would be a newly hired person who would work 100 % of his time on the project, it was decided, with the permission of CINEA (then EASME) that it should be a permanently employed person who already works in MEPGT (then MESD) in order to ensure that the project has a manager from the very beginning, and especially because of the difficult employment procedures in MEPGT. The project manager is a permanently employed person who works on the project 60 % of her time, and three more people who work on the project 100 % of the time are newly employed (two planned positions remained empty). In final year of the project, these three staff members applied for a public call for employment at the Ministry and were appointed to permanent positions. Two of these employees remained with the project for 50 % of their time, while the third was replaced by another permanent staff member who was also seconded to the project for 50 % of her working hours and fourth also permanent employee was added to the project for 50 % of her working hours.

Public institution NP Krka hired one person on the position of Project assistant and had no problem with employment. NPK already has horticultural workers as additional staff working in the National park Krka, so they were assigned to work on the project.

During the duration of the project DNZ had several changes in the project team due to various circumstances. Specifically, two employees left the organization, one employee took a three-month parental leave, and one changed the work position within the institution. The project application envisaged that DNZ would have three employees dedicated to the LIFE CONTRA Ailanthus project: one employee with full-time (100%), and the other two with contractually defined work percentages (30% each) on the project. One significant change occurred when employee Hrvoje Tomić took a three-month parental leave. During this period, Lukša Kalafatović, an existing staff of Institution, stepped into the role of Project Assistant to fill Hrvoje's position. However, since Lukša was not previously experienced in the specific responsibilities of a Project Assistant, he was required to adjust to new tasks and a broader scope of work. Due to this inexperience, Lukša's capacity to take on additional responsibilities was limited, and as a result, he worked fewer hours during this transitional period. To accommodate this temporary change in workload, DNZ made the decision to adjust Lukša's working hours on the project. Initially, his time commitment was reduced from 30% to 20% for a three-month period to reflect his involvement in learning the new responsibilities and adjusting to the role. Once Lukša became more familiar with the work and gained the necessary experience, his involvement in the project was increased to 40% for the subsequent three months. This adjustment ensured that, despite the temporary fluctuations in his workload, the overall average percentage of time he dedicated to the project remained consistent at 30%, as originally planned. This change in working hours reflects the dynamic nature of project management, particularly when multiple projects and employee obligations are in play, as well as the need to accommodate the development of employees taking on new roles.

VRT has all planned staff from the beginning of the project.

From the very beginning, regular meetings of the entire team and all partners are held. Unfortunately, the project started in the midst of the COVID-19 pandemic, so all communication takes place online. Also, due to the COVID-19 pandemic, the activities did not start on time, there was a ban on travel and meetings, and many people worked from home or did not work at all due to illness. Therefore, the first activity - mapping of all areas (field survey), which is actually the basis of the project, started late. Thus, right at the beginning of the project, there was a half-year standstill, and even when the activities started, it was difficult to follow the planned time frames due to the instability and unavailability of staff and the inability to travel.

The communication and cooperation of all partners, despite the mentioned challenges, has been excellent from the very beginning and was maintained regularly.

From the very beginning, the Monitoring team provided great support, the cooperation has been great from the beginning until the end. Communication was fast and efficient. The same goes for cooperation and communication with the Agency.

Two amendments to the Grant Agreement were signed.

First one was due to Coordinating beneficiary's administrative modification. Due to the parliamentary elections in the Republic of Croatia in 2024. On May 16, 2024, the Ministry of

Economy and Sustainable Development (MESD) ceased functioning. On May 17, 2024, the Ministry of Environmental Protection and Green Transition (MEPGT) began its work.

Second amendment was an extension of the project duration from April 1, 2025, to December 31, 2025.

6. Technical part (maximum 25 pages)

6.1. Technical progress, per Action

A1 Determining the baseline of Ailanthus in target area

Foreseen start date: 10/2020 Actual start date: 3/2021
Foreseen end date: 10/2021 Actual (or anticipated) end date: 4/2022

To determine the baseline for other activities, especially C, in action A1 we conducted a field survey of *Ailanthus altissima* within all project areas – NP Krka, JI Pelješac, Ston, Mali Ston and Dubrovnik. Field survey was conducted by MEPGT (than MESD) team with participation of other partners.

Methodology for mapping:

- basic information about the locality (GPS, description, spatial extant) was recorded
- individual adult trees were counted and undergrowth number estimated
- number of female trees was recorded
- if it was feasible, the chest girth of larger trees was measured, and their height was estimated
- for the bigger heavily infested plots we could not count all the trees, shoots and saplings so we counted them on smaller area (usually 5x5 m) and extrapolated on plot area.

Because of administrative delays (delays in employment of MEPGT team) and delays caused by COVID-19 (restriction of movement), we started this activity few months later than anticipated. All milestones of this action were completed on time, but deliverable (a report with survey results), for which deadline was 10/2021, was done by 4/2022. This delay influenced all other activities, which had to start latter then planned.

A brief description of the results for every project area is given below.

NP Krka:

Survey conducted by MEPGT and NPK teams.

Time of mapping: 3-4/2021 – mapping of ailanthus infestations; 10/2021 – mapping of female trees (in early spring female trees were not recognisable yet)

In NP Krka mapping of ailanthus was done on entire national park area (covered by two Natura 2000 sites - SCI HR2000918 Šire područje NP Krka and SPA HR1000026 Krka i okolni plato) and in city Skradin, which is situated on the border of NP Krka and recognized as largest source of new introductions. Focus was on habitat type 32A0 *Tufa cascades of karstic rivers of the Dinaric Alps*, its buffer zones and corridors of spread (roads, railway). Altogether, we recorded 168 infestations with ailanthus (plots or points/single trees) on eight localities (Skradinski buk, Skradinska cesta, Remetić, Roški slap, HE Miljacka, Manojlovac, Tanjgina glavica and Skradin).

Table 1. Infestations with ailanthus on project area NP Krka

Locality	No. of infestations	No. of single trees	No. of plots (bigger than 5x5 m)	No. of female trees

Skradinski buk	42	35	7	15
Remetić	20	3	17	
Roški slap	17	5	12	
HE Miljacka	8	6	2	
Manojlovac	18	14	4	2
Tanjgina glavica	14	4	10	38
Skradinska cesta	35	0	35	
Skradin	14	0	14	
Sum	**168**	**67**	**101**	**55**

JI Pelješac:
Survey conducted by MEPGT (than MESD) and DNZ teams.
Time of mapping: 6/2021
Mapping of ailanthus on project area JI Pelješac included Natura 2000 site SCI HR2001364 JI dio Pelješca and cultural heritage centres Ston and Mali Ston, situated on Pelješac peninsula. Main focus was on priority habitat type 6220* *Pseudosteppe with grasses and annuals of the Thero-Brachypodietea*. This habitat type is still ailanthus-free, but we recorded dense infestation (forest) on the border with habitat type, in the area named Ponikve. Altogether, we recorded 80 infestations with ailanthus (plots or points/single trees) on six localities (Ponikve, Dubrava, Žuljana, Vučine, Janjina, Ston and Mali Ston).

Table 2. Infestations with ailanthus on project area JI Pelješac (including Ston and Mali Ston)

Locality	**No. of infestations**	**No. of single trees**	**No. of plots (bigger than 5x5 m)**	**No. of female trees**
Ponikve	4		4	
Dubrava	6	2	4	~ 30
Žuljana	38	21	17	~ 300
Uvala Vučine	11	2	9	~ 350
Janjina	4	1	3	~ 50
Ston and Mali Ston	17	7	10	~ 50
Sum	**80**	**33**	**47**	**~ 800**

Dubrovnik:
Survey conducted by MEPGT (than MESD) and VRT teams.
Time of mapping: 7/2021
In Dubrovnik city focus was on old city walls and wider city centre, and there we recorded 28 infestations with ailanthus (plots or points/single trees).

Table 3. Infestations with ailanthus on project area Dubrovnik

Locality	**No. of infestations**	**No. of single trees**	**No. of plots (bigger than 5x5 m)**	**No. of female trees**
Dubrovnik	28	11	17	34

A2 Prepare the protocols
Foreseen start date: 9/2020 Actual start date: 1/2021

Foreseen end date: 9/2021 Actual (or anticipated) end date: 4/2022
The main task of this activity was to determine ailanthus removal protocol that will be used on field in C actions. We divided removal protocol on two parts – mechanical/combined protocol and alternative protocol (biological). Mechanical/combined protocol, together with monitoring plan (includes steps for conducting D1, D2 and D3 actions) was written by MEPGT (than MESD) team with participation of other partners. Protocol was done by 4/2022 and is currently used on field in ailanthus removal and monitoring (C activities, D1, D2 and D3). For determining the alternative protocol, we hired external expert, and protocol was done by 5/2021.
We had some problems and challenges with preparing the protocols. For mechanical/combined protocol we conducted the procurement of expert in ailanthus eradication, only one applicant applied, but application was inadequate. For this reason, protocol had to be written by project members and deliverable was delayed for eight months (4/2022 instead of 9/2021). This delay directly reflected on C actions, which therefore started later than planned. Indirectly, this delay also caused delays in D and some E activities (E2, E4, E5).
For alternative protocol we short-hired external expert who determined protocol and locations for implementation of alternative methods on project area Krka. Chosen method for eradication was inoculation of ailanthus with fungi *Verticillium nonalfalfae*. Since native status of this fungus is not known in Croatia, we also hired plant-protection specialist to determine whether it is native or not, and if it is safe for use. Specialist's findings showed that *V. nonalfalfae* is probably native to Croatia and it can be used to control ailanthus. Report was written in 2/2022. Although in 2022 we had some reservations, and decided not to use the alternative protocol, in 2024 we eventually contacted the manufacturer of the fungus-based agent and consulted further with them. Since they had very good feedback in several other European states, we finally decided to use this agent called Ailantex. In the autumn of 2024, a representative from the manufacturer conducted a demonstration regarding the proper use of the product. We applied the agent at Manojlovac and Čikola sites in Krka National Park (C1) and at the isolated plot along the main road in Janjina site on Pelješac (C2).

A3 Train the project team
Foreseen start date: 10/2020 Actual start date: 03/2021
Foreseen end date: 9/2021 Actual (or anticipated) end date: 07/2022
Training the project team is important because the Ailanthus eradication is extremely challenging, so we wanted to learn the proper methods. This action was necessary for proper execution of C actions.
Because of delays caused by COVID-19 (especially restrictions of travel) we started this activity a year later than anticipated so all milestones and deliverables were done 10 to 12 months later than planned. This delay influenced all other activities, especially C activities.
To train the project team in Ailanthus eradication methods we travelled to Alta Murgia National Park in Italy for a study-visit to LIFE Alta Murgia project. The LIFE Alta Murgia is very similar to our project in terms of targeted conservation issues (the invasive tree species Ailanthus altissima) but also in one of the targeted priority Natura 2000 habitat types. 10 team members (4 from MEPGT (than MESD) and 2 from each partner) participated in the study trip. We learned about their experiences in Ailanthus removal and good practices they developed.
After the study-visit, we organized workshops for remaining members of the eradication teams at all project areas. The local eradication workshops were organized by the team members who visited the LIFE Alta Murgia project. At NP Krka 10 horticultural workers were educated in Ailanthus removal methods, in Dubrovnik 13 horticultural workers participated and on Pelješac 2 additional members from DNZ were educated in eradication methods.

A4 Permits acquisition and informing the stakeholders
Foreseen start date: 10/2020 Actual start date: 10/2020
Foreseen end date: 4/2021 Actual (or anticipated) end date: 11/2022
The goal of this activity is to have all the administrative work settled before the start of the conservation activities. These actions were necessary for the main conservation action to begin. At the beginning of the project, we informed the stakeholders about the project start via email. The permit from the Ministry of culture for the activities in the cultural heritage sites was not necessary for our project activities. To get the herbicide use permit, persons who will be working in the field had to attend a safe handling course. 27 persons from all project partners got the permit during 2021 and 2022.
In collaboration with the MEPGT (than MESD) Nature Protection Directorate we prepared the "Order on taking measures to remove Ailanthus altissima in the projects target area". This Order enables us to implement the conservation actions on all designated areas, regardless of their legal status. Due to administrative reasons, this delivery was delayed by 3 months.
In 11/2022 at NPK we organized the initial stakeholder workshop where we presented the project activities. 15 persons attended the workshop. This is the project deliverable, and it was delayed for 18 months due to COVID restrictions and lack of personnel in MEPGT.

C. Conservation actions

Main concrete conservation actions in our project include removal of ailanthus from targeted area. A prerequisite for successful execution of these activities are A activities, which were delayed due to administrative and other reasons (see above). These delays, together with other problems and drawbacks (see part 6.2.), delayed and caused modifications of C activities, which than had impact on delays of D1, D2, D3, E2, E4 and E5 actions. A detailed overview for each C action is given below.

C1 Natura 2000 site SCI HR2000918 Šire područje NP Krka
Foreseen start date: 6/2021 Actual start date: 2/2022
Foreseen end date: 12/2024 Actual (or anticipated) end date: 10/2025
The goal of C1 action is to directly improve conservation status and/or halt decline of habitat types in Natura 2000 site SCI HR2000918 Šire područje NP Krka. By the end of the project, total eradication of ailanthus is planned on habitat type 32A0 (45 ha), and on additional 164 ha of project area we plan to establish control over ailanthus.
The beginning of removal activities was planned for 5/2021, immediately after mapping of ailanthus (A1), developing of the removal protocol (A2) and training of the team members in ailanthus removal by LIFE Alta Murgia team (A3). Given that preparatory actions were delayed, we experienced delay also in this action, and actual start was moved to 2/2022.
Action C1 is divided into three subactions: C1.1. ailanthus removal from habitat type 32A0, C1.2. ailanthus removal from buffer zone of 32A0, and C1.3. ailanthus removal from sources and corridors of spread. First removal of ailanthus trees from all ailanthus-infested localities started on 9/2022 and it was done by 4/2023. Removal was done mostly by NPK team and professional tree removal company Lagom Natura d.o.o. (external assistance), with smaller participation of MEPGT (than MESD) team. In first removal, approximately 90 % of all areas mapped in A1 were cleaned from ailanthus.

At the Manojlovac site that includes habitat type 32A0 removal was carried out in 10/2022 when 3 large trees were removed and chosen method was mechanical. The number of saplings removed was 50. In the following years, no further removal took place at this site due to the inaccessibility of the terrain, caused by the large elevation difference between mapped plots and the steep terrain. The access road is not suitable for machinery, meaning it does not support motor vehicles for transporting wood material. The trees removed in 2022 were hauled out using horse-drawn carts. Furthermore, some of the removal plots are located on cliffs or rocks that crumble into the falls, posing a safety risk to the removal personnel. For these reasons, mechanical removal at this site was abandoned. In May 2025, Ailantex (an herbicide based on the fungus *Verticillium nonalfalfae*) was applied to 22 trees (with a diameter at breast height greater than 10 cm, across 7 mapped removal areas) at this location. In September 2025, monitoring of the treated trees was conducted, during which the onset of tree wilting was observed; approximately 30 % of the leaf surface was reduced compared to the day the herbicide was applied, as well as in comparison to trees that were not treated with this herbicide.
Main method of removal was mechanical protocol, except on locality Tanjgina glavica where combined protocol (felling of trees and applying glyphosate-based herbicide) was used. In project proposal we predicted using of the combined protocol in all localities besides 32A0, but because of water proximity and vulnerability of target habitat type, we used mainly mechanical protocol. We also predicted testing of alternative protocol and used it on Manojlovac and Čikola site.
By the end of the first removal season (9/2022 – 4/2023) more than 7.600 shoots and saplings, more than 1.200 big ailanthus trees, and around 300 mature female trees were removed from the project area NP Krka. The removed biomass was temporarily stored on two separate localities in NP Krka named Laškovica and Lozovac, where it was not protected, so part of it was taken away by local people. Remaining part of the biomass was transported by biocompany Benkovac to the power plant "Biomass to energy Benkovac d.o.o" (only power plant in Dalmatian part of the Croatia with the status of sustainable electric energy producer). The donation market value of the biomass (75,5 t estimated to 600 EUR) did not exceed 60 % above the cost of transportation (estimated to 1500 EUR).
Second season of removal included pulling and cutting of the vegetative sprouts emerged after initial removal of bigger ailanthus trees. On some locations we had bad reinfestation (increase in infested area covered with vegetative sprouts; see D1) and for this high intensity work we included seasonal workers and volunteers in the project. In project proposal we predicted involvement of Scout and Guide Association of Croatia, but in this stage of the project they could not participate so we hired other volunteers from Croatia. Second removal season was conducted from 6/2023 to 10/2023. Around 25.000 shoot and saplings were removed, and around 95% of the area was cleared of ailanthus. For transport of workers and tree biomass across the project area Krka we purchased small pick-up truck. Third removal season was conducted from 6 to 10/2024. More than 24.300 shoots were removed at seven locations. More than 18.400 shoots were removed in the fourth removal which was conducted from 7 to 10/2025. Shoots were removed from all mapped removal locations in the years 2023-2025 except for the Manojlovac location. Ailanthus was not removed from this location due to the inaccessibility of the terrain.

C2 Natura 2000 site SCI HR2001364 JI dio Pelješca
Foreseen start date: 9/2021 Actual start date: 4/2023
Foreseen end date: 12/2024 Actual (or anticipated) end date: 11/2025
The goal of C2 action is to directly improve conservation status and/or halt decline of priority habitat type 6220*, through removal of ailanthus from 4 hectares located close to the priority habitat type, and from the main sources and corridors of spread nearby.

The beginning of removal activities was planned for the late summer of 2021 (9/2021), but it was moved to 2023 (4/2023) because of delays in A. activities and other administrative difficulties, including irrational duration of the procurement procedure for hiring the external assistance for removal of ailanthus. Action C2 is divided into three subactions: C2.1. establishing control of ailanthus on priority habitat type 6220* (Ponikve); C2.2. removal of ailanthus from small town Žuljana and nearby Uvala Vučine, and C2.3. removal of ailanthus from areas along the main national road (Dubrava corridor of spread, and Janjina). On project area Pelješac first removal was done in 4/2023 and included removal of ailanthus along main road in village Dubrava (C2.3.) and near proximity of habitat type 6220* in Ponikve (C2.1.). Action C2.3. was conducted by DNZ team and public fire department Dubrovačko primorje[3] (external assistance), while action C2.1. was done by MEPGT team, professional tree removal company Lagom Natura d.o.o. (external assistance) and local fire department from Ponikve (external assistance). In the first removal season (2023), the standard combined protocol was applied - mechanical felling in combination with herbicide application to the fresh cut stump. From the spring 2024 season onwards, drawing on experience gained in the previous season and considering the complexity of the terrain, an increasingly selective approach was adopted: bark stripping with herbicide application as the primary method for medium-sized trees, and stem injection of herbicide for exceptionally large trees that could, when time comes, be safely felled.

Action C2.1. started in 4/2023 when all ailanthus individuals were removed on location Ponikve, using the cut stump method (using glyphosate-based herbicide), and after a very strong reinfestation, foliar application of glyphosate-based herbicide was used four times (autumn 2023, spring and autumn 2024, autumn 2025). This location is currently almost free of ailanthus, although very little reinfestation is expected in the following years (emergence of shoots from parts of the roots that have not yet completely died), which will be removed as part of After LIFE activities. In total, over 6.000 trees were removed and about 135.000 saplings/shoots were treated.

At the Janjina location, ailanthus was treated across three sites. Two sites were located along the road from Janjina to Trstenik where, during the initial removal phase, the stem injection method was applied to larger specimens, while the girdling and glyphosate-based herbicide coating method was used for smaller individuals. Since the majority of the treated specimens did not perish, all individuals were felled during the second removal phase, and the stumps were treated with undiluted glyphosate-based herbicide. Additionally, the bioherbicide Ailantex was applied on a trial basis at one location along the main road near Popova Luka. At the specified location, not all mapped ailanthus was treated; instead, Ailantex was applied to a limited number of individuals across a smaller area (approximately 50 specimens of varying sizes over roughly 80 m²). This was due to the extreme inaccessibility of the terrain, characterized by a steep slope at a bend in the main road. Following the application, dieback was observed in the treated specimens during the subsequent growing season; while the trees themselves were not yet fully dead, they failed to produce new foliage. Furthermore, mortality was noted in neighboring, untreated individuals in close proximity. It is hypothesized that the fungal pathogen spread through the interconnected root systems. To confirm the efficacy of this method, continued monitoring of the site is required. Should the method prove successful, further treatments using Ailantex will be implemented as part of the After-LIFE activities.

In the first removal of ailanthus from Dubrava (C2.3, April 2023) we cleaned around 95 % of the infested area along the main road, removing approximately 2.050 shoots/saplings, around

[3] With the permission of the monitor and the Agency, the budget for volunteers in this area has been reassigned to seasonal workers and external assistance.

60 large trees and 7 mature female ailanthus trees. In the 2024 season, removal extended to additional localities in Dubrava (Dub1-Dub2, DraP-Zuljs, DubPloha) for the first time, with over 850 adult trees and just under 2.500 shoots removed. In the final 2025 season, work focused again on the main road localities (Cesta Du and Duz) and sites showing reinfestation, with 633 larger trees and over 600 shoots removed.
By the time of the mid-term report, removal of ailanthus had not yet been conducted on the localities of Žuljana (except for a test removal from one plot), Uvala Vučine (except for a test removal from one plot) and Janjina. Beside delays in preparatory actions, the reason for this delay was a much denser ailanthus infestation than recorded by the project application and mapping. Most plots on these localities are very large (bigger than 100 m^2) with heavy infestation, and during the mapping of ailanthus, the number of trees was estimated through census on a smaller surface and extrapolated to a total larger surface. This resulted in underestimation of ailanthus number and severity of infestation. Subsequently, planned removal activities were carried out in Žuljana and Uvala Vučine. In 2024, more than 1.500 adult individuals were removed from the Žuljana and Uvala Vučine area, including 145 mature female trees and nearly 5.700 shoots. In 2025, more than 280 large trees were removed, of which 85 were mature female trees, along with over 800 shoots. A particular challenge was posed by private plots: at one large plot with female trees in Uvala Vučine, the owner (a campsite) did not permit removal due to the shade value the trees provide for guests. In one other case, on one of the private plots, the owner agreed to allow the removal of mature female trees in exchange for the planting of one of the offered species from the *Action Plan for the planting of additional trees to compensate for emissions from automobile tourist visits to Croatia by 2030, suitable for the Mediterranean and sub-Mediterranean part of Croatia.* Removal operations also had to be suspended every year by the end of May due to the onset of the tourist season.
Consequently, we had difficulty finding contractors for removal of ailanthus from mentioned localities, especially because Pelješac peninsula is far from bigger cities and potential contractors are not willing to come and work here. One more reason for delays was the inaccessibility of terrain on some locations and private property on others. Although we had "Order on taking measures to remove *Ailanthus altissima* in the projects target area" (A4), difficulties with private owners persisted throughout the project.
The biomass from all localities (Ston, Dubrava and Žuljana) was temporarily stored at a separate locality on the Pelješac peninsula. In project proposal, it was stated that removed biomass would be transported to the power plant "Biomass to energy Benkovac d.o.o." in their own arrangement. However, in practice, transport of biomass to Benkovac proved unfeasible due to a combination of two key factors: the geographical distance of the project area on Pelješac from the facility in Benkovac, and the nature of the removed biomass, which consisted predominantly of large trunks and branches rather than wood chips suitable for transport. As a result, the power plant was not in a position to arrange collection due to the distance of the location. Action C2 has been partially completed across all subactions. Removal of ailanthus was conducted across three vegetation seasons (2023, 2024, and 2025) at all target localities in Dubrava (C2.3.), Žuljana and Uvala Vučine (C2.2.), and Ponikve (C2.1.). Follow-up removal was carried out at localities showing signs of reinfestation to ensure long-term control of the species.

C3 Removal and establishing control of Ailanthus in cultural heritage centres

Foreseen start date: 9/2021 Actual start date: 9/2021
Foreseen end date: 12/2024 Actual (or anticipated) end date: 11/2025

The goal of C3 action is to directly improve the cultural heritage preservation in three historical centres (Ston, Mali Ston and Dubrovnik), through removing at least 10.000 shoots and trees of

ailanthus. Also, all the targeted centres are tourist areas, and crossroads of dispersal corridors within Croatia and to nearby countries, so another goal of this action is to reduce unintentional spread on the national and international level.
Action C3 is divided into two subactions: C3.1. removal of ailanthus from the city of Dubrovnik, and C3.2. removal of ailanthus from cities Ston and Mali Ston. The removal of ailanthus from Dubrovnik (C3.1.) started as planned (9/2021), while the removal in Ston and Mali Ston (C3.2.) was delayed to 4/2023 due to administrative and other problems (see 6.2). Subaction C3.1. was conducted by VRT team, and we were able to start it on time because one of the core jobs of VRT team is removal of trees from Dubrovnik (they already had knowledge and needed permissions for conducting the removal). Subaction C3.2. was conducted by DNZ team and public fire department Dubrovačko primorje (external assistance, see description under C2.3. action). Main method of removal was combined protocol (felling/cutting of bigger trees, applying glyphosate-based herbicide). In the project area Dubrovnik, the removal of ailanthus was conducted from 2021 to 2025, most often using a standard protocol (a combination of mechanical and chemical methods), except for smaller individuals (up to 6 cm in circumference) that had sprouted from seeds, which were removed by pulling, taking care not to leave any roots in the substrate.
First removal from 9/2021 to 1/2024, ailanthus was removed from around 65 % of the area mapped in A1. On one very big privately owned plot mapped in A1 (around 10.000 m^2) with dense ailanthus monoculture, owner removed ailanthus (estimate is few tens of thousands of individuals) and build parking lot. For some locations in Dubrovnik city, we had to use alpinist services for removal of ailanthus. Few localities were extremely inaccessible, located on steep cliffs, and removal would be dangerous for the executors. On these locations we recorded only male trees and saplings that cannot spread further due to the extreme terrain, that is why we estimated that they do not pose a danger for the project area. Instead of those locations, we removed ailanthus from some additional locations recorded during the project. More than 23.000 individuals were removed during the project period from project area Dubrovnik. More than 40 female trees were removed in five-year period, almost 4000 male trees and almost 19000 sprouts. For dealing with biomass (chopping to wood chips) in Dubrovnik, we purchased professional chopper.
During the first removal in Ston and Mali Ston (C3.2.), conducted in 4 and 5/2023, ailanthus was removed from 100 % of the area. Monitoring conducted in June 2023 (two months after the first removal) recorded reinfestation on a smaller area, with a reduced number of vegetative shoots. Following multiple removal seasons, infestation has been reduced to a minimal level - only minor vegetative shoots continue to appear along the walls. Up to and including the first reporting period, a total of approximately 1,300 shoots/saplings, around 140 large trees and 5 mature female ailanthus trees had been removed. Over the two subsequent seasons, all plots were periodically maintained, with additional 117 larger trees and over 250 shoots removed. A key factor in the success of the Ston removal activities was the fact that the site is inhabited year-round and that almost all surfaces are regularly maintained, which limits ailanthus regeneration. The most critically overgrown areas remained the abandoned vineyards and surfaces immediately adjacent to roads with unresolved ownership status.
In project proposal we predicted planting of native trees instead of big ailanthus trees where appropriate. We planted 13 trees within the Dubrovnik city centre: three linden trees on two locations, two stone pines on one location and eight European nettle trees on two locations. Five almond trees were planted on private land in Žuljana, where the owner was willing to maintain and water them. Problem with compensatory planting is that when planted, trees need to be watered first few years. Ailanthus is most often removed from privately owned land (usually neglected) where owners are not willing to water planted compensatory trees and they

dry out. So, we planted 30 male white mulberry trees in several locations in Ston centre where the local utility company will take care of the planted trees.
Removed biomass from Dubrovnik is temporarily stored in VRT owned nursery Zaton near Dubrovnik, and biomass removed from Ston and Mali Ston is temporarily stored on separate locality on Pelješac peninsula (together with biomass from action C2.3). As an alternative solution, a wood chipping service was contracted, using a mobile wood chipper at agreed storage sites and quarries in the vicinity of the project localities, while on a large part of the localities the dried biomass was left to desiccate on site. The designated sites were regularly monitored by the DNZ team with the aim of tracking any potential reinfestation from the deposited material (roots, stumps or dormant seeds). No signs of ailanthus reinfestation were recorded at the storage sites. The chipped wood material was either utilised or disposed of in agreement with the storage site owners.
In project proposal we stated that removed biomass will be transported to the power plant "Biomass to energy Benkovac d.o.o" in their own arrangement. However, in practice, transport of biomass to Benkovac proved unfeasible (see description under C2).

D. Monitoring of the impact of the project actions

D1 Monitoring project impact on the targeted biodiversity problem
Foreseen start date: 6/2021 Actual start date: 9/2021
Foreseen end date: 12/2024 Actual (or anticipated) end date: 11/2025
Through activity D1, monitoring of the success of the implementation of C actions (conservation actions, i.e. removal of ailanthus from the project area) was carried out, by monitoring the total number of removed ailanthus trees and shoots, and by assessing the percentage of cleared area recorded through activity A1 (mapping of ailanthus in the project area). Monitoring was carried out at all locations at least once in the growing season (before the first removal in the season), and optimally twice (at the beginning and end of the growing season) where possible. In almost all localities where the ailanthus was removed, with the exception of a few locations in the city of Dubrovnik, after the first removal, a strong reinfestation of the ailanthus was recorded, regardless of the removal method used, and after repeated removals, progress towards the establishment of control over the ailanthus was visible. The largest reinfestation after the initial removal was recorded in the project area Krka. The main method of removal in this area was mechanical removal (impossibility of using herbicides due to sensitive habitats and proximity to water) so a strong reinfestation was expected. After the first removal of larger individuals, an increase in shoots was recorded at all locations in this project area and a lot of effort was needed to mechanically remove the shoots. Although reinfestation decreased each subsequent year of removal, and during the last removal as part of the project (in 2025) most of the shoots were removed, a smaller number of shoots are expected to re-emerge in the following years and removal activities will continue throughout the After LIFE period, as well as part of regular park maintenance.
In the project area JI Pelješac near habitat type 6220*, after the first removal, a very large reinfestation of ailanthus and a slight increase in the overgrown area was recorded. Although the first removal used a standard cut-stump method with using the undiluted glyphosate-based herbicide, due to the size of the area and the very strong root system of ailanthus, a great reinfestation was expected. Of the 6,000 trees and 34,000 saplings initially removed over an area of approximately 4 ha (two plots, first 2.3 ha, second 1.7 ha) in July 2023, shoots had sprouted again after just two months and spread to neighboring plots (expanding the infected area from 4 ha to approximately 4.5 ha), and the number of shoots was estimated to be at least 50,000. After the initial removal by felling the trees, the shoots were treated with a foliar application of a glyphosate-based herbicide three times on first and four times on second plot,

and this method proved to be very successful. Although the site currently has sporadic shoots, it has not spread to habitat type 6220* and control of ailanthus has been established in this area. In other locations along the corridors of spread and in the cultural heritage centers (Ston, Mali Ston) in the project area JI Pelješac, the standard protocol was used, and reinfestation was recorded in all locations after the initial removal, but the infestation was reduced by subsequent treatments. The best results were achieved in Ston and Mali Ston, where after two seasons of removal the infestation was reduced to a minimum and only smaller vegetative shoots appear along and inside the walls. The removal in this project area will continue as part of the After LIFE activities of the project, and will be focused on priority areas (proximity to habitat type 6220*, significant landscape Vučina Bay).
In the project area Dubrovnik, the removal results are very positive, and the conclusion is that the implemented activities were largely successful. In almost all localities of this project area, the number of individuals has decreased, and a significant decrease in the presence of this invasive alien species has been recorded in the entire area of the City of Dubrovnik. As part of the After LIFE activities of the project, the achieved results will be maintained through regular monitoring and removal of new shoots.

D2 Monitoring project impact on the targeted habitats
Foreseen start date: 6/2021 Actual start date: 6/2022
Foreseen end date: 12/2024 Actual (or anticipated) end date: 11/2025
As part of this action, we are monitoring changes in the targeted habitat types on which the removal of ailanthus is carried out. This activity is essential to assess whether, and to what extent, the removal of the invasive species will affect the conservation status of the targeted Natura 2000 habitat types.
In the project area Krka, during 6/2022 we contracted experts (external assistance) to define the protocols and conduct the monitoring of changes in the conservation status of habitat types in which ailanthus will be removed (32A0, 62A0 and 91F0). For this purpose, we were monitoring tufa, soil biodiversity, pollinators, grasslands and forests. Field survey of mentioned components is conducted in 2022, 2023, 2024 and 2025. The minimal impact of ailanthus removal on the monitored parameters of the Krka River tufa barriers is consistent with expectations. The primary reason is the use of a standard methodology involving precise mechanical extraction of individual specimens, which avoided collateral damage to the broader area and ensured no significant interference with the river flow or the tufa barriers themselves. Consequently, the removal operations within Krka National Park did not disrupt the tufa-forming process.
On project area JI Pelješac monitoring of potential ailanthus spread to the priority habitat type 6220*, situated near heavily infested area in Ponikve is conducted by MEPGT team. After initial monitoring (conducted on 6/2021) of the priority habitat type 6220* (negative for ailanthus infestation), we conducted first monitoring on 7/2023, two months after first ailanthus removal from infested area in Ponikve (action C2.1). Based on these results, habitat type 6220* was ailanthus-free. Monitoring was conducted following each removal phase (July 2023, October 2023, July 2024, October 2024, March 2025, August 2025, September 2025). No specimens of ailanthus were recorded within the priority habitat type during any of the field visits. However, increasing encroachment (an increase in shrub density) was observed, which could pose a significant threat to the conservation of this habitat type at the project sites. Consequently, continuous monitoring of the habitat is essential.

D3 Evaluation of the control protocol
Foreseen start date: 6/2021 Actual start date: 2/2022
Foreseen end date: 12/2024 Actual (or anticipated) end date: 12/2025

This action includes the analysis of different removal protocols, in terms of effectiveness and environmental impact. For this purpose, we compared results obtained with different methods of ailanthus removal, including mechanical, combined (chemical), and alternative protocol. As a part of this action, we have done field surveys (defined in A2) to estimate the success of eradication with mechanical and combined (applying glyphosate-based herbicide) removal protocols, and alternative protocol used only on two plots.
The most effective results in suppressing and controlling ailanthus were achieved by combining mechanical and chemical removal methods. The specific application methodology depended on the removal site, the number and size of the specimens, and the intensity of the infestation. Mechanical removal alone is not recommended due to its extreme inefficiency and its tendency to stimulate further vegetative spreading, except in areas where other methods are not feasible. This was the method applied within the protected area of Krka National Park. It proved effective there because we had access to unlimited human resources dedicated to consistent monitoring and the removal of saplings. New shoots emerging after mechanical removal were regularly cleared throughout the growing season to ensure the long-term exhaustion and eventual death of the root system. The combination of mechanical and chemical methods (cutting the base of the trunk and applying glyphosate-based herbicide) proved effective, but only for large trees where there was no risk of dead specimens collapsing. We successfully used this method at locations on Pelješac, in Dubrovnik, and at one plot in Krka (Oćestovo). The stem injection method also proved successful and was utilized at sites on Pelješac. The method of stripping a section of the bark and applying herbicide was very effective on smaller specimens, up to approximately 2 meters in height, and we utilized it at locations on Pelješac. The foliar application of herbicide was used at the Ponikve location and proved to be very effective. This method was used only at that site, where we had two extremely large plots, because a major re-infestation occurred following the initial combination of mechanical and chemical method (cutting the base of the trunk and applying glyphosate-based herbicide). For all the chemical methods mentioned, the results of herbicide application become visible after a few days, manifesting as yellowing and leaf drop. However, in most cases, no single removal method is completely successful, so it is necessary to carefully plan the subsequent removal steps from the very first intervention. At the Janjina (Pelješac), Čikola and Manojlovac (Krka) locations, an alternative protocol was used. There, specimens taller than 2 meters were injected with the biological agent Ailantex, based on the fungus *Verticillium nonalfalfae*. The results of this method will only become visible in the coming growing seasons, so monitoring its effectiveness will be part of the After-LIFE activities.
This action also included the yearly collection of the plant material and soil surrounding the glyphosate treated ailanthus and submitting it for the laboratory analyses for the presence of glyphosate. All samples were collected in locality Oćestovo – Tanjgina glavica in NP Krka, where combined protocol was conducted. This analysis was carried out by Institute of Public Health in Zagreb (external assistance). The results demonstrated that glyphosate contamination in the majority of analysed samples was negligible or below the limit of detection (LOD). This is consistent with expectations for plant material that was not directly treated with glyphosate-based substances.

D4 Evaluation of public awareness of invasive species
Foreseen start date: 3/2021 Actual start date: 3/2021
Foreseen end date: 3/2025 Actual (or anticipated) end date: 12/2025
Public awareness of invasive alien species (IAS) was assessed through two surveys conducted at the beginning (2021) and at the end of the project (2025) by an external contractor, ensuring methodological consistency and comparability of results.

The findings confirm that citizens consistently recognize major environmental challenges, with biodiversity loss, pollution, and habitat degradation remaining the most prominent concerns in both surveys. Compared to 2021, the final survey indicates a clear increase in awareness of alien and invasive alien species, suggesting that the topic has gained visibility in the public sphere over the course of the project.
Recognition of key terminology has improved, with more respondents familiar with the concepts of alien and invasive alien species. However, in-depth understanding remains limited. While a majority of citizens report having heard of IAS, only a smaller proportion can accurately define them or identify a broader range of examples, indicating that knowledge is still relatively superficial.
Importantly, the perception of IAS as a significant environmental issue has increased. A growing share of respondents acknowledges their negative impacts and supports active management measures, including removal. At the same time, awareness of concrete management actions remains low, pointing to a gap between general awareness and practical knowledge.
Citizens most frequently report encountering invasive species in their immediate surroundings, such as gardens, roadsides, and agricultural areas, reinforcing the perception of IAS as a local and everyday issue. The highest perceived risks are associated with exotic pets, alien plant species used in agriculture, and species introduced through forestry.
Overall, the results demonstrate a positive shift in public awareness and attitudes between the two survey periods. Nevertheless, they also highlight the need for continued targeted communication and education efforts, particularly in improving species identification, understanding pathways of introduction and spread, and increasing awareness of available management measures.

D5 Monitor and measure project performance indicators

Foreseen start date: 10/2001 Actual start date: 3/2021
Foreseen end date: 7/2025 Actual (or anticipated) end date: 12/2025

This action will include analysing results from several project activities. Through A1 action we collected the baseline data about ailanthus distribution and number of trees. This data was entered to KPI tool (11/2021). All analyses for this action were done by MEPGT team.
Through activity D1 and D2, monitoring of the success of the implementation of C actions (conservation actions, i.e. removal of ailanthus from the project area) was carried out, by monitoring the total number of removed ailanthus trees and shoots, and by assessing the percentage of cleared area recorded through activity A1 (mapping of ailanthus in the project area). Monitoring was carried out at all locations at least once in the growing season (before the first removal in the season), and optimally twice (at the beginning and end of the growing season) where possible. In almost all localities where the ailanthus was removed, with the exception of a few locations in the city of Dubrovnik, after the first removal, a strong reinfestation of the ailanthus was recorded, regardless of the removal method used, and after repeated removals, progress towards the establishment of control over the ailanthus was visible. In the project area Krka control of ailanthus has been established on 32A0 habitat, as well as on 6220* type on Pelješac. The best results were achieved in cultural areas of Ston, Mali Ston and Dubrovnik. As part of the After LIFE activities of the project, the achieved results will be maintained through regular monitoring and removal of new shoots.
Public awareness activities and visibility measures have achieved a significant measurable impact on the perception of invasive alien species (IAS). Through the systematic implementation of E activities level of awareness was increased, significant degree of recognition of the ailanthus as an ecological and economic threat was achieved. The official project Facebook page served as the primary tool for two-way communication and extensive

reach and high engagement levels were achieved, ensuring project visibility beyond professional circles. The transfer of knowledge and technical expertise regarding ailanthus control methods has been assessed as highly successful, with a long-term impact on the management of protected areas. As a key outcome of knowledge sharing, the National Protocol for ailanthus control is developed. This document represents a standardized framework that will serve as a reference point for future similar projects in the Republic of Croatia, ensuring high replicability of the project's solutions. The integrated communication approach, combining digital platforms with direct field engagement, resulted in high levels of public support and the successful transfer of professional expertise to key stakeholders.

E. Public awareness and dissemination of results (obligatory)

Almost all E activities were delayed because they depended on implementation of C and D activities. Due to lack of personnel, especially with the project coordinator MEPGT who oversees most of the E activities, in the first part of the project period we were mostly focused on the implementation of the main C activities. At the end of the project, all planned E activities were conducted.

E1 Public awareness raising activities

E1.1. Media, promotion, and public talks

Foreseen start date: 1/2021 Actual start date: 01/2021

Foreseen end date: 12/2024 Actual (or anticipated) end date: 12/2025

This subaction was important to ensure constant visibility of the project and for sharing information about the project news, activities and other materials.

- We created the project logo and printed it to the promo materials: 1100 canvas bags, 1100 t-shirts, 500 leaflets and 750 garden hoes.
- We planned to adapt the existing website about invasive species, but we created our own website instead because the upgrade to the existing one was significantly more expensive.
- We opened the user account on Facebook www.facebook.com/life.contra.ailanthus.hr (2100 followers) and on Instagram www.instagram.com/life_contra_ailanthus/ for promoting the project on social media (240 followers).
- For taking a professional photo and video materials of the targeted Natura area and the projects activities we predicted a short-term hire (total of 30 days, across the period of 3 years) of a photographer/cameraman. Because of administrative problems we hired a sub-contractor who made videos and photos during the Ailanthus removal in November and May. Professional photography and videography services were again contracted to ensure high-quality visual documentation of project activities and results. The external contractor produced a comprehensive set of photographs and social media videos showcasing project sites, achieved results, applied removal methods, and the impacts and challenges associated with invasive alien species (IAS). The initial press conference was held in NP Krka instead of Zagreb because of COVID restrictions we could hold the press conference on the open.
- We prepared informative public talks about the problem of invasive species and the Ailanthus problem at the horticultural fairs. In 2023 and 2025 MEPGT project team participated on Flora Art in Zagreb, in 2024 and 2025 we participated at Nature Protection Day Manifestation in Zagreb, in 2025 we participated at the flower fairs in Split and Rijeka. We also participated at the international agricultural fair Agroterra Pazin in April 2025.
- Instead of a short-term hire of a communication professional who developed the communication plan we hired a sub-contractor due to administrative problems. The communication plan is important to ensure that we communicate the most important messages and outcomes of our project efficiently.

Some of the milestones of this action were not completed on time. We predicted printing of the promo material in 04/2021, and it was done in 11/2021 because of administrative delays in ministry and long public procurement procedure. Press conference was held in 5/2021 instead of 4/2021 because of the COVID restrictions and changing the location of the conference. Photo and video material should have been finished in 11/2021, but we finished it in 7/2023 because Ailanthus removal in Pelješac was at the end of May 2023 so they couldn't film it before. Deliverables were also delayed, promo video for 18 months and promo leaflets for 7 months.

E1.2 Workshops for the participation of the public (citizen science)
Foreseen start date: 1/2021 Actual start date: 4/2024
Foreseen end date: 12/2024 Actual (or anticipated) end date: 10/2025
This subaction includes the continuation of the activities of promoting public participation through citizen science workshops, started in 2020 through ongoing IAS project. Workshops included short talks and assignments about the invasive species in general, the specific challenges of Ailanthus, and the demonstration practice of the IAS smartphone application. We planned to hold 4 workshops in total in the period 2021-2024, one workshop per year.
Because of lack of personnel, we started with the workshops in April 2024.
We held 4 workshops with 70 participants. The workshops were held in Pula, 4/2024 (Public institutions and NGOs from nature protection sector in the Istria region, 12 participants), Varaždin, 5/2024 (Biology teachers from the Varaždin, Koprivnica-Križevci, and Krapina-Zagorje counties, 12 participants), Zagreb, 7/2024 (Biology teachers from Zagreb city, 35 participants) and Varaždin, 10/2025 (Center of Excellence for Biology, elementary school children, 15 participants).

E1.3 Education of the local community within the protected area
Foreseen start date: 1/2021 Actual start date: 06/2022
Foreseen end date: 12/2024 Actual (or anticipated) end date: 9/2024
This subaction includes workshops about the biodiversity of the natural area in general, and about the negative impact of invasive species. We provided concrete instructions on how to proceed upon finding Ailanthus (or other alien species), in terms of reporting the finding through a smartphone application, and the best course of action.
The local workshops were prepared and held by the local partners.
NPK conducted 6 workshops as planned:

- Annual Ranger Seminar for the Rangers from protected areas (49 participants) in 4/2023
- Workshop for the volunteers (11 participants) in 9/2023
- Workshops for the volunteers 9/2024 (14 participants)
- 3 workshops in February for elementary school children from Šibenik-Knin county: 5/2/2024 (39 participants) 8/2/2024 (39 participants), 13/2/2024 (28 participants)

DNZ and VRT conducted 4 workshops in areas Dubrovnik and JI Pelješac as planned:

- Students of forestry at Uvala Vučine on Pelješac (22 participants) in 6/2022
- Students of Dubrovnik Gymnasium in Dubrovnik (28 participants) in 12/2022
- Students of Dubrovnik Gymnasium in Dubrovnik (31 participants) in 9/2023
- Students of forestry in Dubrovnik (25 participants) in 11/2023

We started these activities later than planned because of the COVID restrictions in 2021.The results of this activity did not include any milestone.

E2 Networking with other LIFE and non-LIFE projects
Foreseen start date: 10/2020 Actual start date: 11/2020

Foreseen end date: 12/2024 Actual (or anticipated) end date: 10/2025
This action includes meeting and communicating with relevant LIFE and non-LIFE projects for the purpose of knowledge transfer, sharing experiences and establishing collaboration and exchanging information with other similar projects, experts and practitioners in the conservation sector.
Virtual kick-off meeting was held in 11/2020.
In the preparatory actions A3 we visited the Italian LIFE Alta Murgia (see A3).
Within the activity E4 we visited LIFE Artemis team in Slovenia (see E4). In 9/2024 4 members of our project team visited OAKEYLIFE in Hungary which focuses on habitat restoration. It was planned during the third year of conservation actions in our project, but it was delayed due to organisational challenges and the limited availability of colleagues from Hungary.
Two members of MEPGT team presented our project on international meeting "Exchange of experiences among projects dealing with invasive alien species in Europe" as a part of the LIFE INVASAQUA project in Malaga, Spain.
In Dubrovnik we hosted public institutions for management of protected areas from Croatia who have ailanthus removal projects funded from the Environmental Protection and Energy Efficiency Fund (NP Kornati, PP Telašćica, PP Lonjsko Polje, Public institution City of Zagreb, 8 participants, E3.3. Technical workshops, Dubrovnik).
4 members of our project team participated in a field trip in NP Krka with LIFE ORNAMENTALIAS project team.
All milestones and deliverable were finished later than planned except for the virtual kick off meeting which was conducted on time. COVID-19 restrictions and the need to coordinate with other project teams were the main causes of the delays.

E3 Dissemination actions

E3.1. National protocol

Foreseen start date: 12/2023 Actual start date: 1/2025
Foreseen end date: 3/2025 Actual (or anticipated) end date: 12/2025
This subaction includes the development of the national protocol for Ailanthus control. The protocol is based on the initially developed project protocol (A2) and adapted according to the results of the monitoring and evaluation actions (D1-D3).
A draft of the technical section of the Order for Ailanthus removal has been prepared and forwarded for further processing to the competent unit within the Ministry of Environmental Protection and Green Transition. Its validation and adoption are expected in the upcoming period. The delay in issuing the Order is due to complex and lengthy processes within state administration bodies; every such document must obtain opinions from all relevant state administration authorities, and similar. The 'Order' mechanism in the Act on the prevention and management of the introduction and spread of alien and invasive alien species (OG 15/18, 14/19 Article 22) does not recognize the challenge of removing and controlling widely distributed IAS; instead, it is focused on species that have just appeared in nature and are only beginning to establish their populations—i.e., species in the early stages of invasion. Consequently, there are certain challenges and adaptations required for this legal mechanism to serve the purpose of removing the Tree of Heaven (Ailanthus altissima) across the entire territory of the Republic of Croatia. While the adoption of the Order did not occur during the project implementation period, it will certainly be enacted. The draft protocol, as well as the project results, were presented at the final conference held in Krka National Park in December 2025.

E3.2. Leaflets, brochures and notice boards

Foreseen start date: 12/2024 Actual start date: 5/2023
Foreseen end date: 12/2024 Actual (or anticipated) end date: 12/2025
This subaction included the preparation, design, and print of two type of leaflets, one report (Layman Report), four notice boards within the Natura 2000 project areas and one in Dubrovnik (two notice boards per area). Since the project has been extended and these activities were dona at the end, we have ultimately opted not to print the materials. Instead, all documents will be accessible for download via the project website.
In July 2023 we prepared temporary notice boards - 2 for NPK, 2 for Pelješac (Ston and Uvala Vučine) and 1 for Dubrovnik. Notice boards serve to inform the public about project activities in that area. Due to administrative difficulties arising from complex procedures within the MEPGT, the replacement of the notice boards with those presenting the project results will take place in the first half of 2026.

E3.3 Technical workshops
Foreseen start date: 3/2024 Actual start date: 6/2024
Foreseen end date: 3/2025 Actual (or anticipated) end date: 12/2025
This subaction includes preparation and execution of practical eradication workshops to train all relevant stakeholders for replication of our project results.
We held 10 workshops for employees of public institutions for protected nature area management, NGOs, public administration staff, employees of Croatian Forests and companies for maintaining public green areas.
26/6/2024 Krapje – Nature Park Lonjsko polje (10 participants)
4/9/2024 Cerovačke špilje – Nature Park Velebit (11 participants),
9/10/2024 Korčula (11 participants),
17/10/2024 Dugi Otok – Nature Park Telašćica (16 participants),
20/3/2025 Split (13 participants),
5/5/2025 Rijeka (11 participants),
4/6/2025 Zagreb (17 participants),
25/4/2025 Osijek (8 participants),
1-2/10/2025 Dubrovnik (25 participants),
12/11/2025 Zagreb (19 participants).
Workshop for nature conservation sector from Montenegro and Bosnia and Hercegovina was held in Dubrovnik 1-2/10/2025 (7 participants from universities and NGOs) The beginning of these activities was delayed due to lack of personnel.

E4 Developing and improving the Early detection and rapid response (EDRR) system
Foreseen start date: 1/2022 Actual start date: 4/2025
Foreseen end date: 7/2024 Actual (or anticipated) end date: 12/2025
This action included developing the national early detection and rapid response (EDRR) system. We visited LIFE Artemis in Slovenia because one of the goals of LIFE Artemis project is setting up an efficient early warning and rapid response system to manage impact of invasive alien species on Slovenian forests. 3 members of our project team visited LIFE Artemis project. EDRR protocol was developed for five species (*Acacia saligna, Heracleum mantegazzianum*, *Humulus scadens*, *Pueraria lobata, Delairea odorata).*
Due to an extensive consultation process, there were delays in delivering this output. The protocol will be subject to further adjustments over time to reflect changes in legislation and the evolving responsibilities of different institutions for specific elements of the protocol.
A list of experts and institutions has been compiled to support the implementation of the protocol.

All milestones for this action were delayed because of lack of personnel for conducting the office work. Deliverable were also delayed for the same reasons.

E5 Post-project exit strategy
Foreseen start date: 4/2023 Actual start date: 11/2024
Foreseen end date: 9/2024 Actual (or anticipated) end date: 3/2025
Because the safe elimination of the Ailanthus waste is authorized burning, the chipping of Ailanthus timber and using it for pellet production could be a good option to eliminate the waste without unnecessarily increasing the CO^2 footprint. We subcontracted a professional company, and they conducted a feasibility study for this solution.
The expected product of this action was an exit strategy which can be applied as a part of the post-project activities.
The main objective of the study was to determine whether processing ailanthus biomass into pellets combined with olive processing residues (pits and vine branches) is feasible, with the aim of achieving economic sustainability and reducing environmental impact. The study was conducted for the southeastern part of Pelješac and found that current spatial plans (the Dubrovnik-Neretva County Spatial Plan and the Ston Municipality Spatial Development Plan) do not provide for the location of a pelletizing plant or a green waste management facility. Four macro-areas were identified as potential sites for the plant proposed in the study. These selected macro-locations are situated near settlements and roads to facilitate access and distribution to and from the mainland, and these zones are not located in areas with spatial constraints. As expected, investment costs proved to be relatively high and would need to be covered by the state budget or EU grants. Conservative estimates of raw material availability and utilization were made for a six-month period per year, while expected operating costs were projected on an annual basis. Therefore, covering operating costs will depend on the organization of work and the possibility of extending pellet production beyond the projected 4,000 hours per year. If the pelletizing plant relies exclusively on tree of heaven and olive pit raw materials, it is possible that up to one-third of the operating costs will need to be covered annually. To prevent this and ensure the plant remains sustainable operating without a deficit, it is essential to follow the implementation recommendations. These suggest involving the local population as much as possible, as they can supply additional raw materials and, by purchasing locally produced pellets, support both production sustainability and the control of the invasive tree of heaven on the Pelješac peninsula.

F. Project management

F1 Overall project management
Foreseen start date: IV Q 2020 Actual start date: IV Q 2020
Foreseen end date: IV Q 2025 Actual (or anticipated) end date: IV Q 2025

Project team

MEPGT had great difficulties in recruiting staff. From the beginning of the project more than one places (from five total) were always empty.

- In March 2021 three people were hired (senior project assistants I and II and senior financial associate) and in August 2021 two of them left (senior assistant II and senior financial associate).
- In November 2021 senior assistant I left on maternity leave until January 2023

- In April 2022 three people were hired and one person gave up even before concluding the employment contract (senior assistant II and senior assistant III)
- Senior assistant II left in October 2022
- In May 2022 we hired senior assistant II
- In November 2023 we hired senior assistant IV (instead of senior financial associate) who immediately left on maternity leave
- Project manager is permanent MEPGT employee working 60 % of the time on the project (the change was made, instead of two people working 30 %, one is working 60 % of the time on the project). We noticed Monitor about this change as we decided on it because employment is a problem, so it is more optimal that a permanent employee is the project manager.
- In final year of the project, these three staff members applied for a public call for employment at the Ministry and were appointed to permanent positions. Two of these employees remained with the project for 50 % of their time, while the third was replaced by another permanent staff member who was also seconded to the project for 50 % of her working hours and fourth also permanent employee was added to the project for 50 % of her working hours.

Meetings of all partners held

Year 2020:
- First coordinating meeting of all partners on 4th December 2020 (online)

Year 2021:
- Second coordinating meeting of all partners on 20th January 2021 (online)
- Third coordinating meeting of all partners on 25th May 2021 at NP Krka
- Fourth coordinating meeting of all partners on 23rd September 2021 (online)
- Fifth coordinating meeting of all partners on 16th November 2021 (online)

Year 2022:
- Sixth coordinating meeting of all partners on 7th February 2022 (online)
- Seventh coordinating meeting of all partners on 2nd June 2022 (online)
- Eight coordinating meeting of all partners on 14th September 2022 (online)
- Ninth coordinating meeting of all partners on 8th Decembre 2022 (online)

Year 2023:
- Tenth coordinating meeting of all partners on 22nd March 2023 (online)
- Eleventh coordinating meeting of all partners on 5th July 2023 (online)
- Twelfth coordinating meeting of all partners on 6th December 2023 in Dubrovnik

Year 2024:
- Thirteenth coordinating meeting of all partners on 9th April 2024 (online)
- Fourteenth coordinating meeting of all partners on 3rd December 2024 in Dubrovnik

Year 2025:
- Fifteenth coordinating meeting of all partners on 1st July 2025 (online)
- Sixteenth coordinating meeting of all partners on 9th December 2025 in Skradin.

6.2 Main deviations, problems and corrective actions implemented

During the preparation of the project, two ministries merged (Ministry of environment and energy (MEE) became Ministry of Economy and Sustainable Development (MESD)), which led to a slower functioning of all business processes. Also, in 2024. MESD was restructured into separate entities, resulting in the establishment of the new Ministry of Environmental

Protection and Green Transition (MEPGT). From the very beginning of the project, there has been an administrative difficulty, and it relates to the slower administrative processes in the MESD and also MEPGT (implementation of the public procurement procedure, signing and certification of documents, etc.) and problems with employment (it is necessary to obtain permission for employment first within the MESD/MEPGT, and then from The Ministry of Justice and Public Administration, the recruitment process is lengthy, etc.). Unfortunately, there are no measures that could have been taken to overcome the mentioned problems completely. One of the measures taken is that for this very reason we decided that the project manager should be a permanent employee from than MESD.

The project started amid the COVID-19 pandemic, all business processes, and most of all travel, took place with difficulty or did not take place at all. At the very beginning, the first activity, which was the opening conference, could not be organized on time, and was postponed due to the ban on gatherings. For this reason (together with administrative drawbacks mentioned in first paragraph), we also had to postpone field work necessary for A1 action. Next, there were bans on travel to other countries, so we could not visit LIFE Alta Murgia project in Italy as planned, which was crucial for training the project team in ailanthus removal techniques and preparing the protocol for removal. This step was very important, particularly in combination with problems regarding procurement of the expert for ailanthus removal who had to determine removal protocol (see also 6.1., action A2). For procurement of ailanthus removal expert (A2) we had only one applicant, but application was improper, that is why protocol had to be written by project members, and it was delayed for eight months. This delay caused further delays in other actions (C, D and E), which had to start later than planned. We also had problems with the procurement for removal company on the project area Pelješac, which had to be conducted twice. Although we have conducted a detailed market analysis, no one responded to first announcement. There are only few removal companies on the Croatian south (where the project area is situated), and no one was willing to remove ailanthus. Second procurement was successful, but we had some administrative problems (mentioned above) that delayed implementation.

We also encountered some drawbacks and problems with methodology and field work (actions A1, C) that caused delays and needs for some adjustments in removal activities. For determining the baseline of ailanthus infestation on bigger plots in our project area, we used census on smaller plots and extrapolation to a total larger surface – this method resulted in underestimation of ailanthus number and severity of infestation on such locations, which consequently led to difficulties with finding contractors for removal of ailanthus (e.g. Žuljana, Uvala Vučine, parts of the NP Krka) and more time needed to clear certain locations. We overcome these problems by prioritising removal areas, for example on project area Pelješac priorities include protected Uvala Vučine and plots with bigger number of female trees. Also, some of the mapped infested area is extremely or completely inaccessible for removal (steep rugged terrain, cliffs) – for such localities we estimated the importance for removal, and if locality was regarded as very important, we tried to remove ailanthus (on some localities we used alpinist services), but if it was of low importance (for example two plots in Dubrovnik) we decided not to remove ailanthus from there. Removing of ailanthus from extremely inaccessible localities could do more harm than good, because we would not be able to remove shoots and vegetative sprouts properly, and consequently, we would have bigger infestation than initial situation. Instead of some initial locations, we removed ailanthus from new locations discovered during the project. In part of the project area (mostly Pelješac) we were having problems with privately owned land. Despite the issued "Order on taking measures to remove *Ailanthus altissima* in the projects target area" some owners were not so willing to let us remove ailanthus, or we couldn't find the owners (abandoned or neglected land). We were trying to alleviate such drawbacks by communicating with owners and finding the best solution

for both sides, for example by planting the native trees where appropriate. The delay of some removal activities was partially also caused by bad weather conditions. For example, in first and second year of the removal in NP Krka (2022 and 2023) we had heavy rain in spring and early summer and tourist season afterwords, so we could not conduct removal as initially planned by protocol but had to postpone it to autumn.
Due to the deviations and problems, the entire project was delayed with the implementation of almost all activities by approximately six to eight months. The above-mentioned delay did not put into question the objectives and results of the project but only shows the need for more time for implementation. For this reason, we asked for an extension of the project.

6.3 Evaluation of Project Implementation

Action	**Foreseen in the revised proposal**	**Achieved**	**Evaluation**
A1 Determining the baseline of Ailanthus in target area	Objectives: Determine the exact area invaded with ailanthus, estimate population density, and locations of mature female trees. Expected results: Ailanthus distribution and number of individuals is mapped over the entire project area.	Yes	The objective and results are achieved. Field survey was successfully conducted on all planned localities. Because of administrative problems we started this action later than planned in project proposal, and final output was delayed for few months (see section 6.1. and 6.2.). Methodology applied was adequate for smaller area, but for mapping of bigger plots (census on smaller representative surface, extrapolation to bigger area) did not turn out to be the best on some localities (i.e. Žuljana and Uvala Vučine, some locations in NP Krka) because it resulted in underestimation of number and severity of infestation, which led to further drawbacks, such as underestimated manpower, number of workers needed for removal and difficulty finding contractors for removal activities.
A2 Prepare the protocols	Objectives: Prepare the ailanthus removal protocol together with monitoring plan, which will be implemented through the project. Expected results: Protocol for ailanthus removal and monitoring plan	Yes	The objective and results are achieved. Protocol (mechanical/combined) and monitoring plan is successfully determined, even though later than planned in project proposal (4/2022 instead of 9/2021), mostly because of administrative drawbacks (see 6.1., action A2, and 6.2). Instead by short-hired expert in ailanthus

			eradication, protocol was written by MEPGT and project partners, which led to delays in milestones and deliverable dates, and need for adaptation on field of some steps foreseen in protocol. Alternative protocol based on inoculation of ailanthus with fungi *Verticillium nonalfalfae* was also successfully written, but it was implemented later that envisaged and on different locations than first planned.
A3 Train the project team	Objectives: Train the project team in ailanthus eradication methods. Expected results: The project team is trained in ailanthus removal and can carry out removal actions and transfer knowledge to other stakeholders.	Yes	The objective and results are achieved. Study visit and training by LIFE Alta Murgia project team, as well as local eradication workshops, were successfully conducted, even though postponed to 4/2022 and 6/2022, respectively, mostly because of bans on travel caused by COVID-19. The methods learned on this study visit in Italy were incorporated to our removal protocol, and they proved to be successful in ailanthus removal also in Croatia.
A4 Permits acquisition and informing the stakeholders	Objectives: Obtain all the permits required for the implementation of project activities and inform all relevant stakeholders about the project. Expected results: All the necessary permits are acquired. All relevant stakeholders are informed about the project.	Yes	The objective and results are achieved. All the required permits were obtained on time for conducting project activities (see 6.1, action A4). Stakeholders were informed about the project goal and activities via e-mail, and on initial stakeholder workshop held in NPK project area.
C1 Natura 2000 site SCI HR2000918 Šire područje NP Krka	Objectives: Directly improve the conservation status and/or halt decline of habitat types in Natura 2000 site SCI	Yes	The C1 objective and expected results are achieved. On this project area, the removal lasted from 2022 to 2025. On this project area we mainly used mechanical protocol for ailanthus removal. As expected,

	HR2000918 Šire područje NP Krka Expected results: Total eradication of ailanthus on 45 ha of target habitat type 32A0. Establish control across additional 164 ha on other habitat types, sources, and corridors of spread.		and predicted in project proposal, on almost all locations we had strong reinfestation of vegetative sprouts, and on some locations, we had increase in infested area. Mechanical removal of ailanthus is labore intensive method and it is not very cost-efficient on larger area, but we could not use chemical component (glyphosate-based herbicide) because of vulnerable habitat type 32A0 and proximity to water. Lesson learned from this action (along with other C actions) is that more workers and more budget would be needed to execute the mechanical removal of ailanthus.
C2 Natura 2000 site SCI HR2001364 JI dio Pelješca	Objectives: Directly improve conservation status and/or halt decline of priority habitat type 6220* Pseudo steppes with grasses and annuals of the Thero-Brachypodietea Expected results: Ailanthus is removed from 4 ha located close to priority habitat type 6220*. Ailanthus is eradicated from the sources and corridors of spread.	Substantially	By the end of the project, the objectives and expected results of action C2 have been substantially achieved. Across all removal seasons (April 2023 - December 2025), the DNZ team removed a total of approximately 3.500 large trees and 12.600 shoots and saplings, including around 270 mature female individuals. In Dubrava (C2.3), where high reinfestation was recorded after first removal, requires continued monitoring. The most significant shortfall relates to Žuljana and Uvala Vučine (C2.2), where not all mapped infestations were treated. The total number of removed individuals was lower than planned due to a combination of field, organisational and strategic factors. The extrapolation method used during baseline mapping substantially underestimated actual infestation density, making it difficult to secure contractors for the remote Pelješac location. Removal priorities were therefore adapted to field realities, with emphasis on localities of the

			highest ecological significance - particularly areas in the immediate vicinity of the protected landscape of Uvala Vučine - and on plots where landowners expressed willingness to continue independent maintenance, which is essential for any long-term control on predominantly privately owned land. On Ponikve location there are still sporadic shoots, it has not spread to habitat type 6220* and control of ailanthus has been established in this area.
C3 Removal and establishing control of Ailanthus in cultural heritage centres	Objectives: Directly improve the cultural heritage preservation in three historical centres (Ston, Mali Ston and Dubrovnik) Expected results: At least 10.000 shoot and trees are removed from cultural heritage centres Ston, Mali Ston and Dubrovnik.	Yes	The C3 objective and expected results are achieved. Removal was conducted across three seasons (April 2023-October 2025), covering 100 % of the mapped area in both Ston and Mali Ston. DNZ team removed a total of approximately 265 large trees and 1.500 shoots and saplings, including 5 mature female individuals. The combined protocol was applied throughout. Reinfestation has been reduced to a minimal level, with only scattered vegetative sprouts recorded along the city walls. In cultural heritage centres we have greatest success with combined protocol. The removal of ailanthus in Dubrovnik was conducted from 2021 to 2025, and more than 23.000 individuals were removed, covering 100 % of the mapped area.
D1 Monitoring project impact on the targeted biodiversity problem	Objectives: Quantify the progress of the project, compare the effectiveness of the tested protocols, and detect potential differences depending on the habitat type or location. Expected results:	Yes	The objective and results are achieved. In this action we kept track on the number of removed ailanthus individuals (exact number of big trees, estimated number of saplings and shoots) and size (percent) of the area cleaned from ailanthus in C actions. Few months after each conducted removal we were

	Monitoring report with results of success with ailanthus removal.		monitoring number of trees/shoots regrown and precent of the area reinfested with ailanthus. Based on these results we planned next steps for C actions (future removals). Through this approach, we collected data that were used for project evaluation, and we also used it later for preparing national protocol for ailanthus removal.
D2 Monitoring project impact on the targeted habitats	Objectives: Test whether the removal of invasive species really improved the conservation status of the targeted habitat type. Expected results: Changes related to ailanthus removal are monitored in targeted habitat types.	Yes	The objective and results are achieved. For project area NP Krka, researchers (external assistance) determined the locations for monitoring of ecological changes and conservation status, defined monitoring protocol, collected the baseline data before the beginning of the eradication actions, and conducted monitoring from 2022 to 2025. Final results showed no impact of ailanthus removal on conservation status of targeted habitat types. On project area JI Pelješac we were monitoring potential spread of ailanthus to habitat type 6220*, which is for now ailanthus-free. We believe that chosen monitoring methods were good and showed success. We will monitor this location throughout after life period.
D3 Evaluation of the control protocol	Objectives: Analyse different removal protocols, in terms of effectiveness and environmental impact. Expected results: Results obtained with different protocols are evaluated.	Yes	The objective and results are achieved. We were monitoring exact number of regrown individuals and percent of reinfested area after ailanthus removal on smaller plots, on which exact number of individuals was counted. We only have results for mechanical and combined removal protocol. Alternative protocol was conducted in final year of the project, and we will monitor

			results throughout after life period. We believe that chosen monitoring method gave us insight into the success of each protocol used on field, and these results were used to determine final protocol for removal of ailanthus.
D4 Evaluation of public awareness of invasive species	Objectives: Provide an evaluation of the success of public awareness-raising activities through this project. Expected results: Two nationwide surveys on ailanthus and invasive alien species are conducted.	Yes	The objective and results are achieved. We determined questions and sample size for surveys. First survey was conducted at the beginning of the project, and the second one was conducted at the end. This action gave us an insight into general public's awareness on ailanthus and threats it poses to people and nature.
D5 Monitor and measure project performance indicators	Objectives: Monitor project success based on performance indicators. Expected results: Values are entered into KPI tool.	Yes	Initial KPI values are entered to KPI tool. Final actual values of the KPIs are entered to LPI (KPI) webtool.
E1 Public awareness raising activities	Objectives: Raise public awareness of the Natura 2000 network, the LIFE program, and specific biodiversity problems targeted by our project. Expected results: General public is aware of negative effects of ailanthus and other alien species.	Yes	The objective and results are achieved. All of the awareness raising activities are conducted (press conference, web, logo, promo materials, workshops and public talks) Social media activity, along with the positive shift observed in the public awareness survey results, indicates that the objectives of this activity have been successfully achieved.
E2 Networking with other LIFE and non-LIFE projects	Objectives: Establish collaboration and communication with experts and practitioners in the conservation sector. Expected results: The required knowledge on specific topics is	Yes	The objective and results are achieved. All study visits, as well as the hosting of experts from LIFE and non-LIFE projects as well as ones from neighbouring countries, have been successfully completed. Cooperation with other projects was successful, enabling the

	shared among participants.		exchange of experiences related to challenges in the removal of *Ailanthus altissima* and the management of invasive alien species.
E3 Dissemination actions	Objectives: Ensure the sharing of knowledge and practices acquired through project activities. Expected results: The project results are replicated through national protocol and educated stakeholders.	Yes	The objective and results are achieved. All workshops were successfully conducted, with participation from almost all public institutions managing protected areas in Croatia, equipping them with the knowledge required to carry out the removal of *Ailanthus altissima* within their respective areas.
E4 Developing and improving the Early detection and rapid response (EDRR) system	Objectives: Setting up an efficient early warning and rapid response system to manage impact of invasive alien species Expected results: Early detection and rapid response system is developed.	Yes	The objective and results are achieved. A protocol has been developed for five terrestrial plant species. Its performance will be tracked over the next period.
E5 Post-project exit strategy	Objectives: Finding a solution for the safe elimination of the Ailanthus waste Expected results: Developed exit strategy which will be applied as a part of the post-project activities, contributing to the maintenance of the project results.	Yes	The objective and results are achieved. The main objective of the feasibility study was to determine whether processing ailanthus biomass into pellets combined with olive processing residues (pits and vine branches) is feasible, with the aim of achieving economic sustainability and reducing environmental impact. As expected, investment costs proved to be relatively high and would need to be covered by the state budget or EU grants.
F1 Project management	Objectives: Forming a project team for project management Expected results: Two coordinating meetings per Year	Yes	The objective and results are achieved. MEPGT didn't have fully formed project team, as stated in Section 6.1 Action F, but despite that, all activities have been completed. Communication with other partners was very good, and

			coordination meetings were held as planned. Other partners have employed personnel as planned, and activities are being carried out smoothly. A total of 16 coordination meetings were held as part of the project as well as numerous smaller meetings as needed.

One of the objectives of LIFE CONTRA Ailanthus project is to issue National protocol for ailanthus removal and related national legislative to implement the protocol. This was achieved through the creation of the "Order on taking measures to remove *Ailanthus altissima* from the national territory of Croatia". This order communicates the severity of the negative impacts more strongly to the public and provides a legal justification for obtaining future funding resources. For project purposes we already issued an "Order on taking measures to remove *Ailanthus altissima* in the projects target area" (action A4).
Regarding to EU added value, in the Grant agreement we foreseen contributing of our project to Target 1 ("Halt the deterioration in the status of all species and habitats covered by EU nature legislation and achieve a significant and measurable improvement in their status") and Target 5 ("Combat invasive alien species") of EU biodiversity strategy to 2020. New EU biodiversity strategy to 2030 is currently in place, with defined targets for degraded ecosystems and invasive alien species. Our project contribute to Target 2 ("Restore 30 % of all degraded ecosystems) by removal of ailanthus from 123.09 ha of targeted Natura 2000 habitat type 32A0 and from heavily infested 4 ha area near the priority Natura 2000 habitat type 6220*, as well as from the surrounding habitats, buffer zone, other open habitat types, and corridors and sources of spread from targeted Natura 2000 sites. Related to Target 6 ("Reduce the introduction of invasive alien species by 50 % and minimize their impact"), since *Ailanthus altissima* is on the Union list (Commission Implementing Regulations (EU) 2016/1141, (EU) 2017/1263, and (EU) 2019/1262), project directly contributes to the control of invasive alien species of Union concern. Our project includes concrete eradication actions for ailanthus, development of the national protocol for its eradication and control, with the region and site-specific guidelines. Through eradication actions within protected areas and sources and corridors of spread we also directly address the pathways of introductions into new areas, particularly through the removal of female trees (the largest source of spread through seeds), and indirectly by education and awareness-raising within stakeholders and the public. Also, throughout our project, we visited, received training, established partnership, and used the results from previous EU funded projects, including LIFE Alta Murgia, LIFE Artemis, OAKEYLIFE, and OPCC Establishment of the National Monitoring System for Invasive Alien Species in Croatia, and other potential projects identified through project. Throughout the project we removed ailanthus from targeted project area (contributing to EU biodiversity strategy to 2030), we exchanged knowledge with LIFE Alta Murgia, LIFE Artemis, OAKEYLIFE, LIFE ORNAMENTALIAS and a few other nationally financed projects that tackle ailanthus removal, as well as experts from and from neighbouring countries (Bosnia and Herzegovina and Montenegro) and used results from OPCC Establishment of the National Monitoring System for Invasive Alien Species in Croatia. During the procurement of IT equipment, principles of green public procurement were considered (such as the warranty period of individual items, energy-efficient products, and similar). Through green public procurement, advice is to always order goods that, throughout their lifecycle, have a lower impact on the environment and climate compared to goods with the same basic function that would otherwise be procured.

During the procurement of promotional materials, T-shirts made of organic cotton were acquired.
When organizing meals and refreshments for various events, care was always taken to ensure that the products are local and seasonal, and that the caterers are local. There is also a consideration to always have a choice of plant-based dishes. Preference is always given to local businesses whenever possible.

6.4 Analysis of benefits

Objectives of the LIFE CONTRA Ailanthus project included improvements of the Natura 2000 habitat types (primarily 32A0 and 6220*) by removing ailanthus from or near them. We predicted total eradication of ailanthus from the habitat type 32A0 on project area Krka. In the Krka area, removal covered 123.09 ha across sites within the 32A0 area and its buffer zones (Skradinski Buk, Roški Slap, Miljacka, and Manojlovac). Total of four removals were carried out. Priority habitat type 6220* on project area Pelješac is also ailanthus-free, all 4 ha was cleared. To preserve it as such, we also removed ailanthus from its near proximity. We were removing ailanthus monoculture from 4 ha near this habitat – A total of four removals were carried out. We preserved mentioned habitat types also by removal from and along main roads (corridors) and bigger settlements (sources of spread) in vicinity of them.
Cultural heritage centres were be preserved by removal of ailanthus from Dubrovnik, Ston and Mali Ston. We removed it from all localities with good results, and targets set for this part were met. We did not have bigger deviations from set targets, except for the time of implementation – because of above mentioned problems and drawbacks (see 6.2.) we are behind the schedule to meet almost all set targets.

7. Key Project-level Indicators

Key project-level indicators are entered into the KPI online tool, and their achievement is described below.
The plan was to remove a total of 76.6 ha of ailanthus across the mentioned areas. This indicator has been fully met and even exceeded, with removal completed on a total of 125.43 ha. In the Krka area, removal covered 123.09 ha across sites within the 32A0 area and its buffer zones (Skradinski Buk, Roški Slap, Miljacka, and Manojlovac). At the Ponikve site on Pelješac, ailanthus was cleared from the entire 4 ha area. Regarding Dubrovnik, Ston, and Mali Ston, it was removed from the entire mapped area. The indicator was fully achieved, though not exactly as initially defined in the project application, but rather following the completion of Activity A1. Specifically, the areas for Dubrovnik, Ston, and Mali Ston were originally estimated based on the total surface area of the settlements. Only after detailed mapping were the exact infested areas determined: 2.22 ha for Dubrovnik and 0.14 ha for Ston and Mali Ston. It should be noted that since the project deals with living nature, it is impossible to determine exact areas or count every single individual with absolute precision. The indicator has been met, and control has been established across the entire project area; however, given the characteristics of the tree of heaven, we expect reinfestation, which will be managed through the upcoming After-LIFE period. Full details on the removal of the ailanthus are available in the project deliverable: Conservation actions of the project (C1, C2, C3 Actions) – Removal of ailanthus in the project area, Final report.
Dissemination activities and involving other stakeholders into project is carried out through workshops, and we reached 57 stakeholders that were trained in removal methods for invasive alien tree species. At the workshops, participants learned why the tree of heaven is a problem and received field demonstrations on available removal methods, including which ones are appropriate for specific areas and tree ages. They also had the opportunity to test the methods

themselves, so they are all trained in removal methods for invasive alien tree species. All information regarding the workshops held can be found in the project deliverable: E3 – Eradication workshops report.
Through concrete conservation actions we planned to remove ailanthus from near proximity to Natura 2000 priority habitat type 6220* on project area JI Pelješac. Around 150 ha of this habitat type is directly threatened by *Ailanthus altissima*. We estimated that we will achieve, by the end of the project, control of ailanthus on 75 % of the area, and five years after project on 85 % of the area. For now, habitat type 6220* is ailanthus-free, and we removed ailanthus from its near proximity, and the control has been established 100 %. Full details on the removal of the ailanthus are available in the project deliverable: Conservation actions of the project (C Actions) – Removal of ailanthus in the project area, Final report. On project area Krka we planned total eradication of *Ailanthus altissima* on Natura 2000 habitat type 32A0 by the end of the project and maintained five years after the project. In the Krka area, removal covered 123.09 ha across sites within the 32A0 area and its buffer zones (Skradinski Buk, Roški Slap, Miljacka, and Manojlovac) on a total of 123.09 ha. The indicator has been met, and control has been established across the entire planned area Full details on the removal of the ailanthus are available in the project deliverable: Conservation actions of the project (C Actions) – Removal of ailanthus in the project area, Final report.
In cultural heritage centres, in project area Dubrovnik, Ston and Mali Ston, the removal of ailanthus was planned from around 46 ha. The indicator was fully achieved, though not exactly as initially defined in the project application, but rather following the completion of Activity A1. Specifically, the areas for Dubrovnik, Ston, and Mali Ston were originally estimated based on the total surface area of the settlements. Only after detailed mapping were the exact infested areas determined: 2.22 ha for Dubrovnik and 0.14 ha for Ston and Mali Ston. The indicator has been met, and control has been established across the entire cultural heritage area. Full details on the removal of the ailanthus are available in the project deliverable: Conservation actions of the project (C Actions) – Removal of ailanthus in the project area, Final report.
One of the results of the project was Order on removal of ailanthus in project areas that was issued 8/2021 and renewed order in 4/2025. A draft of the technical section of the Order for Ailanthus removal has been prepared and forwarded for further processing to the competent unit within the Ministry of Environmental Protection and Green Transition. Its validation and adoption are expected in the upcoming period. The delay in issuing the Order is due to complex and lengthy processes within state administration bodies; every such document must obtain opinions from all relevant state administration authorities, and similar. The 'Order' mechanism in the Act on the prevention and management of the introduction and spread of alien and invasive alien species (OG 15/18, 14/19 Article 22) does not recognize the challenge of removing and controlling widely distributed IAS; instead, it is focused on species that have just appeared in nature and are only beginning to establish their populations—i.e., species in the early stages of invasion. Consequently, there are certain challenges and adaptations required for this legal mechanism to serve the purpose of removing the Tree of Heaven (Ailanthus altissima) across the entire territory of the Republic of Croatia. While the adoption of the Order did not occur during the project implementation period, it will certainly be enacted.
We estimated that we will reach 35.000 visits to website by the end of the project, and 60.000 five years after project end. At the end of the project we reached a total of 14.911 visitors. We attribute the lower website traffic to our significant activity on the project's Facebook and Instagram profiles. These platforms allowed users to quickly access brief updates on project implementation, whereas the website primarily attracted an audience seeking more comprehensive, technical information. This shift reflects broader trends where user attention spans are measured in seconds. Consequently, we maintain that the project’s overall reach was effectively maximized through our social media engagement. We will maintain web page and

social media profiles at least for five years. Full details on web page visitors can be found in pdf file in supporting documents of the Final report.
Networking was done with experts from four LIFE projects. In April 2022 we visited LIFE Alta Murgia where we found out about eradication methods. In March 2023 we attended International meeting organized by the IUCN Centre for Mediterranean Cooperation as part of the LIFE INVASAQUA project where we were introduced to numerous LIFE projects focused on invasive alien species. In September 2024 we visited project OAKEYLIFE where we found out about some new methods on eradication of ailanthus and we used it on our location Ponikve and Janjina on Pelješac. Finally, in March 2025 we visited LIFE Artemis project where we talked about the EDRR protocol. Details on these visits can be found in deliverable: A3 Report from a study visit to Alta Murgia, E2 Report from a study visit to OAKEYLIFE, E3 Eradication workshops report and in Life financial reporting excel document. In 4/2025 4 members of our project team participated in a field trip in NP Krka with LIFE ORNAMENTALIAS project team.
Within the project we trained numerous stakeholders and professionals that work in the sector: county public institutions for the management of protected natural areas, public institutions of nature parks, public institutions of national parks, Croatian forests, forest management units, NGO's, municipal services companies, local government authorities, a few private sector entities working in nature protection and landscaping, teachers and pupils from elementary schools, high schools and college students of forestry.
In National protocol and Order on removal of ailanthus MEPGT recommends that all public institutions managing protected areas in Croatia must include ailanthus removal in their annual programs and this will become a mandatory requirement.

8. Comments on the financial report

MEPGT - an overview of the costs incurred

A. Preparatory actions, elaboration of management plans and/or of action plans
A1 Determining the baseline of Ailanthus in target area

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Krka, Pelješac, Dubrovnik)
- Durable goods: field equipment purchased with one change – it is planned that MEPGT will acquire seven field laptops, four for MEPGT and one for each partner. However, given that it is administratively complicated to transfer ownership from MEPGT to other entities, approval was obtained from the Agency for MEPGT to acquire four laptops for itself, and each partner for itself one.

A2 Prepare the protocols

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Krka)
- Direct personnel costs/External assistance costs: cost of developing an alternative protocol. Simple procurement procedure conducted (contractor was Institut za poljoprivredu i turizam Poreč). This cost was envisaged as personnel cost, but we could not get approval to hire them as short-term personnel but had to conduct procurement procedure.
- External assistance costs: QGIS course, simple procurement procedure conducted (contractor was Prehnit d.o.o.). This cost was not envisaged but considering that we were unable to contract anyone to create a standard protocol and had to create it

ourselves, knowledge of working with GIS tools turned out to be necessary. We noticed Monitor about this cost.

A3 Train the project team

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Alta Murgia, Italy; travel to Krka and Pelješac)
- Durable goods: one projector acquired.

A4 Permits acquisition and informing the stakeholders

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travels to Krka)
- Other costs: course for the safe herbicides use (4 persons instead of two, in order to ensure that more people on the project have permits, given that the risk of temporary employees leaving is high)

C. Conservation actions

C1 Natura 2000 site SCI HR2000918 Šire područje NP Krka

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travels to Krka)

C2 Natura 2000 site SCI HR2001364 JI dio Pelješca.

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travels to Pelješac)
- Durable goods: field equipment purchased (also 375 garden hoes, from E1)
- Consumables: herbicide and bottles with a pipette.
- External assistance costs: Felling of large trees procurement, public procedure conducted twice, first time there were no offers (contractor was Lagom Natura d.o.o.).

C3 Removal and establishing control of Ailanthus in cultural heritage centres

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Dubrovnik).

D. Monitoring of the impact of the project actions (obligatory)

D1 Monitoring project impact on the targeted biodiversity problem

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Krka, Pelješac, Dubrovnik).

D2 Monitoring project impact on the targeted habitats

- Direct personnel costs MEPGT team

D3 Evaluation of the control protocol

- Direct personnel costs MEPGT team
- Travel and subsistence costs (travel to Krka, Pelješac)

D4 Evaluation of public awareness of invasive species

- Direct personnel costs MEPGT team
- External assistance costs for both surveys simple procurement procedure conducted (Hendal d.o.o. and Prizma Centar za poslovnu inteligenciju).

E. Public awareness and dissemination of results (obligatory)

E1 Public awareness raising activities

- Direct personnel costs MEPGT team
- External assistance costs: new web page instead of adaptation of website "invazivnevrste.hr". That decision was made due to market research that showed us that adaptation would cost much more than new web page. Simple procurement procedure conducted (contractor was Numinous)
- External assistance costs: design of the project logo and promo materials. Simple procurement procedure conducted (contractor was Martes Martes d.o.o.)

- Other costs: promo materials, fist time (t-shirts, canvas bags, leaflets). Simple procurement procedure conducted (contractor was Tovedo d.o.o.)
- Other costs: promo materials, second time (garden hoes, 375 pieces).
- Other costs: promo materials, third time (t-shirts, canvas bags and backpacks, leaflets). Simple procurement procedure conducted (contractor was Leonardo media d.o.o.)
- Other costs: media advertising, boosting posts on Facebook and Instagram. Simple procurement procedure conducted (Valuator Grupa d.o.o. and Kako misliti pozitivno j.d.o.o.)
- Direct Personnel costs/External assistance costs: Photographer/videographer, simple procurement procedure conducted (ZVON, obrt and Obrt S33N). This cost was envisaged as personnel cost, but we could not get approval to hire them as short-term personnel but had to conduct procurement procedure.
- Direct Personnel costs/External assistance costs: Communication experts, simple procurement procedure conducted (contractor was Promosapiens d.o.o.). Coste exceeded envisaged sum. We conducted a market analysis before the procedure which showed that prices have increased. This cost was envisaged as personnel cost, but we could not get approval to hire them as short-term personnel but had to conduct procurement procedure.
- Other costs: 2 Roll-up banners, simple procurement procedure conducted (contractor was Promoprint d.o.o.). This cost was not envisaged but since we had no LIFE flag for the initial press conference held in Krka, we have acquired two roll-up banners.
- Travel and subsistence costs (travel to Krka, Split, Rijeka, Pula, Varaždin).

E2 Networking with other LIFE and non-LIFE projects

- Direct personnel costs MEPGT team
- Travel and subsistence costs: travel to Malaga, Spain - unplanned cost, approved by the Agency), travel to Ljubljana, Slovenia, travel to Budapest, Hungary and travel to NP Krka.

E3 Dissemination actions

- Direct personnel costs MEPGT team
- External assistance costs: design and print of five temporary info-boards, simple procurement procedure conducted (contractor was Spektar Solutions d.o.o.)
- External assistance costs: placement of two temporary info-boards on JI Pelješac. This cost was not envisaged but considering that DNZ does not have the ability to install the panels themselves, it was necessary to contract someone to do it. The Agency approved cost. Simple procurement procedure conducted (contractor was DVD Ponikve).
- Consumables: catering for the workshops
- Travel and subsistence costs: Krapje – Nature Park Lonjsko polje, Cerovačke špilje – Nature Park Velebit, Korčula, Dugi Otok – Nature Park Telašćica, Split, Rijeka, Osijek, Dubrovnik)

F. Project management (obligatory)

F1 F. Project management

Project team:

- Direct personnel costs for permanent employee (60 % of the time) and other employees (100 % of the time, later 50 % of the time)
- Travel and subsistence costs - travel to Krka (third coordination meeting), Dubrovnik (12nd and 14th coordinating meeting) and Skradin (16th coordination meeting).

NPK - an overview of the costs incurred

A. Preparatory actions, elaboration of management plans and/or of action plans

A1 Determining the baseline of Ailanthus in target area

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II

A2 Prepare the protocols

- Direct personnel costs – Project assistant

A3 Train the project team

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II, Horticultural workers
- Travel and subsistence costs (travel to Alta Murgia)
- Consumables: Refreshments for 1 day workshop

A4 Permits acquisition and informing the stakeholders

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II, Horticultural workers
- Consumables- Stakeholders Workshop in Krka- catering (Since the workshop is held in NP Krka, we took over the organization and catering)
- Other costs: course of the safe herbicides use (7 persons instead of 4 so more people working on the project have permits. We are removing Ailanthus in the large area, so it is easier that more people have permits)

C. Conservation actions

C1 Natura 2000 site SCI HR 2000918 Šire područje NP Krka

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II, Horticultural workers
- External assistance costs- Felling of large trees at NP Krka site, public procedure-open procurement (contractor was Lagom natura d.o.o.)
- Durable goods: Equipment costs- Equipment for removal- simple public procurement-multiple bids (contractor was Marina-S d.o.o.)
- Equipment for volunteers- simple public procurement- multiple bids (contractor was Marina-S d.o.o.)
- Small truck for transport of chopped tree mass and for transport of field workers- public procedure-open procurement (contractor was Benussi d.o.o.)
- Consumables: Herbicide (10 litres instead of 4 because we are removing Ailanthus in large area at the same time, and we didn't report the cost of gas for chainsaw and string trimmer because we are buying gas in large tanks)
- Other costs: Public procurement cost for a small truck and felling of large trees
  Cost of Food and Transportation for Volunteers (2023) (12 volunteers)- they were staying in our hostel, so we only have cost of food and transportation (Approved by the Monitor)
  Cost of Food and Transportation for Volunteers (2024) (14 volunteers)

D. Monitoring of the impact of the project actions

D1 Monitoring project impact on the targeted biodiversity problem

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II

D2 Monitoring project impact on the targeted habitats

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II
- External assistance costs- Monitoring of 32A0, 91F0 & 62A0, Soil biodiversity and pollinators (experts)- public procedure-open procurement (contractors- 32A0 (Tufa): Oikon d.o.o. (4 reports), 91F0 & 62A0(grasslands and mixed forests):

Geonatura d.o.o., Soil biodiversity (4 reports): Oikon d.o.o. and University J.J. Strossmayera (4 reports), Pollinators: Salix plan d.o.o. (4 reports)

- Other costs: Public procurement cost for External assistance- Experts

D3 Evaluation of the control protocol

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II
- External assistance costs- Cost of lab analysis of plant material (no public procurement was needed- it was a direct award procedure, so we don´t have a public procurement publishing cost)- contractor is Institute for Public Health Andrija Štampar

E. Public awareness and dissemination of results

E1 Public awareness raising activities

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II
- Consumables: Presentation of the project was held in NP Krka instead in Zagreb because of the Corona virus pandemic (cost of catering and cost of equipment rental)
    - Catering for 2 of 6 workshops for local community awareness raising activities.
    - Spray for marking Ailanthus for removal- this cost is not foreseen in the budget, but we find it necessary for the activities of Ailanthus removal.

E2 Networking with other LIFE and non -LIFE projects

- Direct personnel costs – Project assistant, Senior project assistant I
- Travel and subsistence cost: travel to Dubrovnik (International workshop on removal methods of Ailanthus- field trip to Pelješac)

E3 Public awareness and dissemination of results

- Direct personnel costs – Project assistant, Senior project assistant I, Senior project assistant II
- Consumables: Catering for Final conference which was held in NP Krka in agreement with the Ministry of Environmental Protection and Green Transition

F. Project management

F1 Project management

- Project team: Direct personnel costs for permanent employee (50 % of the time) and additional staff (100 % of the time)
- Travel and subsistence cost: travel to Dubrovnik (12nd coordinating meeting)
- Travel and subsistence cost: travel to Dubrovnik (14th coordinating meeting)
- Consumables: Catering for meeting with Monitoring expert held in Skradin
- Consumables: Catering for meeting with technical expert and zoom meeting with the financial expert held in Skradin

- NPK Allocation of costs per action

C1 – Consumables - Spray for marking Ailanthus for removal- this cost (28,77 EUR) is not foreseen in the budget, but we find it necessary for the activities of Ailanthus removal. Since we won´t report the cost under activity D3 Other costs (Public procurement publishing cost- 480,00 EUR) because there was no need for public procurement procedure because the amount is 6.000,00 EUR and the procedure was direct award, we would finance this cost from activity D3 Other costs.

C1- Other costs- volunteers Cost of Food and Transportation for Volunteers (12 volunteers)- they were staying in our hostel, so we only have cost of food and transportation, accommodation was for free (Approved by the Monitor).

OTHER COSTS C1: - Perdiem for Volunteers: 15 persons x 10 days x 3 years x 50 EUR/day (accommodation and food predicted) – 22.500,00 EUR
- Perdiem for Volunteers (stakeholders): 5 persons x 10 days x 4 seasons x 30 EUR (subsistence) – 6.000,00 EUR
We contacted volunteers from Scout and Guide Association of Croatia as we planned to involve them in the activities during May and June but unfortunately, they are not able to participate in the project activities as it was planned in the project.
According to the Law on Volunteering (NN 58/07, 22/13, 84/21) in working with volunteers National Park Krka has legally defined obligations and for that reason has adopted the Rulebook on working with volunteers. We also have our own Volunteer centre that includes a hostel, and according to the price list for the hostel, volunteers who have contract with Public Institution NP Krka don´t pay for the accommodation. The cost estimate for volunteers does not include the cost of transportation, and only the cost of transport inside NP Krka borders is approximately 3.900,00 EUR for 20 volunteers for 10 days. Cost of food would be approximately 5.000,00 EUR for 20 people for 10 days. In 3 years only the cost of food and transportation inside the park for 20 people would be around 26.700,00 EUR, and the total predicted cost is 28.500,00 EUR (6,000.00 EUR for stakeholders and EUR 22.500,00 for scouts). Cost of transportation for 12 Volunteers was 3.980,00 EUR and the cost of Food was 2.964,50 EUR.
C1 - Consumables: Herbicide (10 litres instead of 4 because we are removing Ailanthus in large area at the same time and we didn't report the cost of gas for chainsaw and string trimmer because we are buying gas in large tanks). The project budget planned the cost of herbicide 48,00 EUR (4l) but we bought 10l for the amount of 139,16 EUR. Divergence between budget and the real cost is 91,16 EUR, and we would finance it from the activity D3 Other costs (Public procurement publishing cost 480,00 EUR).
A4- Consumables- Stakeholders Workshop in Krka- catering (Since the workshop is held in NP Krka, we took over the cost of organization and catering) Cost of catering was 707,08 EUR and we would finance one part from the activity C1 Other costs (Public procurement publishing cost- 960,00 EUR)-560,70 EUR. We had two publishing costs in this activity but the cost of both of them was 399,30 EUR. And the rest of the cost from activity D3 Other costs (Public procurement publishing cost 480,00 EUR).
A4- Other costs: Course of the safe herbicides use (7 persons instead of 4 so more people working on the project have permits. We are removing Ailanthus in the large area, so it is easier that more people have permits). The project budget planned the cost of course for 4 people 220,00 EUR, but we spent 249,73 EUR for 7 people. Divergence between budget and the real cost is 29,37 EUR, and we would finance it from the activity D3 Other costs (Public procurement publishing cost 480,00 EUR).
E1- Consumables- Presentation of the project was held in NP Krka instead in Zagreb because of the Corona virus pandemic (cost of catering and cost of equipment rental). Cost of catering was 40,53 EUR and the cost of equipment rental was 133,40 EUR. We would finance this cost from the activity D3 Other costs (Public procurement publishing cost 480,00 EUR).
F1- Travel and subsistence cost- Travel to Dubrovnik. Cost is planned for two people but the three of us went and the entire cost is within the budget of 314,00 EUR. Third person is also related to the project and we considered that it was important for her to go to the meeting.
E3- Final conference was held in NP Krka instead in Zagreb because it was easier to organize the meeting in NP Krka for the project partners, coordinating beneficiary and guests.
Consumables (total amount 4.398,00EUR), we spent 6.389,28EUR (activities A3, C1, E1, E3, F1) which is 1.991,28EUR more. The reason why we exceeded costs in this category is because initial conference and the final conference was held in NP Krka and due to inflation prices of goods and services have increased.

D3- The cost of glyphosate analysis of plant material was estimated to the amount of 6.000,00EUR but prices of goods and services increased so the total amount of actions that included yearly collection of the plant material of the plants surrounding the glyphosate treated Ailanthus exceeded for 1.722,87EUR.
Direct personnel costs- Total amount in project budget was 372.545,00 EUR. Given that since the beginning of the project there has been an increase in salaries due to rising inflation, we reallocated excess funds from categories of External assistance, Equipment, Travel and subsistence, Other costs and Overheads. In the category External assistance (total amount 354.470,00EUR) we spent 323.787,57EUR in activities C1, D2 and D3 which left us with 30.382,43EUR excess funds. In category Equipment (total amount 85.130,00EUR) we spent 74.398,82EUR in activity C1 which left us with 10.731,18EUR excess funds. In category Travel and subsistence (total amount 6.785,00EUR) we spent 1.812,75EUR (activities A3 and F1) which left us with 4.972,25EUR excess funds. In category Other costs (total amount 30.640,00EUR) we spent 18.380,72EUR (activities A3, A4, C1, D2 and F1) which left us with 12.259,29EUR excess funds. In the category of Overheads we spent 38.278,00EUR which left us with 4.421,00EUR. Since we no longer had costs in these categories, we asked the coordinating beneficiary for permission to use the excess funds to report the costs of salary for Senior project assistant I (year of expense 2024 and 2025), Senior project assistant II (year of expense 2024 and 2025) and 4 horticultural workers 20 % (year of expense 2024).

DNZ - an overview of the costs incurred

A. Preparatory actions, elaboration of management plans and/or of action plans
A1 Determining the baseline of Ailanthus in project area
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Travel and subsistence costs - travel to project area (Pelješac) for estimating invaded area size and density of Ailanthus.

A2 Prepare the protocols
Direct personnel costs - Project assistant I (coordinator), Project assistants II.

A3 Train the project team
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Travel and subsistence costs - travel to Alta Murgia Italy for training the project team;
Consumables - refreshments for workshops.

A4 Permits acquisition and informing the stakeholders
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Other costs - course for safe herbicide use (travel to Gruda, Konavle); team members obtained permits for safe handling of pesticides as required by applicable regulations;
Travel and subsistence costs - for the purpose of taking a course for the safe herbicides use.

C. Conservation actions

C2 Natura 2000 site SCI HR2001364 JI dio Pelješca / C3 Ston and Mali Ston
Direct personnel costs - Project assistant I (coordinator), Project assistants II.
Travel and subsistence costs - car fuel and subsistence for employees for Ailanthus removal activities in the project area;
External assistance costs - (1) Establishing a business cooperation contract for 3 field assistants* needed for field work activities based on a secondment agreement and (2)

contracting service from Public fire department Dubrovačko primorje (JVP) instead of the volunteers - budget for volunteers has been reassigned to seasonal workers and external assistance.
Durable goods - equipment and tools for field work (removal of Ailanthus) purchased through public procurement (16,820 EUR); Remaining funds were used for the purpose of purchasing adequate new computer for office work/GIS mapping (1,319 EUR). This minor budget reallocation was accepted by the Monitor of the project;
Consumables - fuel for field work equipment (chainsaws, trimmers) and herbicide (Cidokor Plus, HERCULES), planned amount for herbicide was not enough;
Other costs - subsistence for employees not part of the core project team.

D. Monitoring of the impact of the project actions

D1 Monitoring project impact on the targeted biodiversity problem
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Travel and subsistence costs - travel to project area for monitoring activities.

D2 Monitoring project impact on the targeted habitats
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Travel and subsistence costs - travel to project area for habitat monitoring.

E. Public awareness and dissemination of results

E1-E2 Public awareness raising activities
Direct personnel costs - Project assistant I (coordinator), Project assistants II;
Travel and subsistence costs - travel to local workshops and coordinating conferences (Krka, Pelješac); study visit to OAKEY LIFE project in Budapest;
Consumables - refreshments for local community workshops and meetings.

F. Project management
F1 Project management
Direct personnel costs - Project assistant I (coordinator, 100% of time - additional staff); 2 permanent staff members (each 30% of time allocated to the project);
Travel and subsistence costs - travel to initial, coordinating and final conferences;
Consumables - refreshments for project meetings (one lunch for coordinating meeting in Dubrovnik).

* This cost relates to a project modification evaluated as a non-substantial change within the financial flexibility permitted by the General Conditions. The modification concerned the engagement of field assistants needed for field work activities under action C2 - the removal of invasive *Ailanthus altissima* in the project area of Pelješac - with a dedicated budget of €46,440.00. The project initially proposed hiring 3 field assistants for three months each, spanning three removal seasons, to carry out the full-time field work required by action C2. Given the region's general labour shortage, finding suitably qualified seasonal workers with the specific skills required - including chainsaw handling, safe felling of tall trees, and valid pesticide handling licences - proved particularly challenging. In response, the DNZ project team identified a feasible solution by establishing a business cooperation agreement with an institution already possessing qualified and trained personnel. As a result, DNZ entered into a business cooperation agreement with the Dubrovnik Primorje Public Fire Brigade (JVP). This arrangement allowed DNZ to secure expert, reliable field staff while the JVP employees

remained employed by their parent institution. Contracts were signed directly with JVP as the official contracting partner, with clearly defined hourly rates and no additional margins or profit. Salary costs were paid directly by JVP to their employees, with DNZ reimbursing JVP only for justified and documented actual expenses. Rest of the costs incurred that surpass predicted amounts in budget are in same categories. For example, some amounts from Travel and subsistence cost category were used up and some were left with remainder of the funds. The amount spent does not exceed the total budget in that cost category.

VRT - an overview of the costs incurred

A. Preparatory actions, elaboration of management plans and/or of action plans
A1 Determining the baseline of Ailanthus in target area

- Direct personnel costs – Senior project assistant I, Senior project assistant II

A2 Prepare the protocols

- Direct personnel costs – Senior project assistant I

A3 Train the project team

- Direct personnel costs – team of workers (various percentages), Senior project assistant I, Senior project assistant II
- Travel and subsistence costs: travel to Alta Murgia, Italy; travels to Krka and Pelješac; study visit to Hungary.

A4 Permits acquisition and informing the stakeholders

- Direct personnel costs – Senior project assistant I, Senior project assistant II
- Other costs: course for the safe herbicides use (9 persons instead of 4, in order to ensure that more people on the project have permits, given that the risk of temporary employees leaving is high)

C. Conservation actions
C3 Removal and establishing control of Ailanthus in cultural heritage centres

- Durable goods and consumables: protective clothes and shoes, helmets, hand gloves and glasses, first aid kits; yuta bag packing for Ailanthus seeds; field equipment required and approved by the project (axes, scissors, picks, hand saws, telescopic saw, hoes, chainsaw, drill machines, tree chopper, extractigator, tool bags); one *Tilia platyphyllos* tree; herbicide; gas for chainsaws, strig trimmers and transport of materials; native tree species for replacement (10 trees).
- External assistance costs related to the removal of Ailanthus trees on the demanding and dangerous terrain that requires special skills and training. These costs were not foreseen but were subsequently approved.
- Overheads in the amount of 16,00 € – service of creating stickers with the project logo.
- Direct personnel costs: team of workers (various percentages), Senior project assistant I, Senior project assistant II

D. Monitoring of the impact of the project actions
D1 Monitoring project impact on the targeted biodiversity problem

- Direct personnel costs – Senior project assistant I, Senior project assistant II

E. Public awareness and dissemination of results (obligatory)
E1 Public awareness raising activities

- Travel and subsistence costs (travel to Krka on initial press conference).

F. Project management (obligatory)
F1 F. Project management

- Direct personnel costs for - Senior project assistant I, Senior project assistant II
- Travel and subsistence costs - travel to Krka (coordination meetings in February 2024, in October 2025. and in December 2025.).

8.1. Summary of Costs Incurred

PROJECT COSTS INCURRED				
	Cost category	Budget according to the grant agreement in €*	Costs incurred within the reporting period in €	%**
1.	Personnel	1.412.974,00	1.402.968,04	99,29
2.	Travel and subsistence	167.401,00	44.864,65	26,80
3.	External assistance	527.070,00	529.147,20	100,39
4.	Durables goods: total non-depreciated cost			
	- *Infrastructure sub-tot.*	0,00	0,00	0,00
	- *Equipment sub-tot.*	192.860,00	169.794,50	88,04
	- *Prototype sub-tot.*	0,00	0,00	0,00
5.	Consumables	34.474,00	23.130,53	67,10
6.	Other costs	133.730,00	84.860,56	63,46
7.	Overheads	123.428,00	50.418,00	40,84
	TOTAL	**2.591.937,00**	**2.305.183,48**	**88,94**

*) If the Agency has officially approved a budget modification through an amendment, indicate the breakdown of the revised budget. Otherwise this should be the budget in the original grant agreement.
**) Calculate the percentages by budget lines: e.g. the % of the budgeted personnel costs that were actually incurred

8.2. Accounting system

MEPGT

- MEPGT is a state institution that plans and spends its funds through the State Budget. Each project gets its own unique number, and all transactions are conducted in a transparent and verified manner (i.e. 07705 is MEPGT number within State Budget, 3401 is number for Nature protection, T905036 is project number).
- When the bill arrives at the MEPGT, the accounting employee asks the person in charge of the project (project manager and/or project assistant) to explain the cost and send the evidence that exists (i.e. a third-party report, proof of receipt of goods, completed travel order, etc.). After that, the invoice is posted in accordance with national rules that are aligned with EU rules, and payment is made.

- Combined time recording system is used, manual and electronic.
- Every employee is obliged to sign in the attendance register every day upon arrival at work, and after that the office manager enters the attendance data into the database of each employee through the web application.
- When possible, we insist that the supplier adds the project number on the issued invoice, and if this is not possible, we stamp it with the project number.

NPK

- National Park Krka is a public institution under the jurisdiction of the Ministry of Economy and sustainable development of the Republic of Croatia. All projects are marked with corresponding cost location (for this project name of the cost location is LIFE) and all transactions are carried out in transparent and verified manner (source of financing for Life project is 5.2., program number is A34 3401A779047 077).
- When the invoice arrives in the accounting, it is already signed and approved by the employee who works on the project. Cost is justified with the evidence like a third-party report, proof of receipt of goods, completed travel order etc. Invoice is posted in accordance with national rules that are aligned with EU rules and payment is made.
- Combined time recording system is used, manual and electronic.
- Public institution National park Krka is divided in 6 offices and 15 departments. In each department there is an employee that is in charge of time recording system. He keeps record of employees working in the department.
- When it is possible, supplier adds project number or contract number, if there was a public procurement procedure, on the issued invoice. When this isn´t possible we write or stamp the project reference on the invoice.

DNZ

- Public Institution for the Management of Protected Natural Areas of Dubrovnik-Neretva County is a public institution that plans and spends its funds through the Dubrovnik-Neretva County Budget. Each project gets its own unique number, and all transactions are carried out in a transparent and verified manner (i.e. 10502 is the number within DNZ Budget, K150406 is a specific Life Contra Ailanthus project number).
- When the invoice arrives at the Institution, all the expenses with receipts, travel worksheets and warrants are checked in the accounting. Person in charge of the project justifies the expenses and if needed explains the reason of those costs with supporting evidence (receipt). After that, the invoice is registered and booked in accordance with national rules that are aligned with EU rules, and payment is made within the due date.
- Usually we require that the supplier adds the project name as a reference on the invoice / offer / contract. However, we always put stamp with project name / number on each document related to the project.
- Every employee is obliged to sign in the attendance register list every day upon arrival at work, and the office manager process all attendance data at the end of each month. This is used as a base for salary calculation for each employee.

VRT

- Vrtlar is a company owned by the city of Dubrovnik that operates independently. Accounting system is based on double-entry bookkeeping.
- For the needs of the LIFE project, a separate business unit was opened in the books so that all business activities related to the project are recorded on separate accounts.

- When the bill arrives at the accounting department, the accounting employee asks the person in charge of the project (senior project assistant) to explain the cost, collects procurement related documents and evidence that the goods have been received or service performed. After that, the invoice is posted in accordance with accounting rules and payment is made.
- Combined time recording system is used, manual and electronic.
- Every employee is obliged to logs in through the automatic working time record system every day upon arrival at work and then each manager for his department enters the attendance data into database of each employee.
- When possible, we insist that the supplier adds the project number on the issued invoice, and if it is not possible, we write the project number on the document.

8.3. Partnership arrangement (if relevant)

The financial transaction between the partners proceeds in such a way that after the funds are paid by the EU, the main partner gives the internal accounting office an order to transfer the funds to all partners, in accordance with the amounts belonging to each of them.

Each partner fills out his own financial report and then the main partner enters data into the joint one. If necessary, shorter meetings are held or questions are resolved by e-mail or telephone.

8.4. Certificate on the financial statement

No beneficiary has received an EU contribution reaching or exceeding the **750,000 €** threshold therefore, it was not necessary to obtain a Certificate on the Financial Statements (CFS), nor was it required to produce an audit report.

8.5. Estimation of person-days used per action

Action type	Budgeted person-days	Estimated % of person-days spent
All projects when applicable Action A: Preparatory actions	861.80	75,90
NAT and CLIMA projects Action B: Purchase/lease of land and/or compensation payment for payment rights	/	/
ENV projects Action B: Implementation actions	/	/
GIE projects Action B: Core actions	/	/
NAT projects Action C – Concrete conservation actions	8856	100
CLIMA projects Action C: Implementation actions	/	/
ENV and GIE projects Action C: Monitoring of the impact of the project action	/	/
NAT and CLIMA projects Action D: Monitoring and impact assessment	1300	100
ENV and GIE projects	/	/

Action D: Public awareness/communication and dissemination of results		
NAT and CLIMA projects Action E: Communication and Dissemination of results	1095	85.21
ENV and GIE projects Action E: Project management	/	/
NAT and CLIMA projects Action F: Project management (and progress)	1466	45.45
TOTAL	13578.80	85.93