



Uspostava kontrole invazivne  
strane vrste *Ailanthus altissima*  
(pajasen) u Hrvatskoj

# LIFE CONTRA Ailanthus – Uspostava kontrole nad invazivnom stranom vrstom *Ailanthus altissima* (pajasen) u Hrvatskoj

## LAYMAN'S REPORT

LIFE19 NAT/HR/001070

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





Uspostava kontrole invazivne strane vrste *Ailanthus altissima* (pajasen) u Hrvatskoj



**NAZIV PROJEKTA / PROJECT NAME:** LIFE CONTRA Ailanthus – Uspostava kontrole invazivne strane vrste *Ailanthus altissima* (pajasen) u Hrvatskoj / LIFE CONTRA Ailanthus – Establishing control of invasive alien species *Ailanthus altissima* (tree of heaven) in Croatia

**AKRONIM / ACRONYM:** LIFE CONTRA Ailanthus

**VODEĆI PARTNER / LEAD INSTITUTION:** Ministarstvo zaštite okoliša i zelene tranzicije / Ministry of Environmental Protection and Green Transition

**PARTNERI / PARTNER INSTITUTIONS:** Nacionalni park Krka, Javna ustanova za upravljanje zaštićenim područjima Dubrovačko-neretvanske županije i Vrtlar d.o.o. za javno zelenilo i hortikulturu IZ Dubrovnika / Public Institution National Park Krka, Public institution for management of protected areas of Dubrovnik-Neretva county, Vrtlar d.o.o.

**PRORAČUN / BUDGET:** 2.591.937,00 €

**EU SUFINANCIRANJE / EU CO-FINANCING:** 1.555.161,00 €

**SUFINANCIRANJE FZOEU / EPEEF CO-FINANCING :** 352,145 €

**TRAJANJE PROJEKTA / DURATION OF THE PROJECT:** 1. 10. 2020. – 31. 12. 2025.



**REPUBLIKA HRVATSKA**  
Ministarstvo zaštite okoliša  
i zelene tranzicije



**KRKA**  
Nacionalni park  
National Park



Javna ustanova za upravljanje zaštićenim  
dijelovima prirode Dubrovačko-neretvanske županije



**VRTLAR d.o.o.**  
za javno zelenilo i hortikulturu



FOND ZA ZAŠTITU OKOLIŠA I  
ENERGETSKU UČINKOVITOST

Prije dvadesetak godina, rijetko tko da je i čuo za pajasen, a svakako nije doživljavao kao problem u održavanju zelenih površina u urbanim područjima ili kao značajna prijetnja bioraznolikosti. Danas, ako pogledate u gradovima napuštene parcele, slabo održavana dvorišta ili gradilišta gotovo sigurno ćete uočiti pajasen. Ako vam se oko (kao naše) izvježbalo na uočavanje pajasena, prepoznat ćete ga svuda oko sebe – velika lijepa stabla čije krošnje daju hlad često su ženska stabla pajasena sa milijunima sjemenki iz kojih će niknuti mladica pajasena.



No, nije pajasen prisutan samo u gradovima, može ga se vidjeti i u prirodi gdje nerijetko ugrožava upravo njene najvrijednije dijelove te predstavlja prijetnju tako bioraznolikost.



*Some twenty years ago, hardly anyone had even heard of tree of heaven, and it was certainly not perceived as a problem in the maintenance of urban green spaces or as a significant threat to biodiversity. Today, if you look at abandoned plots, poorly maintained yards, or construction sites in cities, you will almost certainly spot tree of heaven. If your eye (like ours) has been trained to recognize it, you will start seeing it everywhere – large, attractive trees whose canopies provide shade are often female tree of heaven specimens, producing millions of seeds from which new shoots will emerge.*

*However, tree of heaven is not confined to urban areas; it can also be found in natural habitats, where it often threatens their most valuable parts and poses a serious risk to biodiversity.*



### ŠTO JE PAJASEN I KAKO IZGLEDA?

Žljezdasti pajasen (*Ailanthus altissima* (Mill.) Swingle) je listopadno stablo porijeklom iz istočne Kine i sjevernog Vijetnama, gdje raste kao prirodna komponenta širokolisnih šuma. Može narasti do 30 m, iako najčešće naraste šest do 10 m, a jedna od njegovih glavnih karakteristika je izuzetno brzi rast – raste 1 do 2 m godišnje.

Kora mu je svijetlosiva, glatka i isprugana blijedim prugama. Listovi su dugi do 90 cm, neparno perasto složeni i sastavljeni od 10 do 40, a najčešće do 25 lisaka koje narastu do 10 cm. Liske pri bazi imaju dva do četiri zubića na kojima se nalaze žlijezde. U jesen odbacuje listove, nakon čega na kori ostaju karakteristični ožiljci u obliku srca. Kad

se zgnječe, listovi ispuštaju karakterističan neugodan miris.

### WHAT IS TREE OF HEAVEN AND WHAT DOES IT LOOK LIKE?


*Tree of heaven (Ailanthus altissima (Mill.) Swingle) is a deciduous tree native to eastern China and northern Vietnam, where it grows as a natural component of broadleaved forests. It can reach up to 30 meters in height, although it most commonly grows between 6 and 10 meters. One of its main characteristics is its exceptionally fast growth rate, typically 1 to 2 meters per year.*

*Its bark is light grey, smooth, and marked with pale vertical streaks. The leaves can grow up to 90 cm long; they are odd-*



*pinnate and composed of 10 to 40 leaflets, most commonly up to 25, each reaching up to 10 cm in length. At the base of each leaflet, there are two to four small teeth bearing glands.*

*In autumn, the tree sheds its leaves, leaving behind distinctive heart-shaped leaf scars on the bark. When crushed, the leaves emit a characteristic unpleasant odour.*



**Žljezdasti zubići koriste se kao razlikovna karakteristika pajasena i njemu sličnih biljaka (npr. crni orah (*Juglans nigra*), kiseli ruj (*Rhus typhina*), jasei (rod *Fraxinus*)) te je po njima žljezdasti pajasen dobio ime.**

*The glandular teeth serve as a key distinguishing feature between tree of heaven and similar species (e.g. black walnut (*Juglans nigra*), staghorn sumac (*Rhus typhina*), and ashes (*Fraxinus spp.*)), and it is precisely from these glands that tree of heaven derives its name.*

## ZAŠTO JE PAJASEN PROBLEM?

### Izuzetno je invazivan!

- Jedno odraslo žensko stablo može u jednoj godini imati preko 300 000 sjemenki
- Sjemenke pajasena mogu ostati vijabilne preko šest godina
- Klijavost sjemenki pajasena je vrlo visoka i prelazi 65 % što znači da će od 100 sjemenki izrasti 65 novih mladica
- Korijenov sustav pajasena vrlo je jak, bočno korijenje može se protezati čak do 27 m od matične biljke, a na njemu se razvijaju adventivni pupovi iz kojih niču izbojci.
- Iz pajasena je izoliran niz aktivnih sastojaka koje ga čine otpornim na biljojede i patogene, a neki spojevi imaju i alelopatski učinak na druge biljke.
- Tolerantan je na veliki temperaturni raspon, dobro podnosi sušu, raste iz različitih tipova tla, a podnosi i uranjanje korijenja u slatku i morsku vodu



### Negativno utječe na bioraznolikost

- potiskuje zavičajne vrste
- mijenja staništa
- alelopatija (ailanton)

### Negativno utječe na zdravlje ljudi

- osip u kontaktu s kožom
- kihanje, kašljanje
- otežano disanje

### Negativno utječe na infrastrukturu

- vrlo vrlo jakim korijenskim sustavom može uništiti ceste, građevine, kulturnu baštinu

## WHY IS TREE OF HEAVEN A PROBLEM?

### **It is extremely invasive!**

- A single mature female tree can produce over 300,000 seeds in one year.
- Seeds of tree of heaven can remain viable for more than six years.
- Seed germination rates are very high, exceeding 65%, meaning that out of 100 seeds, at least 65 will develop into new seedlings.
- The root system is very strong. Lateral roots can extend to 27 meters from the parent plant, and they produce buds from which new shoots emerge.
- A number of active compounds have been isolated from tree of heaven that make it resistant to herbivores and pathogens, while some compounds have allelopathic effects on other plants.
- It tolerates a wide temperature range, withstands drought, grows in various soil types and can tolerate root submersion in both freshwater and seawater.



### **Negative impacts on biodiversity**

- displaces native species
- alters habitats
- allelopathy (ailanthone)

### **Negative impacts on human health**

- skin rash upon contact
- sneezing and coughing
- breathing difficulties

### **Negative impacts on infrastructure**

- its extremely strong root system can damage roads, buildings, and cultural heritage.



Pajasen je INVAZIVNA strana vrsta i nalazi se na tzv. Unijinom popisu

Što je Unijin popis?

To je popis invazivnih stranih vrsta koje izazivaju zabrinutost u Uniji na kojemu se trenutno nalazi 114 stranih biljnih i životinjskih vrsta. Vrste koje su na Unijinom popisu ne smije se unositi na područje Republike Hrvatske (osim u slučajevima provoza pod carinskim nadzorom), stavljati na tržište Republike Hrvatske, razmjenjivati, držati (uključujući i držanje u kontroliranim uvjetima), uzgajati (uključujući i uzgoj u kontroliranim uvjetima) ili uvoditi u prirodu.

*Tree of heaven is an INVASIVE alien species and is included on the Union List.*

*What is the Union List?*

*It is a list of invasive alien species of Union concern, currently comprising 114 plant and animal species. Species included on the Union List must not be introduced into the territory of the Republic of Croatia (except in cases of transit under customs supervision), placed on the market, exchanged, kept (including in controlled conditions), bred (including in controlled conditions), or released into the environment.*

## OTKUD PAJASEN KOD NAS?

Žljezdasti pajasen unesen u 18. stoljeću iz Kine te se sadio kao ukrasno drvo u parkovima i za stabilizaciju obala, na zaštitnim pojasevima, uz rubove prometnica, za pošumljavanje i sl. Danas je žljezdasti pajasen rasprostranjen na svim kontinentima Zemlje, osim na Antarktici. U Hrvatskoj je prvi put zabilježen početkom 20. stoljeća.

Iako dolazi u sve tri biogeografske regije u Hrvatskoj (kontinentalna, alpinska i mediteranska), najprilagođeniji je toplijoj klimi, zbog čega je najrasprostranjeniji u mediteranskoj regiji. (slika pajasena na plaži)



### **HOW DID TREE OF HEAVEN SPREAD TO OUR REGION?**

*Tree of heaven (Ailanthus altissima) was introduced in the 18th century from China and was planted as an ornamental tree in parks, as well as for slope stabilization, in shelterbelts, along roadsides, for afforestation, and similar purposes. Today, tree of heaven is distributed on all continents except Antarctica. In Croatia, it was first documented at the beginning of the 20th century.*

*Although it is present in all three biogeographical regions in Croatia (Continental, Alpine, and Mediterranean), it is best adapted to warmer climates, which is why it is most widespread in the Mediterranean region.*


## **KAKO UKLONITI PAJASEN?**

Najučinkovitiji rezultati u suzbijanju i kontroli žljezdastog pajasena postižu se kombiniranjem mehaničke i kemijske metode uklanjanja. Uklanjanje samo mehaničkim putem nije preporučljivo zbog izrazite neučinkovitosti i poticanja dodatnog vegetativnog širenja, osim na područjima gdje ostale metode iz bilo kojeg razloga nisu provedive.



## **HOW TO REMOVE TREE OF HEAVEN?**

*The most effective results in the suppression and control of tree of heaven (*Ailanthus altissima*) are achieved by combining mechanical and chemical removal methods. Mechanical removal alone is not recommended due to its very low effectiveness and its tendency to stimulate additional vegetative spread, except in areas where other methods are not feasible for any reason.*

The background image shows a group of people in a forest. One person in the foreground is wearing a white t-shirt and blue jeans, holding a white spray bottle with a red nozzle. Another person in the background is wearing a grey jacket and a backpack. The scene is outdoors with many trees and green foliage.

Upotreba herbicida u Republici Hrvatskoj regulirana je Zakonom o održivoj uporabi pesticida (NN 46/22) i pripadajućim pravilnicima te se oni moraju uzeti u obzir prilikom planiranja aktivnosti uklanjanja žljezdastog pajasena. Sukladno Zakonu o zaštiti prirode (NN 80/13, 15/18, 14/19, 127/19, 155/23), u slučaju uklanjanja žljezdastog pajasena u zaštićenim područjima metode uklanjanja potrebno je odabrati u skladu s Pravilnicima o zaštiti i očuvanju pojedinog zaštićenog područja u kategoriji strogog rezervata, nacionalnog parka, posebnog rezervata i parka prirode. Za Natura 2000 područja, metode je potrebno uskladiti s Planovima upravljanja područjem ekološke mreže. Također, metode uklanjanja jedinki u blizini vodenih površina, cesta i željeznica te u šumama, potrebno je uskladiti s propisima nadležnih tijela.

*The use of herbicides in the Republic of Croatia is regulated by the Act on the Sustainable Use of Pesticides (NN 46/22) and its associated by-laws, which must be taken into account when planning the removal of tree of heaven (*Ailanthus altissima*). In accordance with the Nature Protection Act (NN 80/13, 15/18, 14/19, 127/19, 155/23), when removing tree of heaven in protected areas, the selected methods must comply with the Ordinances on protection and conservation for each specific protected area category, including strict reserves, national parks, special reserves, and nature parks. For Natura 2000 sites, methods must be aligned with the site management plans. Additionally, removal methods for individuals located near water bodies, roads and railways, as well as in forests, must comply with the regulations of the competent authorities.*



## KOMBINIRANE METODE UKLANJANJA

**Injektiranje** – u visini prsnog promjera stabla potrebno je bušilicom ili motornom pilom izbušiti rupe usmjerene prema dolje (pod otprilike 45°) te u njih pomoću medicinske šprice ili boce štrcaljke aplicirati 1 do 2 mL nerazrijeđenog herbicida na bazi glifosata. Broj rupa po stablu ovisi o njegovom opsegu te je preporučljivo izbušiti jednu rupu na otprilike svakih 5 do 10 cm opsega.

**Rezanje u bazi debla i premazivanje herbicidom** – škarama ili motornom pilom deblo odrezati u bazi. Nastali horizontalni rez potrebno je odmah nakon rezanja (u roku od najviše 5 minuta) premazati

tankim slojem nerazrijeđenog herbicida na bazi glifosata.

**Skidanje dijela kore i premazivanje herbicidom** – na manjim jedinkama do 2 m visine potrebno je nožem ili mačetom pri bazi debla oguliti uzdužni sloj kore duljine 10–15 cm. Za veća stablu iznad prve oguljene trake potrebno je oguliti dodatnu traku kore na suprotnoj strani debla. Nastale rezove potrebno je odmah nakon guljenja premazati tankim slojem nerazrijeđenog herbicida na bazi glifosata.

**Folijarna primjena herbicida** – prskalicom nanijeti otopinu herbicida na bazi glifosata (pripremljenu prema uputama na pakiranju herbicida) ravnomjerno po gornjoj i donjoj strani listova biljke. Folijarnom metodom preporuča se tretirati biljke manje od 2 m, kako bi se spriječilo nepotrebno otjecanje herbicida u okoliš.

**Nakon tretmana jedinki žljezdastog pajasena herbicidom na bazi glifosata očekuje se oporavak/ponovno nicanje/reinfestacija u narednim sezonama te je potrebno ponoviti tretman na novim biljkama/izdancima čim se pojave. Ovo uključuje ručno čupanje novih biljaka koje su niknule iz sjemenki ili ponovni tretman jedinki herbicidima.**



S obzirom na to da žljezdasti pajasen vrlo brzo zarasta područja narušene prirodne ravnoteže, na područjima gdje je to moguće, preporuča se restauracija staništa, primjerice sadnjom zavičajnih biljaka, kako bi se spriječila ponovna infestacija žljezdastim pajasenom ili drugim stranim i invazivnim stranim vrstama biljka.



### COMBINED REMOVAL METHODS

**Injection** – At chest level, drill downward-angled holes (approximately 45°) into the trunk using a drill or chainsaw. Apply 1–2 mL of undiluted glyphosate-based herbicide into each hole using syringe or applicator bottle. The number of holes depends on the trunk girth; it is recommended to make one hole approximately every 5–10 cm of circumference.



**Cutting at the base and herbicide application** – Cut the trunk at its base using shears or a chainsaw. The resulting horizontal cut must be immediately (within a maximum of 5 minutes) treated with a thin layer of undiluted glyphosate-based herbicide.

**Bark removal and herbicide application** – For smaller individuals up to 2 m in height, remove a vertical strip of bark (10–15 cm long) at the base of the trunk using a knife or machete. For larger trees, remove an additional strip of bark on the opposite side of the trunk above the first one. The exposed areas must be immediately treated with a thin layer of undiluted glyphosate-based herbicide.

**Foliar application of herbicide** – Apply a glyphosate-based herbicide solution (prepared according to the manufacturer’s instructions) evenly to both the upper and lower surfaces of the leaves using a sprayer. This method is recommended for plants smaller than 2 m to avoid unnecessary runoff into the environment.

**After treatment of tree of heaven individuals with glyphosate-based herbicide, regrowth, resprouting, or reinfestation is expected in the following seasons. Repeated treatment is therefore necessary as soon as new plants or shoots appear. This includes manual removal of seedlings emerging from seeds or repeated herbicide treatment of regrowth.**

Given that tree of heaven rapidly colonizes disturbed areas, habitat restoration is strongly recommended wherever possible, for example by planting native species, in order to prevent reinfestation by tree of heaven or other alien and invasive plant species.



## GDJE SMO UKLONILI PAJASEN

### Nacionalni park Krka

Na području NP Krka pajasen ugrožava Natura 2000 stanište jedinstveno za Hrvatsku 32A0 Sedrene barijere krških rijeka Dinarida te posljedično mijenja hidrologiju malih vodotoka, uzrokujući promjene u protoku vode preko samih kaskada. Također, pajasen predstavlja prijetnju travnjacima Krke, uključujući stanišni tip 62A0 Istočno submediteranski suhi travnjaci *Scorzoneretalia villosae*.



**NP Krka obuhvaća 2 područja ekološke mreže Natura 2000:**

- **PPOVS HR2000918 Šire područje NP Krka**
- **POP HR1000026 Krka i okolni plato**

Pajasen se uklanjao na 8 lokacija: Tanjgina glava, Remetić, HE Miljacka, Manojlovac, Roški slap, Skradinski buk, Skradinska cesta i grad Skradin.

Lokacija uklanjanja	Broj uklonjenih stabala	Broj uklonjenih izdanaka
Tanjgina glava	361	7831
Manojlovac	3	50
HE Miljacka	20	802
Roški slap	176	7508
Remetić	292	24225
Skradinski buk	254	9337
Skradinska cesta	92	4520
Skradin	19	23502
UKUPNO	1217	77775

Pored djelatnika NP Krka, u uklanjanju su sudjelovali i volonteri u okviru volonterskih akcija.



## **Krka National Park**

In Krka National Park, tree of heaven threatens the Natura 2000 habitat unique to Croatia – 32A0 Tufa cascades of karstic rivers of the Dinaric Alps – and consequently alters the hydrology of small watercourses, causing changes in water flow over the cascades themselves. Additionally, tree of heaven poses a threat to the grasslands of Krka, including habitat type 62A0 Eastern sub-mediterranean dry grasslands (*Scorzoneratalia villosae*)

Tree of heaven was removed at eight locations: Tanjgina glava, Remetić, Miljacka Hydropower Plant, Manojlovac, Roški slap, Skradinski buk, Skradin road, and the town of Skradin.

Removal location	Number of removed trees	Number of removed shoots
Tanjgina glava	361	7831
Manojlovac	3	50
HE Miljacka	20	802
Roški slap	176	7508
Remetić	292	24225
Skradinski buk	254	9337
Skradinska cesta	92	4520
Skradin	19	23502
TOTAL	1217	77775

In addition to Krka National Park staff, volunteers also participated in the removal activities as part of organised volunteer actions.



**Krka National Park covers two Natura 2000 sites:**

- SAC HR2000918 Šire područje NP Krka
- SPA HR1000026 Krka i okolni plato

## JI Pelješac

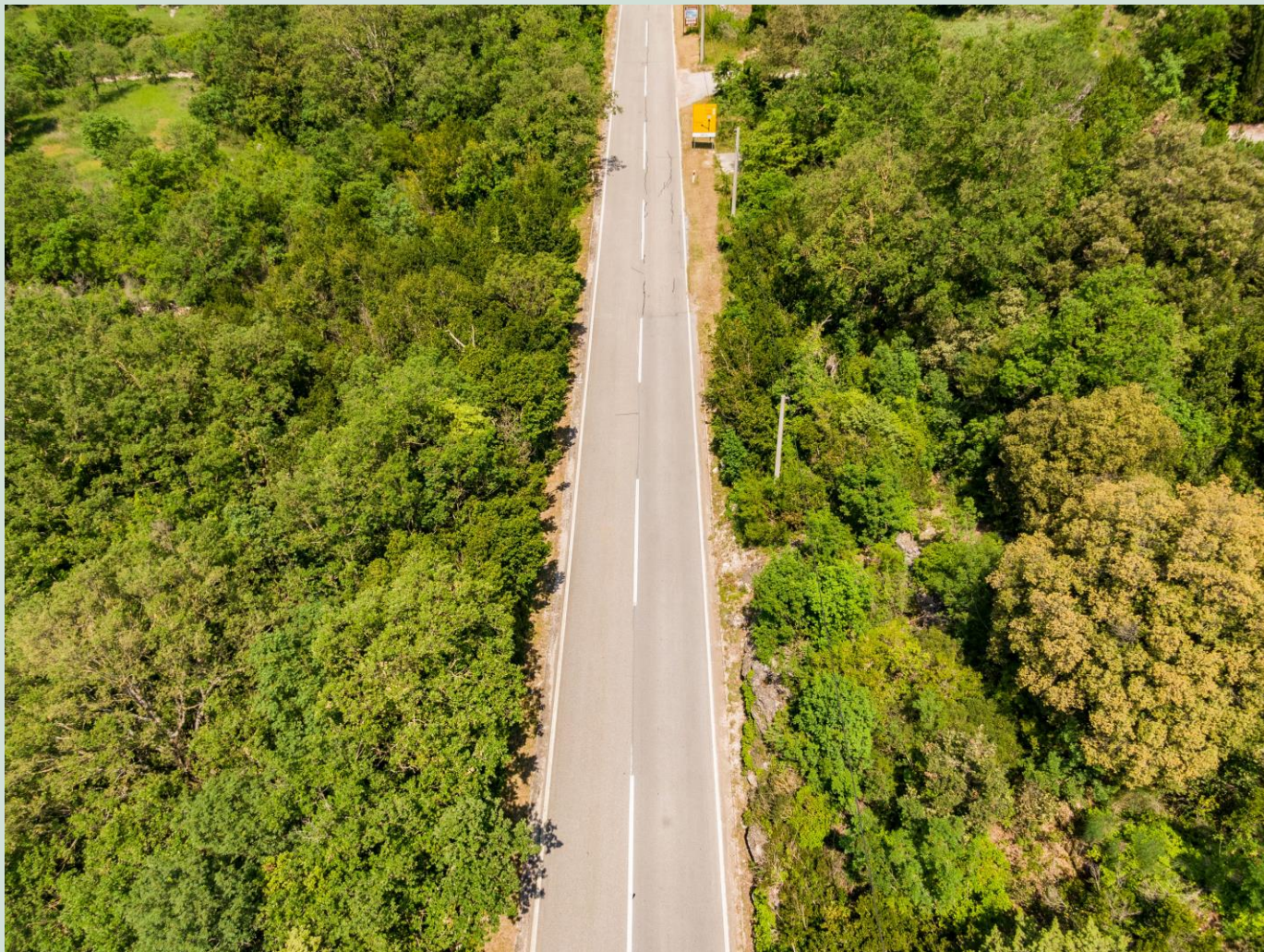
Na poluotoku Pelješcu je raširen u naseljima, na poljoprivrednim i šumskim područjima, brzo se širi i potiskuje prirodnu vegetaciju.

### JI Pelješac obuhvaća 2 područja ekološke mreže Natura 2000:

- PPOVS HR2001364 JI dio Pelješca
- POP HR1000036  
Srednjedalmatinski otoci i Pelješac

Posebno je ugrožen Natura 2000 prioritetni Natura 2000 stanišni tip 6220\* Eumediteranski travnjaci Thero-Brachypodietea. U središtu tog područja razvila se vrlo gusta šuma pajasena koja je prijetila daljnjem širenju na zaštićena staništa. U okviru projekta, pajasen je gotovo u potpunosti uklonjen na površini od 4 ha, a prioritetni stanišni tip zaštićen od ugroze.

Aktivnosti uklanjanja provodile su se i u naselju Žuljana i zaštićenom krajobrazu Uvala Vučine te na mjestima koja su prepoznata kao koridori širenja. Ta su mjesta posebno važna jer su često posjećena i predstavljaju glavne putove širenja invazivne vrste.



## **SE Pelješac**

*On the Pelješac Peninsula, tree of heaven is widespread in settlements, agricultural and forest areas, where it spreads rapidly and suppresses native vegetation.*

*The Natura 2000 priority habitat type 6220\* Pseudo-steppe with grasses and annuals of the Thero-Brachypodietea\* is particularly threatened. In the central part of this area, a very dense stand of tree of heaven had developed, posing a risk of further spread into protected habitats. Within the project, tree of heaven was almost completely removed on the surface area of 4 ha, and the priority habitat type was protected from further degradation.*



**JI Pelješac covers two Natura 2000 sites:**

- **SAC HR2001364 JI dio Pelješca**
- **SPA HR1000036 Srednjedalmatinski otoci i Pelješac**

*Removal activities were also carried out in the settlement of Žuljana and in the protected landscape Vučine Bay, as well as in areas identified as dispersal corridors. These locations are particularly important as they are frequently visited and represent key pathways for the spread of the invasive species.*



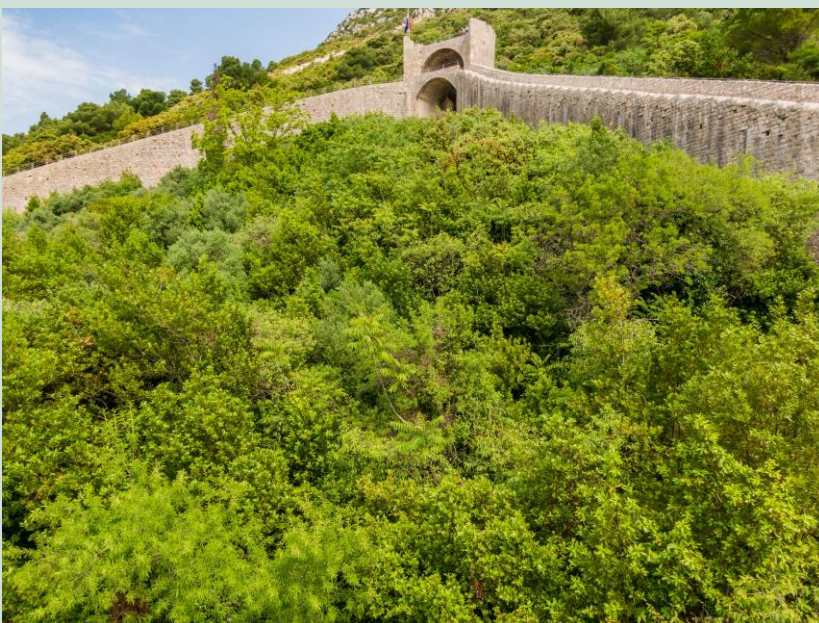
## STON I MALI STON

Na području starih jezgri Stona i Malog Stona pajasen se uklanjao u svrhu zaštite kulturne baštine posebno štiteći gradske zidine.

Ston i Mali Ston posebni su po jedinstvenom sustavu srednjovjekovnih zidina, solani Ston kao jednoj od najstarijih aktivnih solana u Europi te iznimno očuvanom povijesnom kulturnom krajobrazu. Pajasen se širi u području zidina, solane i okolnog prostora, gdje narušava vizualni integritet i dugoročnu stabilnost kulturne baštine. Zaštita ovog područja važna je zbog očuvanja povijesnog identiteta prostora koji povezuje prirodne i kulturne vrijednosti.

## STON AND MALI STON

*In the historic centres of Ston and Mali Ston, tree of heaven was removed in order to protect cultural heritage, with particular emphasis on safeguarding the city walls. Ston and Mali Ston are distinguished by their unique system of medieval fortifications, the Ston Saltworks as one of the oldest active saltworks in Europe, and an exceptionally well-preserved historical cultural landscape.*



*Tree of heaven is spreading within the area of the walls, the saltworks, and the surrounding landscape, where it compromises the visual integrity and long-term stability of the cultural heritage. Protecting this area is essential for preserving the historical identity of a landscape that integrates both natural and cultural values.*

## DUBROVNIK

U Dubrovniku se pajasen širi u blizini i unutar zaštićene kulturne cjeline, uključujući zidine i povijesnu jezgru, gdje predstavlja izravnu prijetnju očuvanosti kulturne baštine. Uklanjanje invazivne vrste na ovom području ima posebnu važnost zbog međunarodnih obveza zaštite

UNESCO lokaliteta.

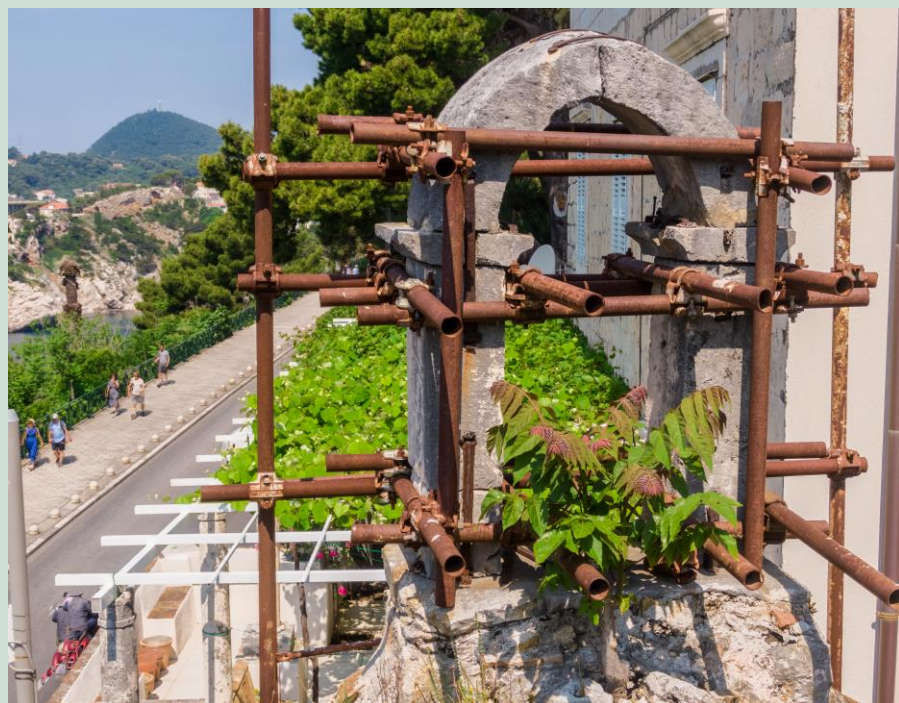
U Dubrovniku pajaasen je uklonjen s gotovo svih površina obuhvaćenih projektom čime je značajno smanjena prisutnost ove invazivne vrste u središtu kulturne baštine grada. Ukupno je uklonjeno 22942 jedinke pajasena.



## DUBROVNIK

*In Dubrovnik, tree of heaven is spreading in the very vicinity of and within the protected cultural heritage sites, including the city walls and the historic core, where it poses a direct threat to the preservation of cultural heritage. Removal of this invasive species in this area is of particular importance due to international obligations related to the protection of a UNESCO World Heritage Site.*

*In Dubrovnik, tree of heaven has been removed from nearly all project areas, significantly reducing the presence of this invasive species in the historic city centre. A total of 22,942 trees were removed.*



## ŠTO SMO POSTIGLI?

### Izradili smo nacionalni protokol za uklanjanje pajasena

Nacionalni protokol između ostalog opisuje status i rasprostranjenost vrste u Hrvatskoj, metode uklanjanja te plan provedbe zajedno s određenim prioritetnim područjima za uklanjanje.

### Osmisli EDRR sustav za pet kopnenih biljaka s Unijnog popisa

Sustav za rano otkrivanje i brzi odgovor obuhvaća pet kopnenih biljaka s Unijnog popisa:

- *Acacia saligna*
- *Heracleum mantegazzianum*
- *Humulus scandens*
- *Pueraria lobata*
- *Delairea odorata*

### Održali niz edukativnih radionica gdje smo prenijeli znanje i iskustvo o uklanjanju pajasena



Gotovo 400 sudionika je prošlo kroz naših 20 radionica koje smo održali na području cijele Republike Hrvatske. Radionice su se održavale za različite skupine dionika, od osnovnoškolske i srednjoškolske djece, studenata, javnih ustanova, upravnih odjela i raznih stručnjaka zainteresiranih za temu invazivnih stranih vrsta i pajasena.

### Ograničili širenje pajasena na ključnim projektnim lokacijama

Budući da je iskorjenjivanje pajasena izuzetno dugotrajno, a zbog načina na koji se širi, uklonjene plohe moraju biti pod stalnim nadzorom, jedan od najvažnijih ciljeva projekta je bilo zaustaviti njegovo širenje. To je bilo od izuzetne važnosti jer na projektnim lokacijama gdje ono ugrožava prioritetne stanišne tipove. Najviše se ističe uklanjanje 4 ha pajasena na lokalitetu Ponikve gdje je prijetio stanišnom tipu 6220 te na lokacijama u NP Krka na lokacijama uz sedrene barijere.

## **WHAT HAVE WE ACHIEVED?**

### **We developed the national protocol for the removal of tree of heaven**

The national protocol describes, among other things, the status and distribution of the species in Croatia, removal methods, and an implementation plan, including identified priority areas for action.

### **We designed an EDRR system for five terrestrial plant species on the Union List**

The Early Detection and Rapid Response (EDRR) system covers five terrestrial plant species listed on the Union List:

- *Acacia saligna*
- *Heracleum mantegazzianum*
- *Humulus scandens*
- *Pueraria lobata*
- *Delairea odorata*



### **We conducted a series of educational workshops to transfer knowledge and experience in tree of heaven removal**

Nearly 400 participants attended 20 workshops held across Croatia. The workshops targeted a wide range of stakeholders, including primary and secondary school students, university students, public institutions, administrative bodies, and various professionals interested in invasive alien species and tree of heaven management.

### **We reduced the spread of tree of heaven at key project sites**

As the eradication of tree of heaven is extremely time-consuming and its spread difficult to control, continuous monitoring of cleared areas is essential. One of the project's key objectives was therefore to halt its spread, particularly at locations where it threatens priority habitat types. Notably, approximately 4 hectares of tree of heaven were removed at the Ponikve site, where it threatened habitat type 6220, as well as at several locations in Krka National Park, particularly near tufa barriers.

