

Obnova rečnega ekosistema nižinskega dela Drave v Sloveniji

Riparian ecosystem restoration of the lower Drava
River in Slovenia

Poljudno poročilo

Layman's report

LIFE11 NAT/SI/882



Naslov / Title: Obnova rečnega ekosistema nižinskega dela Drave v Sloveniji. Poljudno poročilo. / Riparian ecosystem restoration of the lower Drava River in Slovenia. Layman's Report.

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Oblikovanje / Design: Tilen Basle

Izdajatelj / Publisher: Društvo za opazovanje in proučevanje ptic Slovenije (DOPPS) / DOPPS – BirdLife Slovenia

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Tisk / Print: Schwarz print d.o.o.

Naklada / Number of copies: 1000

Ljubljana, december 2017

Poljudno poročilo smo izdali s finančno podporo LIFE+, finančnega instrumenta Evropske unije, v okviru projekta Obnova rečnega ekosistema nižinskega dela Drave v Sloveniji, LIVEDRAVA, LIFE11 NAT/SI/882.

Layman's report was published with the financial contribution of LIFE+, a financial instrument of European Union as a part of the project Riparian Ecosystem Restoration of the Lower Drava River in Slovenia, LIVEDRAVA, LIFE11 NAT/SI/882.



CIP - Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana

574.5(282.243.7)

DENAC, Damijan

Obnova rečnega ekosistema nižinskega dela Drave v Sloveniji : poljudno poročilo = Riparian ecosystem restoration of the lower Drava river in Slovenia : layman's report / [avtorja besedila Damijan Denac, Luka Božič, Tilen Basle ; avtor grafik Tilen Basle ; avtorji fotografij Tilen Basle ... et al.]. - 1. izd. - Ljubljana : Društvo za opazovanje in proučevanje ptic Slovenije (DOPPS), 2017

ISBN 978-961-6674-31-7

1. Gl. stv. nasl. 2. Vzp. stv. nasl. 3. Božič, Luka, 1976- 4. Basle, Tilen
293020672

Osebna izkaznica

Project ID card

Naslov projekta / Project title: Obnova rečnega ekosistema nižinskega dela Drave v Sloveniji / Riparian ecosystem restoration of the lower Drava River in Slovenia

Akronim / Acronym: LIVEDRAVA

Koda projekta / Project code: LIFE11 NAT/SI/882

Spletna stran / Web page: www.livedrava.ptice.si

Obdobje trajanja / Project period: 1. 9. 2012–31. 12. 2017

Upravičenec koordinator / Coordinating beneficiary: DOPPS – BirdLife Slovenia

Vodja projekta / Project manager: dr. Damijan Denac (damijan.denac@dopps.si)

Pridruženi upravičenci / Associated beneficiaries: VGB Maribor d.o.o., DRAVA Vodnogospodarsko podjetje Ptuj d.d., Mestna občina Ptuj

Financiranje / Financing: European Union (LIFE+), MOP Ministry of the Environment and Spatial Planning, Dravske elektrarne Maribor d.o.o., Občina Ormož, Beneficiaries

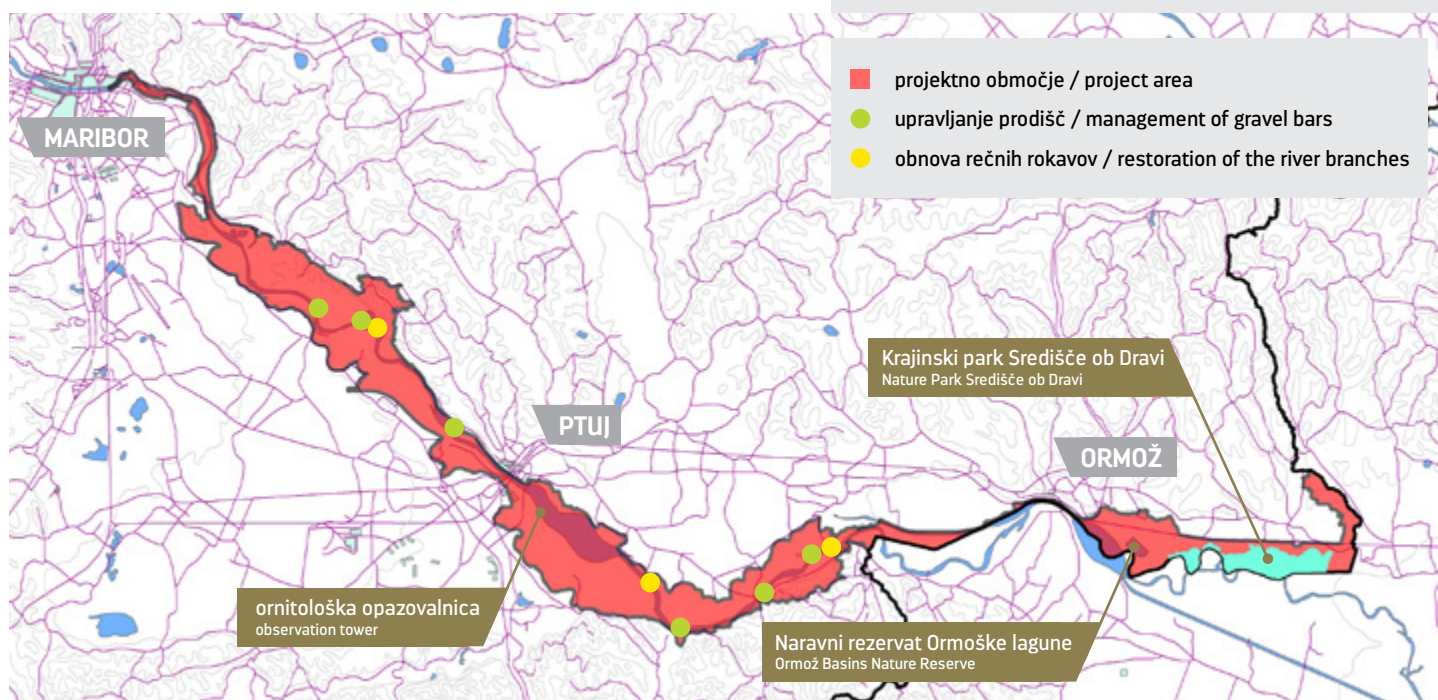
Odstotki financiranja / Contribution breakdown: EU (50 %), Co-financers (43 %), Beneficiaries (7 %)

Skupen znesek / Total budget: 4.098.910 EUR

Podpora pristojnih inštitucij / Support from the competent authority: ARSO, Občina Središče ob Dravi

Projekt LIVEDRAVA se je odvijal na območju vzdolž reke Drave med Mariborom in Središčem ob Dravi, ki je znotraj meja Natura 2000 Drava. Gre za nižinski, panonski del Drave v Sloveniji, t.i. Dravsko ravan. Rečni ekosistem je bil v preteklosti degradiran in populacije značilnih rečnih vrst so se bodisi zmanjšale bodisi izginile. Mnoge med njimi so vrste, ki smo jih kot država članica EU dolžni varovati. Na območju ob Dravi ornitologi DOPPS neprekinjeno delujemo vse od nastanka društva leta 1979. Med dolgoletnim delom smo prepoznali številne neposredne grožnje za naravovarstveno pomembne vrste, te pa mnogokrat posredno ali neposredno ogrožajo tudi človeka. Nekatere od njih smo izpostavili v tem projektu LIFE+ in jih v petih letih skušali odpraviti ali vsaj zmanjšati ter tako pokazati, da je varstvo narave prek ekosistemskih storitev, ki nam jih narava nudi, zanje pa ne zaračunava, koristno za človeško družbo. Projekt LIVEDRAVA je končan, varstvo narave in skrb za kvalitetno življenje od Dravi pa se nadaljuje.

Project LIVEDRAVA was implemented along Drava River between Maribor and Središče ob Dravi, encompassing Natura 2000 site Drava. Almost the entire project area is located on an alluvial plain called "Dravska ravan" in NE Slovenia. Riparian ecosystem of the Drava River has been degraded in the past, with populations of riparian ecosystem and qualifying Natura 2000 species either decreasing or disappearing. Ornithologists of DOPPS have been active at the area ever since the establishment of DOPPS in 1979. Several threats or larger problems contributing to the degradation have been recognized and placed at the centre of our nature conservation actions within the project. During the implementation of the project we attempted to demonstrate the importance of ecosystem services provided to mankind free of charge. Project LIVEDRAVA is finished but nature conservation and striving for public welfare along Drava River continue.



Grožnja: Slabo stanje habitatov in vrst rečnega ekosistema

Threat: Unfavourable conservation state of riparian habitats and species

1

The natural dynamic of the Drava River was heavily altered after the construction of three hydro-power plants in the Pannonian stretch in the 1960s and 1970s, as most of the water (95%) was diverted into the inlet channels, whereas the prevailing discharges and bedload transport in the old riverbed were drastically reduced. This caused an overgrowth of gravel bars with woody vegetation. A formerly extensive network of river branches gradually diminished due to the lack of water, and most of them remain disconnected to the main river for most of the year. Low discharges in the old riverbed caused silting in the river side arms. These changes resulted in a lack of suitable breeding, spawning and foraging sites for species like the Common Tern, Sand Martin, Kingfisher, Little Ringed Plover, Common Sandpiper, Bitterling, Spined Loach, and Asp. The following actions were taken to improve the situation.

Po postavitvi zadnjih treh hidroelektrarn na Dravi v panonskem delu v 60. in 70. letih 20. stoletja se je vodni režim v strugi bistveno spremenil. Praktično vsa voda Drave (95 %) je večinoma v derivacijskih kanalih elektrarn, preostali pretok v strugi in transport proda je dramatično zmanjšan. Zato se prodišča zaraščajo z lesno vegetacijo in nekdanje bogato omrežje rečnih rokavov usiha. Zaradi majhnih pretokov rokavi niso več povezani s strugo reke. Majhni pretoki so povzročili zapolnitev stranskih rokavov s sedimenti. Vse te spremembe so povzročile izgubo številnih značilnih rečnih habitatov in posledično zmanjšanje populacij rečnih vrst, kot so navadna čigra, breguljka, vodomec, mali deževnik, mali martinec, pezdirk, navadna nežica, bolen. Z naslednjimi ukrepi smo skušali stanje izboljšati.

Ukrepi & rezultati

Measures & results

At selected gravel bars in the locations of Starše, Krčevina pri Vurbergu, Hajdoše, Dravci, Borl and Mala vas, woody vegetation encroaching upon the gravel bars was removed in an innovative way, thus maximizing the surface of bare gravel without the admixture of soil and minimizing its further encroachment. Vegetation was removed twice: in 2013/2014 and 2016.

Na izbranih prodiščih na lokacijah pri Staršah, Krčevini pri Vurbergu, Hajdošah, Dravcih, Borlu in Mali vasi smo opravili renaturacijo in odstranili lesno vegetacijo. Uporabili smo inovativne pristope s ciljem, da ustvarimo čim večjo površino gola proda brez primesi humusa in karseda upočasnimo njihovo nadaljnje zaraščanje. Vegetacijo smo odstranili dvakrat, prvič v letih 2013/2014 in drugič v letu 2016.

Mala vas



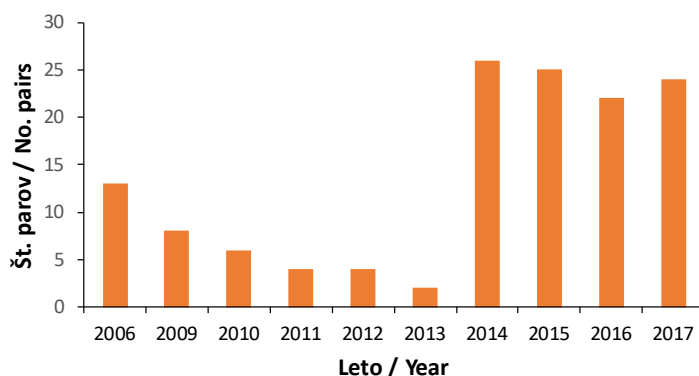
2010

2014

2016

With this action we managed to increase the number of breeding Little Ringed Plovers at these gravel bars from an average of 8 pairs before the management (for the years 2006, 2009–2013) to an average of 25 pairs afterwards (for the years 2014–2017). We thus increased the total population of the Little Ringed Plover at the SPA Drava by 35%. Furthermore, 6 pairs of Common Sandpiper also bred at these locations (circa 20% of the entire SPA population). The total surface of cleaned gravel bars was 14 ha. New methods of maintaining bare gravel bars were developed, simultaneously enhancing Natura 2000 species and ensuring better flood safety.

S tem ukrepom smo na prodiščih povečali število gnezdečih parov malih deževnikov z 8 (povprečje v letih 2006, 2009–2013) na 25 (povprečje v letih 2014–2017). Tako smo povečali populacijo te vrste na celotnem SPA Drava za 35 %. Poleg tega je na teh lokacijah gnezdilo tudi 6 parov malega martinca (okoli 20 % celotne populacije SPA). Skupna površina prodišč, na katerih smo opravili ukrep, je bila 14 ha. Rezultat so tudi izboljšane metode vodnovzdrževalnih del na prodiščih, ki koristijo vrstam Natura 2000, hkrati pa prispevajo k zagotavljanju večje pretočnosti struge in večji poplavni varnosti.



Na levem bregu Drave pri Krčevini pri Vurbergu smo odstranili večji kamnomet – bočno utrditev brežine – in tako ponovno omogočili nastanek naravnega rečnega brega na tem mestu. Takšen ukrep je bil opravljen prvič v Sloveniji in nakazuje spremembe v pristopu upravljanja z vodami pri nas, v smeri zagotavljanja zadostnega prostora za reko in ponovnega nastajanja habitatov v strugi z naravno rečno dinamiko. Dodatno smo na mestih, kjer je to bilo možno, vsako leto ročno, ob pomoči prostovoljcev, pripravili peščene stene in ohranjali gnezdišča za breguljko in vodomca.

A larger lateral stone enforcement was removed on the Drava left bank at Krčevina pri Vurbergu, enabling the formation of a natural river bank. This pioneer action, performed for the first time in Slovenia, is paving the way for more sustainable water maintenance works in the riverbed, serving a double function of flood safety and nature conservation. Furthermore, available sand banks are cleaned annually in order to preserve the best breeding places for Sand Martins and Kingfishers.



Rezultat ukrepa je 590 gnezdečih parov breguljk (povprečje v letih 2013–2017), kar pomeni skoraj trikratno povečanje celotne populacije na SPA Drava v primerjavi z 200 pari, ki so povprečno gnezdili v obdobju 2000–2012. Po zaslugi sistematičnega uresničevanja ukrepa na več potencialno primernih lokacijah breguljka po več kot 20 letih ponovno redno gnezdi v strugi reke Drave med Mariborom in Zavrčem. Število pripravljenih sten vsako leto je bilo med 2 in 8, njihova skupna dolžina pa največ 700 m. V istem obdobju se je gnezdeča populacija vodomca povečala za četrtno.

Our efforts yielded an average of 590 breeding pairs of Sand Martins (in the 2013–2017 period), which is a threefold increase of the SPA population compared to the long-term average of 200 pairs in the 2000–2012 period. After more than 20 years, the Sand Martin is once again a regular breeder along the Drava river between Maribor and Zavrč. The number of cleaned banks varied annually from 2 to 8, whereas their total length was a max. 700 m. In the same period, the Kingfisher population increased by 25%.



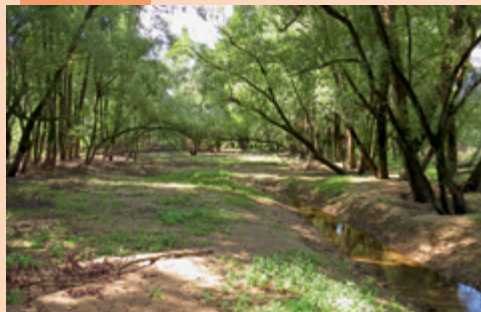
“Rezultat ukrepa je 590 gnezdečih parov breguljk, kar pomeni skoraj trikratno povečanje celotne populacije na SPA Drava.”

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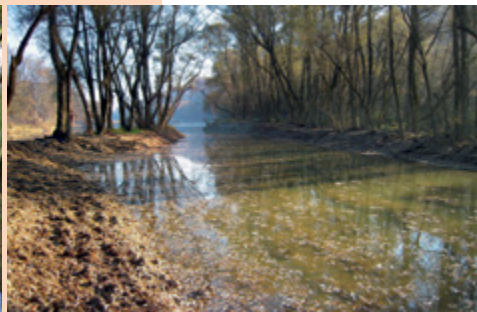


Three river branches (side arms) that were connected to the riverbed in the past and were fully or partially silted, were opened, restored and reconnected to the Drava River. Two were opened downstream (Vurberk, Mala vas) and are now functioning as river branches, whereas one was opened upstream (Markovci pri Ptuj), and is now functioning as a side arm. Their lengths are 500, 800 and 2500 m, respectively. Restoration works took place in 2014 and 2015. During the restoration, the ecological requirements of Natura 2000 qualifying fish species were carefully considered, i.e. the Bitterling, Spined Loach, and Asp.

Mala vas



2013



2015



2016

Fish monitoring revealed that the ecological conditions for the fish species improved after the carried out restoration. The Bitterling population became more stable and less vulnerable. The preservation of cut-off channels, side arms and deep sections of the Drava is crucial for the successful conservation of Bitterlings, Spined Loach and Asps. In the immediate vicinity of all three sites, 1-2 Kingfisher territories were re-established after engendering their optimal foraging habitat.

Monitoring rib je pokazal, da so se ekološke razmere zanje po renaturaciji bistveno izboljšale. Populacija pezdirka je postala bolj stabilna in manj ranljiva. Obnavljanje rečnih rokavov, posebej zatonov, se je izkazalo kot ključno pri ohranjanju pezdirka, nežice in bolena. V neposredni okolici obnovljenih rokavov sta na vsaki lokaciji gnezdila 1-2 para vodomcev, vsi trije rokavi pa so postali optimalno prehranjevališče vrste.



The Common Tern population along the Drava River is completely dependent on management. The primary challenges are: the encroachment of artificial breeding islands, competition with the Black-headed Gull, and invasive Asian Knotweed. Different management techniques were tested and with the help of volunteers, the annual management was significantly optimized.

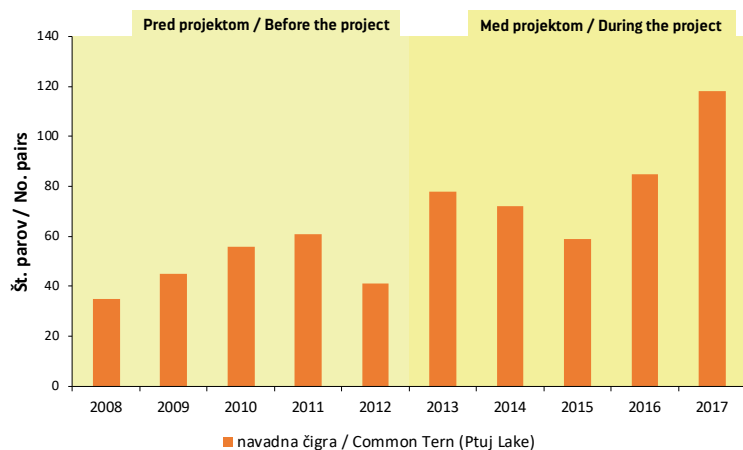
Populacija navadne čigre na Dravi je popolnoma odvisna od upravljanja. Zaraščanje umetnih gnezditvenih otokov, kompeticija z rečnim galebom in invazivni japonski dresnik so bili izzivi v tem projektu. Testirali smo različne pristope upravljanja in ob pomoči večjega števila prostovoljcev prišli do novih učinkovitih rešitev.

"55 prostovoljcev je sodelovalo pri aktivnostih in skupaj so opravili 680 delovnih ur za ohranitev čigre."

"Altogether, 55 volunteers participated in the management, and invested 680 man hours to preserve the Common Tern."



Z aktivnostmi izboljšane upravljanja nam je populacijo navadne čigre uspelo povečati na 118 parov leta 2017, kar je največ v zadnjih 14 letih. Povprečno število gnezdečih parov po izboljšanem upravljanju gnezditvenih otokov je bilo 82 (2013–2017), medtem ko jih je bilo pred projektom 54 (povprečje 2004–2012), kar pomeni, da smo populacijo povečali za 52 % in jo s tem pomembno stabilizirali. 55 prostovoljcev je sodelovalo pri aktivnostih in skupaj so opravili 680 delovnih ur za ohranitev čigre. K rezultatu je pomembno prispevala izdelava dveh novih prodnatih gnezditvenih otokov na Ptujskem jezeru leta 2014, s skupno površino 2100 m², kar pa ni bila aktivnost, financirana s tem projektom.



As a result of improved management, 118 pairs of Common Tern bred at Lake Ptuj in 2017, which is the largest number in the last 14 years. The average number of breeding pairs after the improved management (2013–2017) was 82, whereas prior to it (2004–2012) the number was 54. Thus, the population was increased by 52%. Altogether, 55 volunteers participated in the management, and invested 680 man hours to preserve the Common Tern. The construction of two new gravel breeding islands (total surface 2100 m²) at Lake Ptuj in 2014 contributed considerably to this result, although this action was not financed as part of the project.



V letih 2014 in 2015 smo sistematično ugotavljali pojavljanje škrlatnega kukuja vzdolž Drave z metodo preiskovanja odmrlih debel. Na območju Naravnega rezervata Ormoške lagune smo opravili ekološki eksperiment in testirali vpliv upravljanja z gozdom na populacijo te redke vrste. Na poskusnih enotah smo umetno povečali količino odmrlega lesa in podrobno spremljali odziv populacije.

In 2014 and 2015, the Flat Bark Beetle *Cucujus cinnaberinus* was systematically sampled along the Drava River through the examination of beetle fauna under bark. An ecological experiment was performed in the Ormož Basins Nature Reserve to test whether its population could be increased by increasing the amount of dead wood.



Poplavni gozd v Ormoških lagunah in Šturmovcih se je izkazal za najpomembnejšo zgoščitev populacije škrlatnega kukuja na spodnji Dravi. Ekološki eksperiment je razkril, da je dodajanje odmrlega lesa lahko učinkovit ukrep za izboljšanje habitata škrlatnega kukuja in druge favne saproksilnih hroščev, še posebej v mladih in degradiranih gozdnih sestojih.

The riparian forest in the Ormož Basins NR and Šturmovci proved to be the most important population stronghold of the Flat Bark Beetle *Cucujus cinnaberinus* along the lower Drava. The results of the ecological experiment confirmed that the addition of dead wood can be an effective measure in improving the habitat of this species, as well as of saproxylic beetle fauna in general, especially in younger and degraded forest stands.

Grožnja: Izguba habitatov za vodne ptice v Ormoških lagunah

Threat: Loss of waterbirds' habitats at Ormož Basins

2

The basins of the former sugar factory in Ormož were created in 1980 for the disposal of waste water. Soon, the basins developed into a nationally and internationally important breeding area and stopover site for waterbirds. After the factory closed in 2006 and sugar production ended, the water supply to the basins was stopped, resulting in overgrowths with woody and herbaceous vegetation. The basins became unsuitable for most waterbirds. More than half of regularly breeding species disappeared from the site and thus also from the entire Drava River. The following actions were taken to improve the situation.

Bazeni nekdanje Tovarne sladkorja v Ormožu, t.i. Ormoške lagune, so bili izdelani leta 1980 za potrebe čiščenja odpadnih vod pri pridelavi sladkorja. Čeprav umetnega nastanka so kmalu postali območje za gnezdenje in selitev vodnih ptic in hkrati nadvse pomembno območje tako v slovenskem kot mednarodnem merilu. Po zaprtju tovarne in prekinitvi proizvodnje sladkorja v letu 2006 je bil dotok vode v bazene prekinjen, začeli so se zaraščati in izgubljati naravovarstveni pomen. Več kot polovica redno gnezdečih vrst vodnih ptic je izginila z območja in s tem tudi z reke Drave. Naslednji ukrepi so bili izvedeni za njihovo ponovno vrnitev.

Ukrepi & rezultati

Measures & results

First, a new water supply system was set up. The Croatian company Hrvatska elektroprivreda (HEP d.d.) kindly allowed us to build a water abstraction system on the banks of the Lake Ormož. We built a pipeline that conveys water from the Drava to the basins with a maximum flow rate of 240 l/s. That amount of water allowed us to create all the planned habitats for waterbird conservation.

Najprej smo zagotovili nov dotok vode v Ormoške lagune. Podjetje Hrvatska elektroprivreda (HEP d.d.) nam je prijazno dovolila postavitve odvzemnega sistema na nasipu Ormoškega jezera in zgradili smo cevovod, ki dovaja vodo iz Drave v bazene z največjim možnim pretokom 240 litrov v sekundi. S to količino vode lahko ustvarimo vse načrtovane habitate za varstvo vodnih ptic.



Waterbird habitats in the basins were restored and improved. Six large breeding islands were constructed (with total surface area of over 10,000 m²) and 30 additional smaller islands. Several hundred meters of ditches were excavated, creating optimal breeding and foraging habitats for migrating waterbirds. Six hectares of riparian forest were purchased, intended exclusively for nature conservation. Additionally, we restored a 200 m long backwater in the reserve with the aim of creating a habitat for the beetle *Graphoderus bilineatus*.

Habitate vodnih ptic v bazenih smo obnovili in izboljšali. Izdelanih je bilo 6 velikih gnezditvenih otokov skupne površine več kot 10.000 m², 30 dodatnih manjših otočkov, izkopanih je bilo za več 100 metrov jarkov, s čimer so nastali kvalitetni habitati za gnezdenje in prehranjevanje vodnih ptic na selitvi. Kupili smo 6 hektarjev velik del poplavnega gozda, ki je odslej trajno namenjen izključno varstvu narave. Dodatno smo na območju rezervata renaturirali 200 m dolg gozdni rovak s ciljem ustvariti habitat za ovratniškega plavača.

“Izdelanih je bilo 6 velikih gnezditvenih otokov, 30 dodatnih manjših otočkov, izkopanih je bilo za več 100 metrov jarkov.”

“Six large breeding islands were constructed and 30 additional smaller islands. Several hundred meters of ditches were excavated.”



Vzpostavili smo delujoč sistem upravljanja s habitatmi, ki obsega regulacijo gladin vode v bazenih in pašo. Za nego habitatov s pašo smo postavili 12,8 km pašnih ograj, znotraj katerih se trenutno pase 15 vodnih bivolov. Ti so fiziološko prilagojeni slabši kakovosti krme. Paša poteka od leta 2014. Zgradili smo hlev in servisni objekt Naravnega rezervata.

A functional habitat management system was set up, comprising of water level regulation in the basins and grazing. Altogether, 12.8 km of fences were erected to control the grazing, which is currently carried out by 15 water buffaloes. They are physiologically adjusted to low quality feed. Grazing started in 2014. A barn and service facility for the Nature reserve was built.



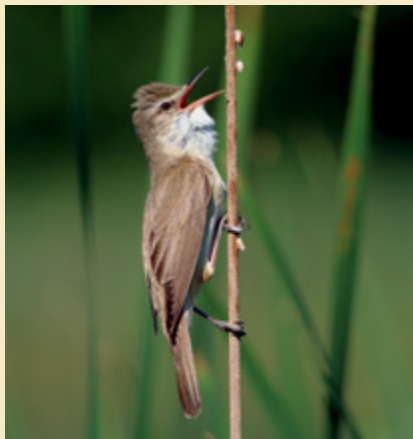
Maja 2017 je Vlada RS sprejela Uredbo o Naravnem rezervatu Ormoške lagune in s tem je območje veliko 66,59 ha, postalo naravni rezervat državnega pomena, kar je zelo pomembno za delovanje rezervata in njegov razvoj po projektu.

In May 2017, the Government of the Republic of Slovenia adopted a Decree on the Ormož Basins Nature Reserve, thereby declaring these 66.59 ha to be a nature reserve of national importance and thus ensuring its functioning and development after the end of the project.



Restoring waterbird populations after the restoration of their habitats is a long-lasting process, expected to yield target results only in the long-term. Nevertheless, the results achieved during the project are very promising. Soon after the restoration works, the surface of reedbeds, bulrush stands and other target vegetation types increased by several times (to 15 ha). In the post-2015 period, strong breeding populations of birds typical of these habitats and important within the scope of the entire SPA have bred here: the Great Reed Warbler (15–20 pairs), Savi's Warbler (5 pairs) and Reed Bunting (2–3 pairs), whereas the basins are the only breeding location of the Common Reed Warbler and Sedge Warbler along the Pannonian part of the Drava River.

Čeprav je obnova populacij vodnih ptic po renaturaciji habitatov dolgotrajen proces in se bo stanje v rezervatu sčasoma še izboljšalo, so že nekateri med projektom doseženi rezultati zelo obetavni. Tako se je kmalu po obnovi površina trstič, sestojev rogoza in druge zelene obvodne vegetacije povečala za nekajkrat (na 15 ha). V obdobju po 2015 v bazenih gnezdi močne populacije ptic tega ogroženega habitata. Največje populacije na SPA Drava imajo tukaj rakar (15–20 parov), trstni cvrčalec (5 parov) in trstni strnad (2–3 pari), samo v bazenih na panonskem delu Drave pa gnezdi srpična in bičja trstnica.



A constant influx of water has enabled breeding of several endangered species that disappeared after the cessation of sugar production: the Gadwall, Garganey, Shoveler, Little Bittern, Little Crake and Spotted Crake. Extensive stands of reed and bulrush are home to one of our largest populations of Water Rail (10–20 pairs). The quality of the restored habitat was further emphasized by the first breeding of Bearded Reedlings in 2017. Here, the Marsh Harrier has its only regular breeding site in Slovenia. An increase in the water levels in the basins in summer 2017 significantly improved conditions for migratory birds, too. In Sep 2017, 550 waterbirds that rely on the basins as an important stopover site during their migration were foraging in the 5th basin (mostly ducks and Coots). Grazing helped establish one of the largest complexes of extensively managed grasslands in the Lower Podravje region, giving a home to 4–5 pairs of Red-backed Shrike.

Stalni dotok vode je omogočil ponovno gnezdenje nekaterih ogroženih vrst, ki so po opustitvi proizvodnje z območja izginile: konopnica, reglja, raca žličarica, čapljica, mala tukalica in grahasta tukalica. Obsežna trstičja in rogozovja naseljuje ena naših največjih lokalnih populacij mokoža (10–20 parov). Dokaz kvalitete vzpostavljenega habitata je tudi prvo gnezdenje brkate sinice v Sloveniji, zabeleženo leta 2017. Razen te specializirane vrste trstič tudi rjavi lunj na celotnem ozemlju Slovenije redno gnezdi samo v Naravnem rezervatu. Z dvigom gladin v bazenih poleti 2017 so se občutno izboljšale tudi razmere za seleče se vrste; tako se je septembra tega leta samo v 5. bazenu prehranjevalo 550 vodnih ptic (večinoma različne vrste rac in liske), za katere so bazeni pomembna postojanka na selitveni poti. S pašo smo na območju rezervata vzpostavili enega največjih kompleksov ekstenzivnih travišč na celotnem ravninskem delu Spodnjega Podravja, kjer gnezdi rjavi srakoper (4–5 parov).



3 Grožnja: Vnemirjanje ptic s strani človeka

Threat: Human disturbance of birds

Različne oblike vznemirjanja ptic so bile na projektnem območju velik problem. (1) Nedovoljena vožnja z motornimi vozili po prodiščih med gnezditveno sezono in nezakonito izkopavanje proda. (2) Vnemirjanje in uničevanje kolonije navadnih čiger na nezakonito zgrajenih lovskih prežah na Ormoškem jezeru. Te preže so delovale kot ekološke pasti - čigre so na njih začele gnezditi, potem pa so jim ribiči vedno uničili gnezda. (3) Vse oblike nezakonitega lova ptic na Ormoškem jezeru, večinoma pa z lovskih prež z uporabo maket ptic in posnetkov, kar je dramatično zmanjšalo število prezimujočih vodnih ptic (z 10.000–15.000 osebkov v 80-ih in na začetku 90-ih let 20. stoletja na le 2.000–7.500 osebkov) in uničilo veliko prezimovališče gosi (do 5.000 osebkov). Kljub težavnosti smo odločno pristopili k reševanju teh dolgoletnih problemov.

The disturbance proved to be particularly detrimental to the birds in the project area: (1) the illegal use of motor vehicles on gravel bars during the breeding season and illegal gravel extraction. (2) Disturbance and destruction of Common Tern colonies, breeding on the illegally built hunting platforms at Lake Ormož. These structures functioned as population sinks, as all nests were destroyed by local fishermen during the year. (3) All forms of illegal hunting at Lake Ormož, mostly from the platforms and by the use of duck models and playback. Due to intensive hunting, the number of wintering waterbirds gradually diminished from 10,000–15,000 in the 1980s and the beginning of 90s to only 2,000–7,500 individuals. A large geese roost (up to 5,000 ind.) was completely destroyed. Despite the difficulty, we resolutely tackled this problem.

Ukrepi & rezultati

Measures & results

Osem prodišč na projektnem območju je bilo v preteklosti še posebej na udaru zaradi motornih vozil, vozečih v naravnem okolju, in izkopavanja proda. Naštete aktivnosti so v strugi Drave protizakonite. Motornim vozilom smo preprečili dostop do petih prodišč (Rošnja, Starše, Krčevina pri Vurbergu, Hajdoše, Placerovci) z izkopanimi jarki, ki hkrati delujejo tudi kot manjše stranske struge ali vodna telesa in lokalno izboljšujejo biodiverziteteto. Dostop do treh prodišč (Dvorjane, Zumrova jama, Placerovci) smo preprečili s postavitvijo zapornic. Na vseh mestih smo postavili izobraževalne table z namenom pojasnitve pomena ukrepov.

Obseg motenj na prodiščih se je bistveno zmanjšal - v obdobju projekta so v povprečju vsako leto tukaj zaradi ukrepa uspešno gnezdili 4 pari malega deževnika in 1 par malega martinca.

Eight gravel bars in particular were seriously exposed to the illegal use of motor vehicles in the natural environment and to the illegal gravel extraction. We prevented access to five gravel bars (Rošnja, Starše, Krčevina pri Vurbergu, Hajdoše, Placerovci) by excavating ditches that simultaneously function as smaller side arms or water bodies, thus improving local biodiversity. Access to three gravel bars (Dvorjane, Zumrova jama, Placerovci) was prevented by a gate. At all locations, informative signs were erected to illustrate the importance of the measures.

The extent of human disturbance at gravel bars decreased significantly – during the project, 4 pairs of Little Ringed Plover and 1 pair of Common Sandpiper on average bred as a result of this action.

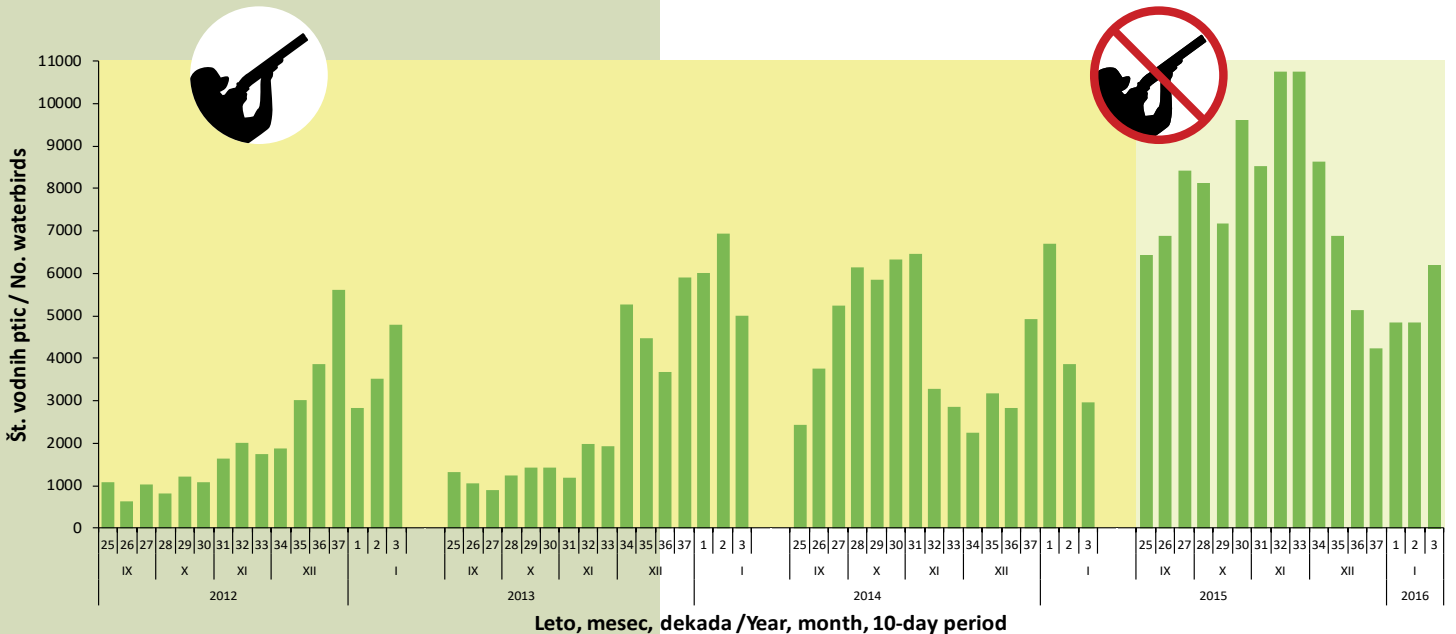


BIOM, a Croatian non-governmental organization and a BirdLife partner was engaged in implementing actions at Lake Ormož. They took care of the official procedures and managed to achieve the removal of all illegally built platforms in 2014. Additionally, they performed an extensive awareness raising campaign, in which 2,000 posters and 2,500 brochures were distributed in order to inform the wider public about the importance of the Drava River and abolition of illegal hunting.

After the abolition of illegal hunting at Lake Ormož, the populations of wintering waterbirds significantly improved. In the autumns and winters (Sep–Jan) of 2012/2013–2014/2015, only 2,300–4,300 waterbirds were recorded on the lake on average, whereas in the first season after the hunting abolition (2015/2016), this number rose to 7,300 waterbirds, with the highest numbers in November even exceeding 10,000 individuals.

Pri izvedbi aktivnosti na Ormoškem jezeru nam je pomagala hrvaška nevladna organizacija BIOM, ki je partner zveze BirdLife International. Na Hrvaškem so vodili uradne postopke in dosegli, da so bile vse lovske in ribiške preže na Ormoškem jezeru leta 2014 odstranjene, saj so bile črne gradnje. Dodatno so organizirali obširno ozaveščevalno in izobraževalno kampanjo, v kateri so razdelili 2000 posterjev in 2500 zloženek z namenom ozaveščanja javnosti o pomenu Drave in odpravi nezakonitega lova.

Po odpravi ilegalnega lova na Ormoškem jezeru se je stanje prezimujočih populacij bistveno izboljšalo. V treh jesensko-zimskih obdobjih (september–januar) v sezonah 2012/2013–2014/15 se je tu povprečno pojavljalo 2.300–4.300 vodnih ptic, v prvi sezoni po odpravi lova (2015/2016) pa 7.300 vodnih ptic, pri čemer so največja števila v novembru presegala 10.000 osebkov.



Pomemben ukrep na Ormoškem jezeru je bil tudi novembra 2014 zgrajeni gnezditveni otok za navadne čigre na hrvaškem delu jezera. Ta ukrep ni bil financiran s tem projektom, so pa aktivnosti v okviru projekta močno prispevale k njegovi uresničitvi.

Ekološke pasti za navadne čigre na Ormoškem jezeru so bile odstranjene in na novo zgrajenem otoku je v letih 2015–2017 v povprečju gnezdilo 63 parov navadnih čiger.

In November 2014, a breeding island was created for the Common Tern in the Croatian part of Lake Ormož, thus critically contributing to the realization of the project goals, even though the action was not financed by the project.

Ecological traps for the Common Tern at Lake Ormož were removed and an average of 63 pairs bred annually on the newly constructed island in 2015–2017.



“Po odpravi ilegalnega lova na Ormoškem jezeru se je stanje prezimujočih populacij bistveno izboljšalo.”

“After the abolition of illegal hunting at Lake Ormož, the populations of overwintering waterbirds significantly improved.”



Grožnja: Vodnovzdrževalna dela, ki zmanjšujejo biodiverzitetu

Threat: Water-engineering works unfriendly to biodiversity

4

For decades, the natural course of the Drava River has been modified in different ways, e.g. by removing or lowering of gravel bars and the construction of lateral embankments. The result of these interventions is the current riverbed, which is mostly channelled and uniform. These so-called "maintenance" water-engineering practices still take place regularly and are based on the assumption of securing unobstructed water flow and flood safety. Taking biodiversity into consideration has not been part of the practice, even though the Drava is part of the Natura 2000 network, water engineering works undoubtedly affect its qualifying habitats and species. It was our goal to establish a dialogue with water engineering specialists and to ensure that both aspects are considered in the future, i.e. flood safety and nature conservation.

Desetletja so strugo Drave regulirali, odstranjevali in zniževali prodišča ter utrjevali bregove. Takšna t.i. vodnovzdrževalna dela še vedno potekajo in so večinoma utemeljena samo z zagotavljanjem pretočnosti in poplavne varnosti. Ker pri načrtovanju vodnovzdrževalnih del upoštevanje naravne dediščine ni praksa, čeprav gre za območje Natura 2000, dela neposredno posegajo v habitate kvalifikacijskih vrst in vplivajo nanje. Naš izziv je bil vzpostaviti sodelovanje z vodarsko stroko in izvajalci del ter doseči, da bosta v prihodnje pri načrtovanju ukrepov upoštevana oba vidika, poplavna varnost in varstvo narave.

Ukrepi & rezultati

Measures & results

The project partnership itself as well as support from competent authorities was promising for the emergence of a new paradigm in future water management. We focused on the Drava River, for which harmonized nature conservation guidelines has been prepared as a result of a series of workshops, which were attended by experts from different areas of expertise. This is the so-called »detailed management plan« that defines all possible measures in the riverbed while taking into consideration both flood safety and nature conservation. It is the first such document to be prepared for any river in Slovenia and has been acknowledged by the Ministry of the Environment and Spatial Planning as the best practice example for other rivers. During the project, the decree on the water management plan in the Danube and Adriatic river basin districts (NUV II) was adopted, which included our conservation guidelines as an obligatory basis for the Drava River.

Že samo projektno partnerstvo – nevladna organizacija DOPPS, VGB, VGP Drava ter podpora projekta s strani ARSO, danes DRSV, je bilo obetajoče za nastanek nove paradigme pri prihodnjem upravljanju z vodami. Osredotočili smo se na Dravo in v večletnem procesu delavnic pripravili medsektorsko usklajene naravovarstvene smernice za Dravo. Gre za t.i. podrobni načrt upravljanja s strugo Drave, ki natančno definira vse možne ukrepe v strugi in upošteva vidik poplavne varnosti in varstva narave. Takšen dokument je bil izdelan prvič za katerokoli reko v Sloveniji in je bil s strani MOP-a priznan kot primer dobre prakse za vse druge reke. V času trajanja projekta je bil sprejet Načrt upravljanja z vodami za RS (NUV II) in te naravovarstvene smernice so bile vključene kot obvezno izhodišče za Dravo.

Uredba o NUV II je dostopna na:

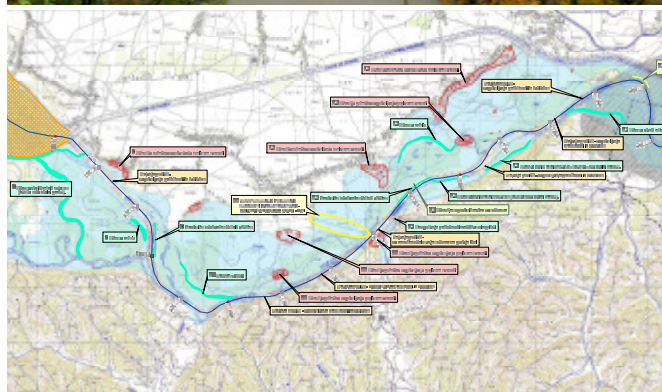
The Decree on NUV II can be accessed at:

<http://www.pisrs.si/Pis.web/pregledPredpisa?id=URED6964>

Naravovarstvene smernice, kjer je kot obvezno izhodišče pri Dravi navedena t.i. Priloga 1 iz Akcije A6 projekta LIVEDRAVA, so dostopne na:

The nature conservation guidelines in which Appendix 1 of Action A6 of project LIVEDRAVA is cited as obligatory, can be accessed at:

http://www.mop.gov.si/fileadmin/mop.gov.si/pageuploads/podrocja/voda/nuv_II/Naravovarstvene_usmeritve_VO_Donava.pdf



5 Grožnja: Slabo zavedanje in znanje o pomenu narave reke Drave

Threat: Low public knowledge and awareness about the importance of nature along the Drava River

Znanje in zavedanje o naravnih vrednotah reke Drave, ki zbuja pozornost tako v Sloveniji kot tudi mednarodno (Natura 2000), je v javnosti slabo. Še huje, ponekod naravovarstvena prizadevanja javnost še vedno nekritično dojema kot oviro razvoju. Vse pogosteje pa se v zadnjem času pojavljajo pobude in celo ponudbe za različne rekreacijske aktivnosti ob reki, kar je pozitivno, vendar je njihovo izvajanje brez ustreznega znanja in poznavanja pravil varstva narave lahko naravi škodljivo. Zato smo v projektu veliko truda posvetili izobraževanju in vzpostavljanju infrastrukture v izobraževalne namene.

Public knowledge about the biodiversity of the Drava River, its national and international importance (Natura 2000) is fairly low. Worse yet, in local communities, nature conservation actions are still often viewed as an obstacle to development. An increasing number of initiatives and offers for different recreational activities along the river have occurred recently, which can be considered as progress, but only when performed with suitable knowledge on nature conservation. Therefore, we invested much effort into education and educational infrastructure.

Ukrepi & rezultati Measures & results

V projektu smo podprli pobudo za ustanovitev Krajinskega parka Središče ob Dravi. V ta namen smo skupaj z Občino organizirali več javnih predstavitev primerov dobrih praks z drugih območij in priložnosti, ki jih ta naravovarstveni status prinaša. Pri tem nam je pomagala tudi vključitev tega območja med pilotne primere v EU projektu Pegasus (Horizon 2020, www.pegasus.ieep.eu), saj so strokovnjaki Biotehniške fakultete v Ljubljani konkretno podkrepili razvojne priložnosti Krajinskega parka.

Within the scope of the project we supported the initiative for the establishment of the Središče ob Dravi Nature Park. Several public presentations of best practice examples from other protected areas were prepared together with the Municipality. We were aided by the inclusion of this part of the project area into study areas of the EU Pegasus project (Horizon 2020, www.pegasus.ieep.eu), where experts from the Biotechnical Faculty in Ljubljana substantiated the development possibilities of the Nature Park.



More than 45 public presentations about the Drava River, excursions and exhibitions were carried out in the project area, with 7,000 people attending. Furthermore, we performed over 40 presentations and field trips for pupils and students, attended by over 1,800 youth. We organized two youth research camps in summer 2013 and winter 2015, attended by 38 pupils. A brochure on the Drava's biodiversity and project contents was published (60,000 copies) and sent to all households in the project area. We filmed a documentary that has so far been broadcast six times on national TV and viewed by 136,057 people. Furthermore, we filmed a series of video clips that can be viewed at the project website (www.livedrava.ptice.si) and YouTube channel. More than 250 project news were published on the webpage that was visited 28,000 times by 6,000 different people. The project has been presented at numerous info booths and events.

Na območju smo organizirali več kot 45 javnih predavanj o Dravi, ekskurzij in postavitvev razstave s skupno udeležbo čez 7.000 ljudi. Dodatno smo imeli več kot 40 predavanj in terenskih ekskurzij za učence, dijake in študente, ki se jih je udeležilo čez 1.800 mladih. Organizirali smo dva mladinska raziskovalna tabora, poleti 2013 in pozimi 2015, udeležilo se ju je skupaj 38 otrok. O naravni dediščini Drave in projektu smo izdali brošuro v nakladi 60.000 izvodov in jo poslali vsem gospodinjstvom vzdolž projektnega območja. Posneli smo dokumentarni film, ki je bil doslej šestkrat predvajan na programih nacionalne televizije in si ga je ogledalo 136.057 ljudi. Poleg tega smo posneli serijo kratkih videospotov, dostopnih na spletni strani projekta (www.livedrava.ptice.si) in YouTube-u, ki so pogosto ogledani. Objavili smo čez 250 projektnih novic in zabeležili več kot 28.000 ogledov spletne strani projekta 6.000 različnih obiskovalcev. Projekt smo predstavljali na številnih stojnicah in dogodkih.



The project and the Drava itself were extensively covered by the media. The project activities were presented in 248 media outlets (145 in newspapers, 49 on the radio, 7 on TV and 47 on the internet). Based on their reach, we estimate that the project details were made available to 1.8 million people in Slovenia, which is more than 85% of the national population.

The promotional activities were assisted by foreign experts from eight LIFE project exchanges.

Veliko so o projektu in Dravi poročali mediji. Skupaj je bilo o dogajanju na projektu objavljenih 248 prispevkov (145 v časopisih, 49 na radiu, 7 po TV in 47 na spletu). Glede na doseg teh medijev ocenjujemo, da so bile informacije o projektu dosegljive 1,8 milijona ljudem v Sloveniji, kar je več kot 85 % prebivalstva.

Pri promociji so nam pomagali tudi tuji strokovnjaki v okviru osmih projektnih LIFE-izmenjav.

Na Ptujskem jezeru, ki je obiskana turistična točka, smo izboljšali infrastrukturo za opazovanje ptic. Postavili smo ornitološko opazovalnico in štiri izobraževalne table okoli jezera. Opazovalnico je 14. 10. 2016 odprla za javnost ministrica za okolje in prostor.



At Ptuj Lake, a popular tourist point, we set up bird-watching infrastructure. An ornithological tower and four educational tables were erected around the lake. The tower was opened for visitors by the Minister of the Environment and Spatial Planning on October 14, 2016.

“Območje Naravnega rezervata Ormoške lagune smo primerno opremili za obisk javnosti – postavili smo štiri opazovališča, ki smo jih izdelali iz ladijskih zabojnikov.”

“Ormož Basins NR was suitably equipped for public visits – four bird viewing platforms made of ship containers were set up.”

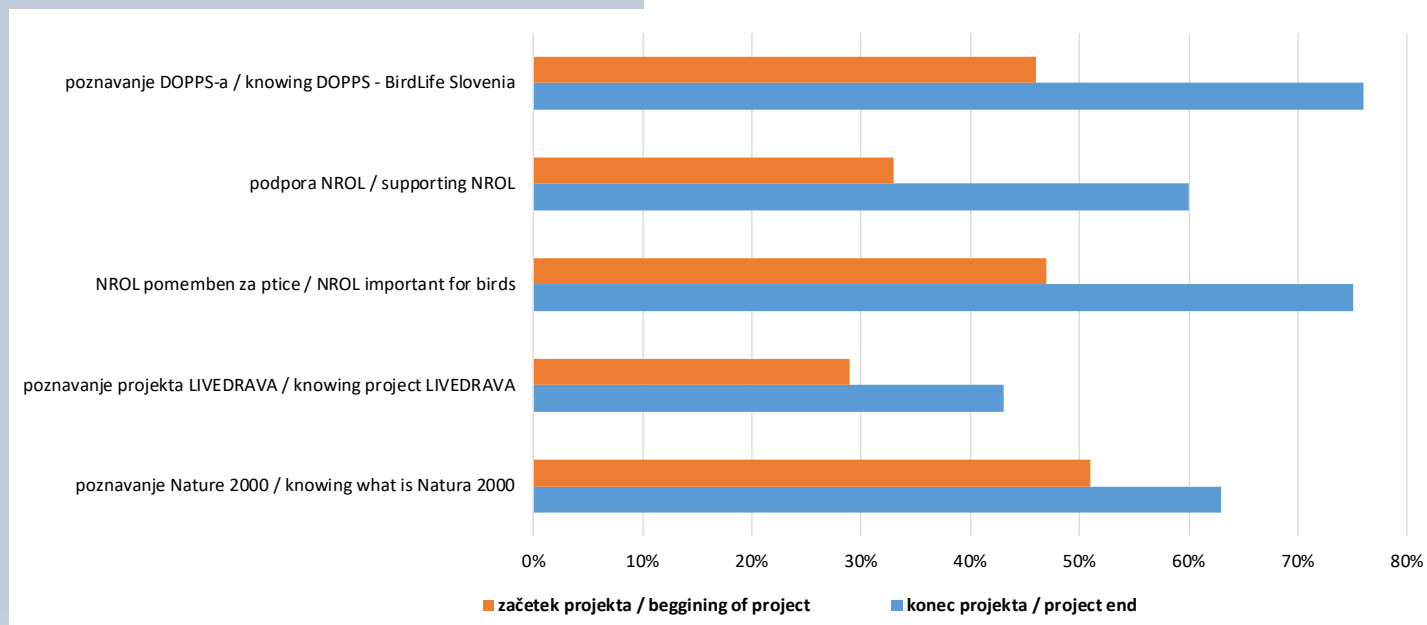
Območje Naravnega rezervata Ormoške lagune smo primerno opremili za obisk javnosti – postavili smo štiri opazovališča, ki smo jih izdelali iz ladijskih zabojnikov. Uredili smo 1,5 km dolgo učno pot, postavili 14 večjih in 17 manjših izobraževalnih tabel, makete ptic in hroščev ter uredili interpretacijski center – t.i. vrt rezervata za demonstracijo naravovarstvenih praks za vsak dom. Nekdanjo strojnico čistilne naprave smo preuredili v projektno pisarno z manjšo predavalnico. Za slepe in slabovidne smo izdelali tipni model Ormoških lagun. Izdali smo vodnik po rezervatu v slovenskem, angleškem in nemškem jeziku.

Ormož Basins NR was suitably equipped for public visits – four bird viewing platforms made of ship containers were set up. We established a 1.5 km educational trail, set up 14 larger and 17 smaller educational tables as well as models of birds and beetles, as well as arranged an interpretation centre, the so-called »Reserve Garden«, to demonstrate conservation practices for every home. The former engine room of the waste water treatment plant was transformed into a project office and a small lecture room. A tactile model of Ormož Basins NR was created for the blind and visually-impaired. We published a guide in Slovenian, English and German.



A socio-economic study made at the beginning and at the end of the project proved that the project significantly improved the public's knowledge of the Natura 2000 network, LIVEDRAVA project, Ormož basins as an area important for birds and DOPPS, as well as support to the Ormož Basins Nature Reserve (NROL).

Socio-ekonomska študija na začetku in koncu projekta je pokazala, da se je med projektom pomembno povečalo poznavanje omrežja Natura 2000, projekta LIVEDRAVA, Ormoških lagun kot območja pomembnega za ptice in DOPPS-a, povečala pa se je tudi podpora Naravnemu rezervatu Ormoške lagune (NROL).



LIFE Narava in biotska raznovrstnost

LIFE Nature and Biodiversity



The LIFE programme is the EU's funding instrument for the environment and climate action. The general objective of LIFE is to contribute to the implementation, updating and development of EU environmental and climate policy and legislation by co-financing projects with European added value. LIFE Nature and Biodiversity provides targeted funding for species conservation actions, supporting projects aimed at conserving threatened species listed in the annexes of the EU Habitats Directive, Birds Directive and the IUCN European Red List. More than 400 listed species - everything from large mammals to molluscs - have been targeted at least once by a LIFE project.

LIFE je finančni instrument EU za okolje in podnebne ukrepe. Njegov glavni cilj je s pomočjo sofinanciranja projektov z evropsko dodano vrednostjo prispevati k izvedbi, posodobitvi in razvoju okoljske in podnebne politike EU ter zakonodaje. LIFE Narava in biotska raznovrstnost zagotavlja usmerjeno financiranje ukrepov za ohranjanje vrst v okviru projektov, ki so namenjeni ohranjanju ogroženih vrst iz prilog Direktive o habitatih, Direktive o pticah in Rdečega seznama IUCN. Več kot 400 vrst, od velikih sesalcev do mehkužcev, je že bilo predmet vsaj enega projekta v okviru programa LIFE.

Natura 2000

Natura 2000



Natura 2000 is an European network of special protection areas designated by the EU member states. The main objective of the network is to conserve valuable biodiversity for future generations. Areas of nature are protected with the aim to ensure conservation of plant and animal species and habitats which are rare or endangered at the European level. The EU has established Natura 2000 as a vital part of the implementation of the Habitats Directive and Birds Directive. Upon accession to the EU, Slovenia prepared a list of areas complying with the requirements of both Directives.

Natura 2000 je evropsko omrežje posebnih varstvenih območij, ki so jih določile države članice Evropske unije. Njen glavni cilj je ohraniti biotsko raznovrstnost za prihodnje rodove. Na varstvenih območjih želimo ohraniti živalske in rastlinske vrste ter habitate, ki so redki ali pa so v Evropi že ogroženi. Evropska unija je omrežje Natura 2000 uvedla kot enega od pomembnih delov izvajanja Direktive o habitatih in Direktive o pticah. Slovenija je ob pridružitvi Evropski uniji določila, kasneje pa dopolnila seznam naravnih območij, ki ustrezajo merilom obeh direktiv.



