Pilot action fact sheet

ReCo Pilot Region 3

Škocjanski zatok (SI)

9. April 2025

PILOT ACTION – FACT SHEET

Pilot action factsheet for ReCo Pilot Region 3 Škocjanski zatok **D.2.2.2 Habitats - Lowlands** (partial) **O.2.1 Joint Pilot action 1 "Habitats" implemented in 4 ReCo pilot regions** (partial)	
Location, country	Škocjanski zatok Nature Reserve, Slovenia (45°32'29" N, 13°44'35" E)
Pilot action (PA) title (as indicated in AF + related deliverable number (no.))	D.2.2.2 Implementation Joint Pilot Action 1.1 "Habitats - Lowlands" in 2 pilot regions (IT,SI)
Project Partner (name, no.)	DOPPS - BirdLife Slovenia, PP3 (later in text: DOPPS)
PA aim	• to devise and implement measures to mitigate the adverse effects of climate change on the safeguarded Natura 2000 habitats and bird species inhabiting the brackish lagoon of the Škocjanski zatok Nature Reserve.
PA concept/summary including technical description	The PA concept focuses on addressing the increasing vulnerability of the Škocjanski zatok area, as studies indicate a significant risk to Natura 2000 habitats. Without intervention, these habitats may shrink or disappear by 2060, severely impacting the fauna that depend on them. Changes in the composition and abundance of shorebird species highlight the urgency of the situation. To counter these effects, the project aims to create sufficient space for key halophytic habitats. This will be achieved through the artificial construction of new mudflats or the elevation of existing ones, ensuring also the long-term stability of the ecosystem. The basis for implementing the PA was recent research on sea level rise due to climate change, which poses a risk of inundating many low-lying coastal and intertidal areas. This was further supported by an adaptation plan (prepared in 2021) for the Natura 2000 area of Škocjanski zatok NR, developed within the framework of the ECOSMART project (Interreg Italia-Slovenija). The adaptation plan outlined the challenges and proposed solutions, which led the Slovenian Ministry of the Environment, Climate and Energy to allocate part of the funds from the State Climate Change Fund 2022–2023 to address the identified issues. The restoration activities of the PA will be integrated into the new 10-year management plan of the Škocjanski zatok NR covering the period from 2025 to 2034. These activities will be seamlessly integrated with other management tasks, collectively supporting the long-term sustainability of this important protected area. This strategic alignment ensures that the PA restoration efforts are not isolated but

	synergistically woven into the broader framework of ongoing and future conservation initiatives. By embedding PA within the comprehensive management plan, the nature reserve aims to optimize the impact of restoration endeavours, fostering a holistic and sustained approach towards the preservation and enhancement of the Škocjanski zatok ecosystem. The management plan for the 2025-2034 period is approved by the Government of the Republic of Slovenia, meaning that any future maintenance costs, including those for the upkeep of purchased equipment, will be covered by state funds." In the aftermath of the project's completion, ownership of the two newly established mudflats will remain with the Republic of Slovenia, while management responsibilities will persist under the purview of DOPPS (according to the management contract of the reserve, No. 252100-50-85/00, signed between the Government of the Republic of Slovenia and DOPPS).
PA timing (start and end date)	March 2023 – February 2025
Expected solution derived from PA	The creation of two mudflats, covering an area of 420 m^2 in the brackish lagoon of the Škocjanski zatok NR, will contribute to the: • preservation and enhancement of protected N2000 habitat types in this area as follows: mudflats and sandflats not covered by sea water at low tide - N2000 code 1140, Salicornia and other annual plants colonizing mud and sand - N2000 code 1310, mediterranean salt meadows (*Juncetalia maritimi*) - N2000 code 1410 and mediterranean and thermo-Atlantic halophilus scrub (*Sarcocornetea fruticosi*) – N2000 code 1420 • increase in the breeding populations of N2000 bird species: Kentish plover, Little tern, Common tern and Common redshank • better water circulation in the brackish lagoon and lower risk of eutrophication and consequently, the reduction of flood risk in nearby areas Preparation and implementation of the PA could serve as a good example for similar areas in Europe facing the same challenges, highlighting the method of implementation, sustainable approach, connection between different projects, and long-term monitoring to measure success (practical, targeted, and cost-effective adaptation measures, without disrupting natural processes). The concrete experiences gained from the PA will be incorporated into the preparation of a new LIFE SNAP project in 2025 (DOPPS will be one of the partners in this project), which plans the construction of new mudflats and also elevating the existing ones in the brackish part of the Škocjanski zatok. The implementation and results of the PA has been integrated into the Škocjanski zatok educational program, enhancing the public's understanding of nature conservation and how to properly address environmental challenges and take effective action when needed.

Preparatory work done so far	The construction of two mudflats, covering an area of 420 m^2 in the brackish lagoon of the Škocjanski zatok NR started on March 16, 2023 and was finished till March 24, 2023. To assess the success of the PA implementation, monitoring of nesting birds and habitat mapping need to be carried and both are currently underway. **Monitoring of nesting birds - territory mapping counts:** the monitoring protocol is based on internationally validated survey method (Bibby et. al., 2000 and Gregory et. al., 2004) and has been adapted to Slovenian conditions using our own field experience. Through this monitoring, we collect data on the abundance, distribution, and population trends of bird species. Based on the results, we can propose and implement appropriate conservation measures and advocate for action by the relevant authorities. We have been using the same monitoring protocol since 2007 and it will continue to be used in the future. Monitoring is carried out during the nesting season (from May to June) and focuses exclusively on nesting birds for which there is a confirmed or probable presence of nesting activity at the time of the survey. The newly created mudflast in ReCo project were thoroughly examined and all birds counted and precisely plotted on a map (orthophoto image). In 2024 we performed two monitorings surveys: once in May and once in June. The same schedule will be followed in 2025 and the monitoring will continue in future years as part of the Škocjanski zatok NR management plan. **Habitat mapping:** an external contractor (a qualified professional organization selected through a public call) was chosen to carry out habitat mapping. Two fieldwork days were already conducted in 2024: one in September and one in October, along with one multi-spectral and photogrammetric surface scan. The same activities will be carried out in 2025. Habitat types were mapped according to the standard typology of Habitat Types of Slovenia (HTS 2004 and its updated versions). As part of the habitat mapping , a final report will also be prepared (in December 2025) which will include a proposal for future implementation and monitoring of habitats on the mudflast in the brackish lagoon.
Permits required for the investment (contract, availability etc.)	The Škocjanski zatok Nature Reserve is owned by the Republic of Slovenia and all permits and documents regarding the implementation of PA were coordinated with the relevant ministry, responsible for the reserve. Legal basis for managing the nature reserve and thereby implementing the PA: In 1999, the Government of the Republic of Slovenia granted a concession for the management of the Škocjanski zatok NR to DOPPS, based on Decision No. 636-06/99-4 and on June 5, 2000, the management contract for the reserve, No. 252100-50-85/00, was signed between the Government of the Republic of Slovenia and DOPPS. In 2009, the contract was extended for the following 10 years, and again in 2019 for another 10 years. A key priority for DOPPS in 2029 will be working with the relevant ministry to extend the concession for

	an additional 10 years. In the aftermath of the project's completion, the ownership of the two newly established mudflats will be retained by the Republic of Slovenia, while the management responsibilities will persist under the purview of DOPPS. During the implementation of the PA (as well as other project activities) regular updates were provided to the Škocjanski zatok NR board, which oversees the management of the reserve. The board includes one representative of the responsible ministry, two from the local municipality, two from the Slovenian Water Agency, and one from the Slovenian Institute for Nature Conservation. The initial step before implementing PA involved obtaining nature conservation consent, a fundamental requirement for any activity within a protected area. This was followed by acquiring all necessary technical and legal documents, which were prepared and funded by the Slovenian Climate Change Fund within the Ministry of the Environment, Climate, and Energy: • project documentation for execution of works, No. 45/2022, October 2022 • tender documentation for the public procurement works contract through a competitive procedure with negotiations in accordance with point B. of the first paragraph of Article 44 of ZJN 3 with code IZ02/2022-12-Slovenian regulation, (18 November 2022) • execution of the public procurement with all related documents and the final report, December 2022 • signing of the contract with the selected company: DRAVA vodnogospodarsko podjetje Ptuj d.o.o., contract No: IZ02/2022-16, date: 6 December 2022 Timeline for the implementation of the PA: • on 3 March 2023, an inquiry was sent to the company DRAVA vodnogospodarsko podjetje Ptuj d.o.o. for the execution of work, predicted in ReCo project; • on 7 March 2023 the offer from the company DRAVA Ptuj d.o.o was received; • on 9 March 2023, an Annex 2 to the basic contract No. IZ02/2022-16 was signed with for the execution of the works; • works started on 16 March 2023 and finished till 24 March 2023.
PA/Investment progress update (what has been achieved so far/every 6 months, status of implementation and progress)	• The PA included the creation of two new mudflats in the central part of the brackish lagoon, covering a total of 420 m^2, which required 710 m^3 of lagoon sediment. This activity is designed to encourage the growth of halophytes, thereby enhancing N2000 habitats and supporting the nesting of target N2000 birds within the lagoon of Škocjanski zatok NR. • Material for constructing and shaping the mudflats was obtained by deepening the interconnected secondary channels within the lagoon. New mudflats were created at different micro-elevations to encourage the natural development of specific halophytic habitat types, with consideration of the succession process.

	• The lagoon sediment was excavated using a floating excavator equipped with a grabber and a high-pressure pump to transport sediment from the lagoon floor. This process was supported by an additional floating excavator with an extended arm to hold the sediment transport pipe in place, ensuring accurate placement for the creation of new mudflats. • Technology used: the material composition for mudflats consisted of 80% sediment and 20% water. The low water content in the sediment minimizes surface erosion issues, while the denser consistency of the sediment makes it more suitable for forming new muddy areas. • Dredging sediment from the lagoon's secondary channels also improved water circulation and reduced the isolation of peripheral habitats. Over time, this will help lower the risk of lagoon eutrophication and enhance ecological conditions for nesting birds and the spread of halophytes across the entire lagoon area. • Monitoring of nesting birds: 1x in May and 1x in June 2024 (all together: Common tern - 49 nests, Little tern – 29 nests, Kentish plovers – 1 nest) • Habitat mapping: 1x in September and 1x in October 2024 (the condition of the mapped habitats is in line with expectations for natural succession. The vegetation closely follows the elevation gradient, and a characteristic zonation has been established, similar to that found in other comparable wetlands in the Mediterranean).
Stakeholders involved	A long-term cooperation with the key stakeholders of the Škocjanski zatok NR was established within the IMPRECO project (Interreg Adrion programme), formalized by a mutual cooperation agreement signed in 2021, and we have continued this collaboration in the ReCo project. The three main stakeholders are: • Municipality of Koper • Port of Koper • Slovenian Water Agency The Municipality of Koper, as the local authority, is responsible for issuing specific permits. The Port of Koper, which borders the Škocjanski zatok NR, plays a crucial role in the lagoon's activities, as these depend on the seawater inflow through the sea channel running through the Port area. The Slovenian Water Agency has been instrumental in the preparatory activities of the PA, especially in reviewing the documentation. They are also responsible for assessing and approving the suitability of planned hydrological-hydraulic works or any interventions affecting water and coastal land. In addition to the 3 main stakeholders, we also engaged other groups, primarily individuals such as local farmers, photographers, regular daily visitors, retirees, ornithologists, and tourists.

	The stakeholders were involved through workshops. The workshops were organized in a way that allowed participants to express their opinions and make suggestions on the PA. Open communication was encouraged, enabling stakeholders to actively participate in the ongoing dialogue. The involvement of stakeholders is crucial for the successful implementation of the activity, and it is specifically important to highlight the significance of the PA for the local community and how it will improve their well-being.
Citizen science approach (if applicable)	After completing the construction of two mudflats, we dedicated part of the activities to raising awareness and engaging in the citizen science approach. Visitors can participate in bird observation, where we taught them to recognize some of the easiest-to-identify species. They also contribute with documenting any changes in the environment, which helps increase community involvement and provides a better understanding of the impacts on the natural surroundings.
Joint cooperation dimension (in partnership)	As a project partner, we are active members of the "Habitat" Pilot Team and have actively participated in the preparation of a common methodology for the implementation and evaluation of the PA. Everything regarding the implementation of the PA was discussed among partners, which means the work was done better, as it incorporates different knowledge and perspectives. The prepared joint documents will serve as an excellent guide for other areas and can act as a source of information and examples of best practices. Using common standards for documentation and reporting makes comparing different actions much easier to assess. In August (5th and 6th), 2024, a peer review was held at the Škocjanski zatok NR, aimed at reviewing the implementation of the PA and exchanging experiences and suggestions for potential improvements among project partners, and later with stakeholders. The meeting emphasized that the success of the PA is the result of extremely thorough preparation and close collaboration with stakeholders and the public, which has significantly contributed to the high level of acceptance of the implemented activities. An important factor in the success is also the fact that the reserve area is freely accessible to the public, which further strengthens support for the project and its visibility. The meeting took place in a constructive and collaborative atmosphere, with a focus on future activities for the conservation of biodiversity in the Škocjanski zatok.
Personnel involved	Bojana Lipej (project manager and education coordinator at Škocjanski zatok NR/DOPPS) Borut Mozetič (site manager of the Škocjanski zatok NR and expert for ornithology/DOPPS) Tina Kocjančič (technical support and administration/DOPPS) Bia Rakar (working with media and ensuring the visibility of PA/DOPPS)

Related investment description (incl. no, name)	Implementation Joint Pilot Action 1.1 "Habitats -Lowlands" in 2 pilot regions (IT,SI) Enhancing biodiversity by e.g. restoration of CO2-binding and species-rich wetlands and an ecologicallyvaluable Karst habitat (incl NATURA2000 habitats) in 2pilot regions in IT & SI (Koper) by PP13 & PP3 withfocus on community-based approaches & climate change adaptation (D.2.2.2). PA "*Deepening of secondary channels and arrangement of habitats in the brackish lagoon of Škocjanski zatok Nature Reserve*" – finished, costs **16.829,29 EUR** claimed in project reporting 1 (PR1) – already certified. The remaining unused amount from the anticipated project budget is 170.71 EUR (1%), due to the final, precise calculation of the works, which could not have been anticipated during the project preparation.
Investment budget spent per item (only CC5 equipment)	Low-draft aluminium boat with electric motor and essential boat equipment – costs **8.000,00 EUR** claimed in project reporting 3 (PR3) – already certified The boat is to be used for monitoring birds and habitat mapping in the brackish part of the reserve.