

Protecting nest sites of European Pond Turtle (*Emys orbicularis*) in Ljubljana Moor in 2022 and 2023

Katja Konc (1,2), Ana Skledar (2), Blaž Kekec (2), Meta Valenčič (2)

1 Biotechnical faculty, University of Ljubljana, Ljubljana, Slovenia

2 Herpetological Society – *Societas herpetologica slovenica*, Ljubljana, Slovenia



BF

UNIVERSITY OF LJUBLJANA
Biotechnical Faculty

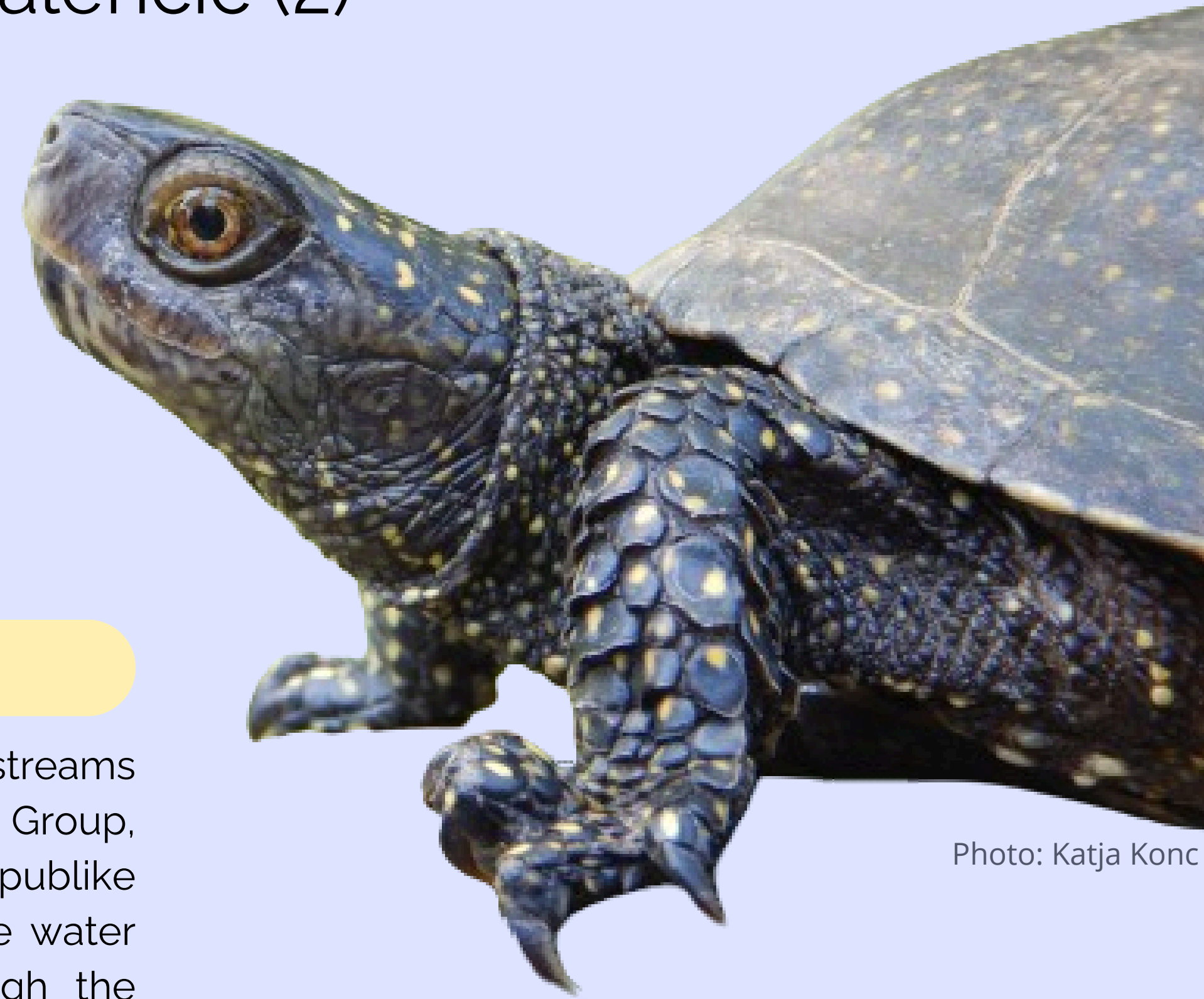


Photo: Katja Konc

Introduction

The European Pond Turtle (*Emys orbicularis* Linnaeus, 1785) inhabits marshes, ponds, and slow-flowing streams with abundant vegetation. Listed as Near Threatened (NT) by IUCN (Tortoise & Freshwater Turtle Specialist Group, 1996), its population in Europe is declining. In Slovenia, it is classified as endangered (EN) (Uradni list Republike Slovenije, 2002). A well-known population resides in the northern Ljubljana Moor, primarily in man-made water canals amid agricultural land. Agricultural intensification threatens this population, particularly through the destruction of nests and loss of habitat. Since 2015, Slovenian Herpetological Society has been monitoring gravid females and safeguarding nest sites to protect this species.



Photo: Anja Pekolj

Methods

- We captured turtles by hand and using turtle traps.
- In 2022, we equipped five gravid females with VHF radiotelemetry transmitters, and in 2023, we equipped four.
- We tracked the turtles every evening in May and June using a SIKA receiver (Biotrack) and Yagi antenna.
- Upon locating nesting turtles, we protected their nests the following morning using a metal net.
- We conducted numerous educational workshops for children throughout both projects.

Results

In 2022, we discovered and protected five nest sites from four different females. Four nests were located in wheat or cornfields and one in intensive grassland. During our September checks, we found newly hatched turtles at one nest site. The 2023 project faced challenges with transmitters, weather conditions, and nutria interference, resulting in the destruction of 12 out of 18 traps. We successfully captured only four gravid females suitable for the new transmitters. Evening storms hampered fieldwork, and the turtles were inactive during bad weather. The summer of 2023 was marked by excessive rainfall and storms, causing widespread flooding across Slovenia including in Ljubljana Moor. Unfortunately, no nest sites were found. However, in 2023, we captured many turtles aged approximately 10-15 years, coinciding with the start of our efforts. While additional data is needed, this could indicate the success of our conservation initiatives.

Conclusions

1. **Successful nest protection in 2022:** We discovered and safeguarded five nest sites of four females, with hatchlings observed at one site.
2. **Challenges in 2023:** The project faced significant difficulties, including new heavier transmitters, nutria interference, and adverse weather conditions, resulting in no new nest sites being found and reduced turtle activity in general.
3. **Positive indicators:** The capture of many turtles aged 10-15 years suggests that our conservation efforts since 2015 may be yielding positive results, although further data is required to confirm this trend.
4. **Future work:** Continued monitoring, improved methodologies, and addressing the challenges faced will be essential for the ongoing success of our conservation initiatives.



Photo: Ana Skledar

Acknowledgments

We would like to thank everyone who participated in these two projects. We would also like to thank the Municipality of Ljubljana for financial support.

Bibliography

Tortoise & Freshwater Turtle Specialist Group. 1996. *Emys orbicularis* (errata version published in 2016). The IUCN Red List of Threatened Species 1996: e.T7717A97292665. <https://dx.doi.org/10.2305/IUCN.UK.1996.RLTS.T7717A12844431.en>. [29 May 2024].
Skledar A., Kekec B. (2022). Final report on the project for the protection of European Pond Turtle nest sites in Ljubljana Moor 2022. Herpetological Society – *Societas herpetologica slovenica*, Ljubljana, 1-17.
Skledar A., Valenčič M. (2023). Final report on the project for the protection of European Pond Turtle nest sites in Ljubljana Moor 2023. Herpetological Society – *Societas herpetologica slovenica*, Ljubljana, 1-13.
Uradni list Republike Slovenije. (2002). Pravilnik o uvrstitvi ogroženih rastlinskih in živalskih vrst v rdeči seznam [Rules on the classification of endangered plant and animal species in the red list]. Uradni list Republike Slovenije 82/2002: 8893.