

Turtle Tally UK: 5 years citizen science investigating released pet terrapins

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Introduction

Released pet terrapins are a global issue affecting native species such as European pond turtles (*Emys orbicularis*). Due to escapes and releases by pet owners, they are commonly seen in waterbodies. *E. orbicularis* has not been present in the UK for between 6,000 – 9,000 years, removing this element from our research. The prohibition of *Trachemys scripta* spp. in 1997 and 2016 (EU Invasive Non-Native Alien Species Regulation (1143/2014)) states that listed species are banned from being exchanged, sold, or bred (2). This has been linked to the pet trade meeting customer demand with species such as map turtles (*Graptemys* spp.) and cooters (*Pseudemys* spp.) as an alternative. There were no official licenced sanctuaries to accommodate these animals until the National Centre for Reptile Welfare (NCRW) opened in 2018. It is suspected that pet releases are linked with multiple factors including the financial living crisis and difficulties housing these long-lived species (45 years+). Many grow from ~3cm (5g) to ~30cm SCL (2.5kg) over a period of 6-10 years after acquisition. These factors alone have resulted in relinquishments due to complex husbandry and housing needs. In 2018, Turtle Tally UK was initiated using citizen science to monitor distribution and numbers across the country, investigate impacts to their environment in an ever-changing climate.

Method

Public sightings of wild terrapins are submitted to the Turtle Tally UK website survey (www.turtletally.co.uk). Questions focus on locations (grid reference, what3words), time, date, number of individuals, species and behaviour. Contact data is collected for further queries where needed and permissions gained through participation agreement and GDPR followed accordingly. Removals occur with permissions and risk assessments dependent on the location.



Photo (Left) Lead researcher educating the public on released terrapins in Swanley Park, Kent. (Right) Common snapping turtle removed from a canal inlet in New Maldon, Essex.

Results

- Over 658 sightings (verified and unverified) submitted to the survey since 2019.
- Most sightings were of single terrapins, not groups (Fig. A).
- Seeds, plant matter and invertebrates found in faecal samples.
- Spring 2022, an adult female common snapping turtle (*Chelydra serpentina*), weighing 10kg was removed from a canal inlet. Observed living there for 6 years, once removed, produced a faecal sample (within 24 hours) containing a bird leg bone (unknown if dead or alive when ingested) (Photo bottom left).
- 2 clutches of eggs found laid by *Trachemys scripta* spp. (Crystal Palace Park and Osterley Park).
- No reports of aggressive behaviour between waterfowl and terrapins or eating eggs when eggs were present on bird nests.
- One report of behaviour changes in nesting Grebes due to terrapins basking on nests.
- Between late 2018 and Summer 2023, 2148 terrapins relinquished at the NCRW (captive and released) for rehoming.
- Public perception survey showed individuals understand the complex needs and space needed to keep as pets and chose not to keep due to this. Others showed that they would rehome if they had the correct circumstances.

Fig. A. Terrapin numbers per observation (verified) 2019-2022

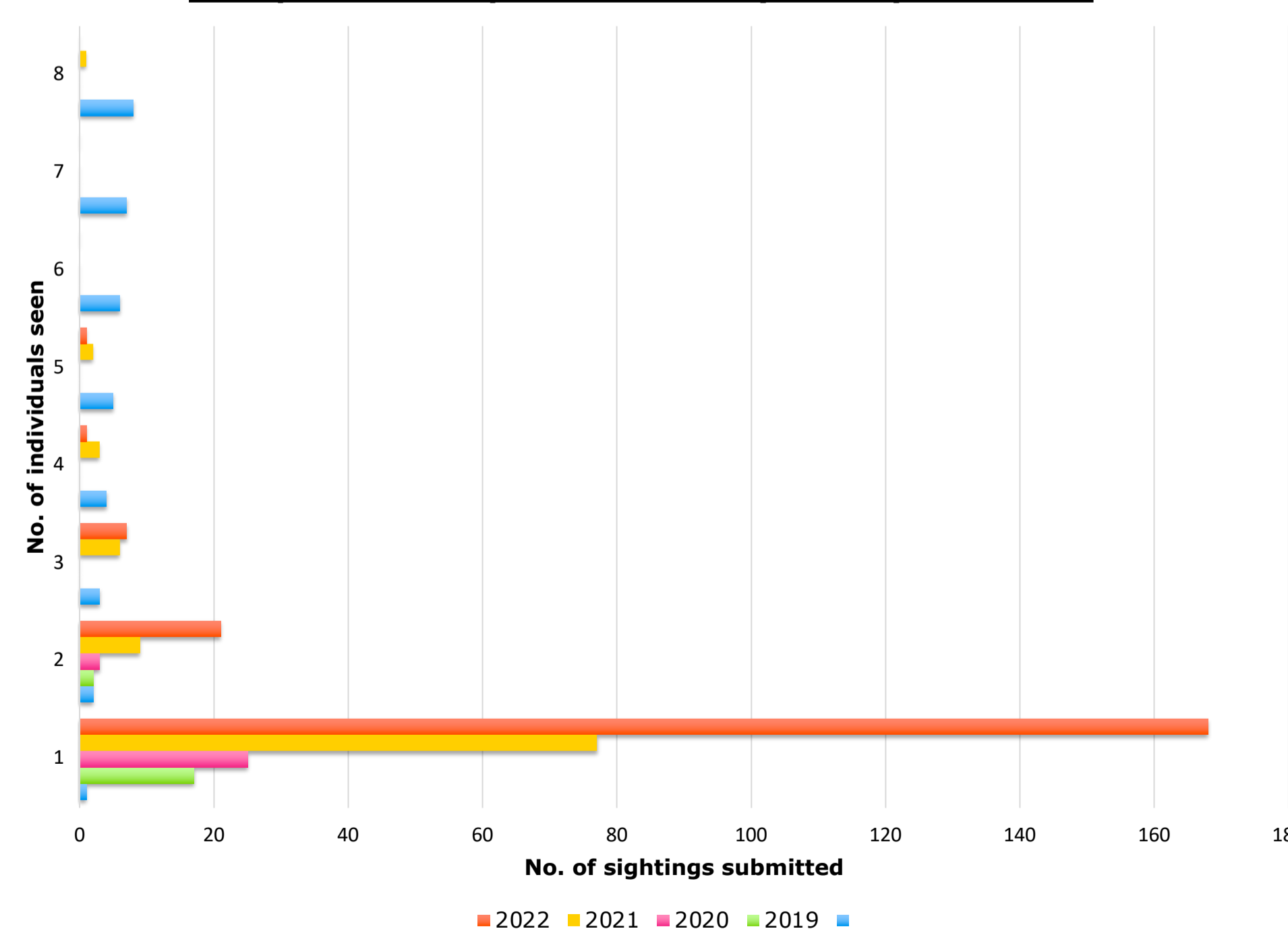
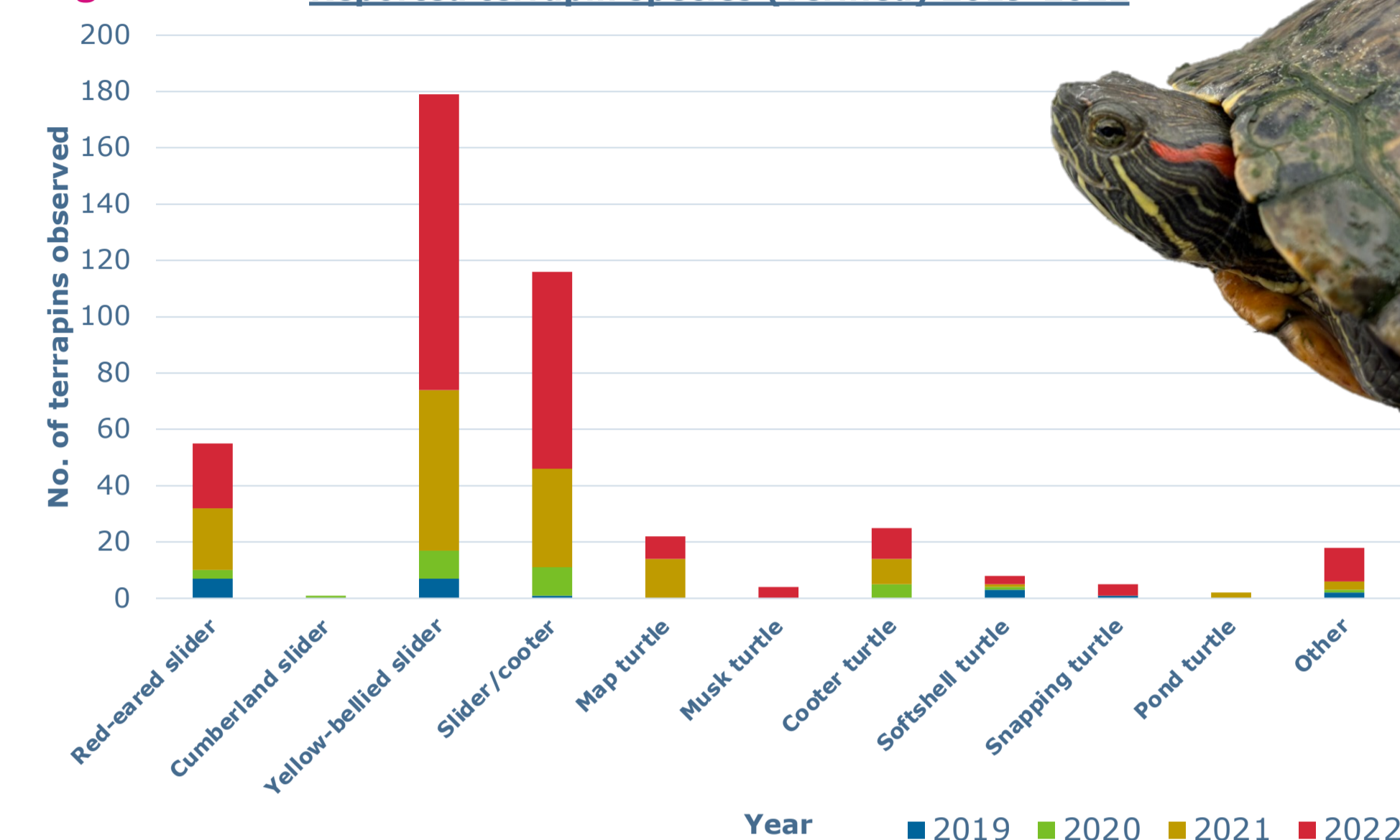


Fig. B. Reported terrapin species (verified) 2019-2022



Conclusions

Survey results show that the primary species seen in UK waterbodies are *Trachemys scripta* spp (Fig. B.). Although other species are seen, the more concerning individuals are carnivorous *C. serpentina* and *Pelodiscus sinensis* (Chinese softshell turtles). Although, these are fewer in numbers, we would still recommend removal. Musk turtles (*Sternotherus odoratus*) are present but due to cryptic nature, it is unknown the numbers existing in lakes and ponds. Most individuals seen are visibly in good health. Although, some pet terrapins kept in tanks with shallow water, have not developed skills or muscle mass to swim to the surface if released in deep bodies of water. The potential for initial release mortality ie. drowning is a factor owners may not realise on releasing. Although individuals are producing potentially fertile eggs, we believe the current climate is sub-optimal for eggs to hatch successfully and due to this these animals are causing little impact in smaller numbers due to being primarily herbivorous species (3). Further prevention strategies and education of the public needs to be implemented to slow the release of individuals. Legislative changes allowing easier rehoming practices to be carried out regarding listed species and further support to licenced sanctuaries to cope with increasing relinquishments in the current economic climate.

References

1. GB non-native species secretariat (2019). EU IAS Regulation. Available from: <http://www.nonnativespecies.org/index.cfm?sectionid=7> [Accessed 20.07.23].
2. Bouchard, S. S., & Bjorndal, K. A. (2005). Microbial Fermentation in Juvenile and Adult Pond Slider Turtles, *Trachemys scripta*. *Journal of Herpetology*, 39(2), 321–324.

