Australia's Threatened Species Index

Spring Update

2022

Dear ***Friend of the TSX***,

We are delighted to provide you with an update on **Threatened Species Index (TSX)** – Australia's key source of information on threatened species trajectories.

Data call for TSX22 captures significant new data

Over the last 4 months, the TSX team has been liaising with data providers from all over Australia to secure the new data that will underpin the 2022 release of the index. It's been a significant but rewarding task, and the new TSX team at TERN has made important connections with existing and new data providers across the continent.

Let's start with our **existing datasets** for which we've received updates. Excluding the big datasets provided by Birdlife Australia and the Victorian Biodiversity Atlas (for which last minute data crunching continues), we have received updates to 37 datasets covering 83 species — 47 birds, 23 mammals and 13 plants.

Here are (but a few) examples:

1. **Northern Rufous Scrub-bird** (*Atrichornis rufescens*). The TSX is excited to have received updated data for this super cryptic species, taking the dataset to 12 years of continuous volunteer monitoring in the remote forests of the Border Ranges in far northern NSW.

Rufous Scrub-bird (Photo: Scott Baker via eBird)

2. **Red Knot** (*Calidris canutus*): This amazing data set from Moreton Bay's tidal mudflats now runs from 1981 to 2022, encompassing over 2000 individual surveys. All completed by the volunteer army that is the Queensland Wader Study Group.

Red Knot (Photo: Charles Homler)

3. **Long-nosed Potoroo** (*Potorous tridactylus apicalis*). Courtesy of the Tasmanian State Government, we now have 11 years of monitoring for Long-nosed Pots (as they are affectionately known) from the 9 sites across the forests of Tasmania, taking in some 185 surveys.

Long-nosed Potoroo (Photo: Doug Grimesy)

4. **Pingaring Spider Orchid** (*Caladenia graniticola*). We are also thrilled to have an update for the Western Australian State Government's long-term monitoring of Pingaring Spider Orchid; a dataset that stretches back to 1999 and entails counting every emergent individual each year at two sites in this species' tiny range.

Pingaring Spider-orchid (Photo: Trevor Cunningham)

Onto the **new datasets** the TSX team has received in this year's data call. Thus far, we have 13 new datasets covering 16 species — 1 bird, 6 mammals and 9 plants. Among these are some extraordinary efforts, like these two:

1. **Southern Right Whale** (*Eubalaena australis*). Courtesy of the Victorian State Government, the TSX now has access to monitoring of highly threatened Southern Rights from the nursery grounds along the Victorian coast, stretching way back to 1985. An amazing dataset with a good story to tell.

Southern Right Whale (Photo: Richard Robinson)

2. **Capricorn Yellow Chat** (*Epthianura crocea macgregori*). Central Queensland University has kindly provided access to its long-term monitoring of this critically endangered sub-species, with some 113 survey counts stretching back to 2001. An immensely valuable dataset.

Capricorn Yellow Chat (Photo: Bob Black)

Data will continue to flow into the index over the next month, but you'll have to wait until the release of TSX22 in November at the Ecological Society of Australia annual conference to hear what the final tally is. We'll close here by saying a **huge thank you** to everyone that has contributed data during this year's data call – it is an honour to receive the fruits of your labours, and we look forward to reporting back on what all this crucial information tells us about the state of Australia's threatened species.

TSX features in the Australian Government's State of the Environment report

A founding objective of the TSX was to contribute to the Australian Government's 5-yearly report on the health of Australia's natural environment – the State of the Environment (SoE) report. That ambition was realised with the release of the latest report on 19th July 2022, in which the TSX was used as a key metric of the status of biodiversity conservation in Australia. For more, see the relevant section of the report here. In the years ahead we aim to grow the value of the TSX for the SoE, adding more species groups (amphibians, reptiles, fish and invertebrates) and continuing to build the database to ensure our trend estimates are as accurate and representative as possible.

TSX takes part in TERN webinar on threatened species monitoring

On the 6th July, the TSX Project Manager Dr Geoff Heard took part in the monthly webinar of the Terrestrial Ecosystem Research Network (TERN – which hosts the TSX). Geoff joined Dr Ashley Leedman from the Australian Government's Department of Climate Change, Energy, the Environment and Water and Dr Holly Sitters from the Australian Wildlife Conservancy to discuss current challenges and opportunities for threatened species monitoring in Australia. You can find a recording of the webinar here.

Upcoming workshops

Throughout October and November, the TSX team will be leading a series of workshops that introduces participants to the new functionality available through our data management interface. These workshops — part of the program of work being completed with the Australian Government's Department of Climate Change, Energy, the Environment and Water — will focus on NRM groups completing projects under the Regional Land Partnerships program. If you would like to be involved, please reach out to the TSX team at tsx@uq.edu.au for further information.

Launch of TSX22

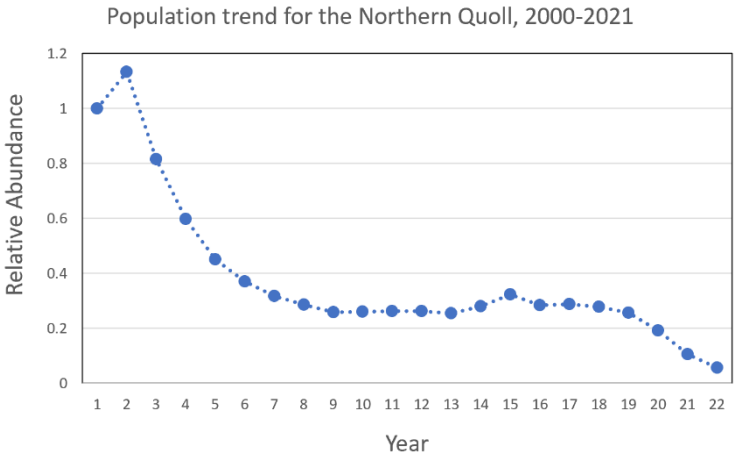
Release of the 2022 edition of the TSX is now confirmed at the Ecological Society of Australia's annual conference, taking place this year at Wollongong from November 28 – December 2. As well as this being the first in-person ESA for two years, it will be the first release of the TSX since 2020. Stay tuned – further information to come!

Threatened Species Spotlight

Credit: Jonathon Webb

Keeping our new series going, this newsletter's threatened species in the spotlight is that tenacious little Dasyurid, the Northern Quoll. The species is now listed as *Endangered* under the EPBC Act, and the data in the TSX suggest we still have considerable reason for concern about the long-term future of this species.

Currently, the TSX holds some 321 monitoring time-series for this species — totalling over 1000 individual surveys — from sites spread across North Queensland, the Top End, Kimberley and Pilbara. Combined, these surveys tell a tale of continued decline, with drastic declines in the early 2000s and more recent declines among the sites for which we have updated data (Figure 1 – note that the reference year is 2000). In all, the data suggest the species has declined by 95% since 2000.



What's to blame? A major contributor to the decline of this species has been poisoning from Cane Toads, which are now distributed across almost the entire range of the species; however, feral predators combined with habitat loss, inappropriate fire regimes and habitat degradation (particularly from invasive weeds and herbivores) are ongoing threats. While mitigating the impacts of Cane Toads is difficult (despite some novel and creative approaches being trialled over recent years), control of invasive predators, herbivores and weeds holds promise, as does securing significant areas of habitat for conservation purposes. Recent acquisitions by the Australian Wildlife Conservancy, Bush Heritage and South Endeavour Trust will be vital in this regard, with some encouraging results already on the board.

tern Ecosystem Research Infrastructure | NCRIS National Research Infrastructure for Australia
Australian Government Department of Agriculture, Water and the Environment

That's a wrap

Until our next update, the TSX team wishes you all the very best. As always, please reach out to us at any time at **tsx@uq.edu.au**. Perhaps you've come across some magnificent archival monitoring data on a threatened species, or wish to make use of the index for your work, or simply want to chat threatened species? Whatever the case, we'd love to hear from you.

Regards,

Geoff Heard (TSX Project Manager) and Tayla Lawrie (TSX Data Analyst)