

THE FRESHWATER TURTLE TIMES

**1 MILLION TURTLES COMMUNITY CONSERVATION PROGRAM UPDATES,
RESEARCH INSIGHTS AND MORE**



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HAPPY WORLD TURTLE DAY!

On World Turtle Day, 23rd May - we reflect on the plight of our Australian freshwater turtle species and the threats they face. Let's take some time to celebrate how far we have come in increasing our understanding of these threats and what we can all do to turn their fate around and return 1 Million hatchlings to our waterways.

We are very proud of what we are all achieving together for turtle conservation in Australia.

'I see the TurtleSAT app and 1MT program developing into potentially very valuable tools for the creation of similar turtle-focused efforts by turtle conservationists working collaboratively with Citizen Scientists in other nations of the world. Australia is leading the way!'

Dr. Anders Rhodin, M.D.,
Founder and Director of Chelonian Research Foundation

Along the rivers of the Murray Darling Basin Broad-shell turtles have been undertaking their usual autumn nesting recently and nests have been protected by dedicated members of the community. **Click button below** for more information and to access the training module to be ready to help out when other species come out to nest in spring.

[Click Here](#)



1 Million Turtles Community Conservation Program Survey

The 1 Million Turtles team is always striving to do better. To help us in this quest, we would love to hear your thoughts and suggestions on how we can make this program even better.

To help capture your feedback, we will be circulating a survey to your inbox very soon. It would mean so much to us if you could spare some time to take part in this survey. The survey will take you about 15 minutes to complete.

What is this survey about?

The upcoming survey's focus is about your experience with the whole program. Through this survey, we hope to learn more about your experiences while being connected with the 1 Million Turtles program. For example, you can provide feedback on anything about the program or activities that you found useful or difficult, if we have done something well and any areas for improvements in the future.

What about the other survey that I received?

Some of you, who had previously completed the national nest predation survey online training, would have recently received a link inviting you to participate in a survey. That one is focused on your experience with the nest predation survey activity only.

Thank you in advance for all your feedback, and participation in both surveys is completely voluntary.

**Can you spare
15 minutes to
help us
improve?**



CALL TO ACTION



For World Turtle Day, we have an activity that many of you can take part in from the comfort of your home. If you have some old (or recent) turtle photos saved on your phone or desktop that have not been submitted to TurtleSAT - you can contribute to freshwater turtle conservation by adding these photos on TurtleSAT using the new feature 'Bulk Image Upload'.

How to start?

Step 1: Check if you have any old turtle photos on your phone or desktop.

Step 2: Download TurtleSAT and register for an account (if you have not done so).

Step 3: Scan the QR code for more information about how to upload your old photos to TurtleSAT.



Nesting Site Predictive Tool

We are so excited to bring you our nesting site predictive tool!

Associate Professor Ricky Spencer of Western Sydney University has used TurtleSAT data and remote sensing (satellites) to characterise the preferred freshwater turtle nesting habitats and has developed a tool to predict nest site locations for any species of turtle in Australia - <https://1millionturtles.com/predicting-turtle-nesting>.

The map shows waterbodies, TurtleSAT nesting records in green, plus shading from white to red indicating the probability that the location contains the type of open vegetation that turtles prefer for nesting (red = exceeds 85% probability). Further fine tuning will restrict the red zone to areas closer to waterbodies.

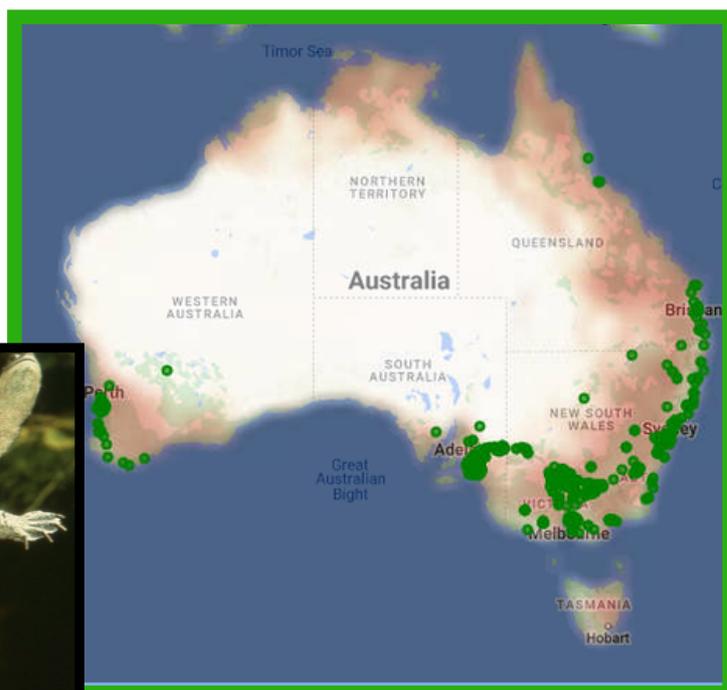
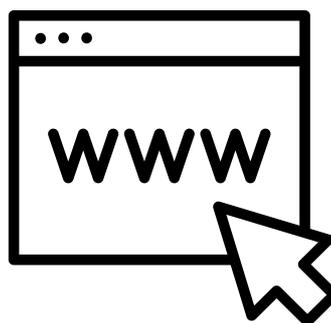
Click on the 'www' icon on the right to explore the nest prediction tool.

We welcome all feedback about your experience using this tool. This will help us make further improvements to benefit freshwater turtle conservation and everyone involved.

If you have any feedback, please reach out to the team at

1millionturtles@1millionturtles.com

We will be asking Citizen Scientists to help refine, validate and 'ground truth' the models next spring by searching for nests in the predicted nesting locations in your local patch.



This new tool is likely to be a game changer.

It will enable important new nesting locations to be discovered and nest protection measures to be undertaken.

Spotlight on Earthcare Park Landcare Group NSW

Written by Eric Huber, Chair, Earthcare Park Landcare Group

Earthcare Park Landcare group has been in existence since 1995 with a vision of rehabilitating an endangered remnant spotted gum and ironbark forest. The area we manage is leased crown land of some 35Ha and includes a section of the greater Tenambit wetland where approximately 60,000 trees have been planted. Our group conducts monthly working bees where tree maintenance, tree and grass planting and special interest events occur.

Within the Earthcare Park an old gravel pit was identified many years ago as a possible environmental conversion opportunity and was subsequently modified to establish a frog pond.

Initial Visit

Ricky Spencer visited Earthcare Park Landcare to discuss the 1 Million Turtle program and inspected our wetlands. During this inspection to everyone's amazement the frog pond was found to harbour many turtle nests and has since been identified as a turtle nesting "hot spot".

After further visits and discussions with the 1 Million Turtles project team, in mid to late 2022 interested individuals undertook online training for the National Nest Predation Survey and Nest Protection activities.



Faux Turtle Nests

In September 2022 using the knowledge from the online training we set out to determine predation of turtle nests. Pegging out an area near the frog pond we randomly created faux turtle nests using chicken eggs as "bait". Additionally, wildlife cameras were set in the same area.

Following the 1Million Turtles guidelines we used flags as markers for the fake turtle nests and took photos and videos of the nest locations. We found this to be invaluable as after 4 weeks it was extremely difficult to distinguish nests from the surrounding environment.

Results of the predation survey in mid-October were not what we were expecting, as after 4 weeks none of the fake turtle nests had been disturbed, despite the fact that we knew foxes were active in the area. There had been some rain during this study which may have had some bearing on the outcome however the wildlife camera setup nearby did reveal an image of a fox.





Nesting Season

During the nesting season from November through to January; checks of the area after rain revealed very few intact nests. Many nests had been predated. In early January we found 7 intact nests, checked for eggs and installed nest guards made of plastic lattice, fixed into the ground with tent pegs.

Regular checks of the area were made with more predation of non-protected nests found during February and March.

From mid-March, protected nests were found with mainly oblong shaped holes which we assumed was the result of hatched turtles escaping from the nest. On Saturday 13 May the turtle nests that we had protected with mesh were interrogated. All but one of the eggs in the 7 nests had hatched.



Future Opportunities

Meanwhile in the Tenambit wetland, plans are afoot to install a turtle island to one of the wetland ponds. This is an exciting development and has created great interest for our group and members from the wider community.

Our landcare group have known for some time that turtle populations are generally in decline. Participation into any turtle research via citizen science presented an opportunity that we as a group immediately embraced and we look forward to continuing our association with 1Million Turtles.

National Nest Predation Survey



Autumn survey results for the National Nest Predation Survey have come in with some very interesting and varied results. Foxes are definitely active even though it's not the peak nesting time for most of our species.

In Victoria, 12 survey plots were set up at RAMSAR wetlands in the Gunbower Forest by Graham Stockfeld from Turtles Australia Inc and a Barapa Barapa Ranger Crew working with the North Central Catchment Management Authority. Within the 3 weeks of the survey, 11 of the plots had 90-100% of the chicken egg 'nests' dug up, with only one survey plot left undisturbed. As you can see in the above wildlife camera photo, there were lots of foxes in the area!

In the mid Murray area of SA at two nearby properties, the floodplain site had all the chicken egg 'nests' dug up within a few days. While at a site further away from the river at a higher elevation, none were taken within the 3 weeks. The spot less likely to be used by nesting turtles showed no fox activity. While a site in Albany WA had no eggs taken during a time when active fox control was underway in the area.

There are still many more months until we have to temporarily halt this project for the key turtle nesting month of November. So please get involved if you can. For more information on how to get involved: <https://1millionturtles.com/nnp-survey> For those who have already signed up we have sent an evaluation survey so we can learn from you if any improvements need to be made.

If you have any questions about data entry or need some help, please email us at 1millionturtles@1millionturtles.com

Research Updates from La Trobe University Dr Donald McKnight



A new study led by La Trobe University and published in *Global Ecology and Conservation* is the first of its kind to document the nocturnal basking habits of freshwater turtles in locations around the world. Species of freshwater turtles in tropical and subtropical areas have been found to routinely bask on logs overnight, sometimes with other wild animals. Nocturnal basking has only recently been reported in wild freshwater turtles, but this study suggests that the behaviour is widespread and occurs in many species.

Postdoctoral Researcher at La Trobe University [Dr Donald McKnight](#) said he first observed freshwater turtles nocturnal basking at the Ross River in Townsville.

“They were coming up at night and sitting on logs exhibiting very much the same behaviour they do during the day; when we looked into it, it wasn’t something that turtles reportedly did,” Dr McKnight said.

He went on to add, “We think it's related to temperature. The water is staying so warm at night that it's actually warmer than the turtles like to be and they can cool down by coming out of the water. It's widespread across the turtle family tree, with the caveat that it is only in the tropics and the subtropics where it occurs.”

Dr McKnight first observed the behaviour with a colleague, [Dr Eric Nordberg](#) at The University of New England, on the banks of the Ross River in Townsville, Australia. For this study a team of researchers from around the world put cameras on basking logs to monitor the nocturnal activity of as many freshwater turtle species as possible. Cameras taking one photo every two minutes were set up in 25 locations across Australia, Belize, Germany, India, Seychelles, Senegal, Trinidad and Tobago, the USA and South Africa. These captured data on 29 species from seven of the freshwater turtle families.

The study has been published in [Global Ecology and Conservation](#).

Research Updates

from University of New England
Associate Professor Debra Bower and
Dr Eric Nordberg



Dr Eric Nordberg and James Dowling with their turtle obstacle course.

The team has been busy finishing field work for the season. Honours student Jessica York has the last of her basking platforms deployed before she will tell us if they provide a useful alternative to monitoring turtles in traps. She has also been testing fox repellent devices at the University of New England's farm property to determine if they provide a viable strategy of nest protection.

New Masters students Sully (Kyra Sullivan) and PhD student Jacquie Bennett have joined the laboratory to assess the influence of water quality, temperature, and productivity on turtles. We are hoping to better understand the impacts of flood and environmental change on turtle populations.

Twenty of the Eastern-long necked turtles at the farm have also undertaken an obstacle course to determine which structures provide barriers to turtles in the landscape. These data will help us make recommendations about fence and construction designs in turtle landscapes. Honours student, James Dowling has also been tracking turtles around the farm, that were fitted with GPS transmitters, they are still moving around well into autumn.



A Murray River turtle hatchling about to be released back in the Warrego River by Associate Professor Deb Bower.

Deb attached more acoustic transmitters to floodplain turtles (Broad-shells, Eastern long-necks, and Murray River Turtles) in the Gwydir, Barwon-Darling (Baarka), and Lower-Murray River. We now have 160 acoustic transmitters tracking turtles throughout the Murray-Darling Basin and we are starting to see some long-distance movements of turtles during flow events.

The laboratory was delighted to release over 1500 Western saw-shelled (Bells) turtles back into the rivers, after artificially incubating them over summer. PhD student, Lou Streeting completed the majority of the raising, cleaning and feeding in the laboratory. Tessa Stewart also used the opportunity to collect data for her Honours on the impacts of inundation on turtle development, fitness, and cognition.

Do you have a community or research story to share?

We're really keen to share the turtle conservation achievements of groups and individuals around Australia. If you would like to share your group's activities in a future newsletter please let us know via 1millionturtles@1millionturtles.com and include 'newsletter update' in your subject heading.

And don't forget to tag us @1millionturtles on Facebook if you are sharing your turtle photos, activities and stories.

Find Out More:

Visit our [1 Million Turtles website](#) for more information about the program, our team members who support the project, links to event registrations (published when available), watch informative videos, access training modules, view past recorded webinars, and more.

We also have two Facebook pages - [TurtleSAT](#) which provides updates on interesting sightings and community alerts such as red-eared sliders, and [1 Million Turtles](#) which provides general freshwater turtle information, project updates and invitations. Your follow means a lot!

1 Million Turtles Team Contacts

Remember that if you would like one-on-one support from a team member please contact 1 Million Turtles 1millionturtles@1millionturtles.com, include 'Need 1 on 1 support' in the subject heading, provide us with some information on the nature of the assistance you require along with your location and best contact details, and a local contact will be in touch with you.

 **NSW/ACT** - Assoc. Professor Ricky Spencer, Ms. Geetha Ortac, Dr Deb Bower (Armidale area)

 **VIC/TAS** - Assoc. Professor James Van Dyke (and NSW Riverina)

 **SA** - Dr Sylvia Clarke, Professor Mike Thompson

 **WA** - Dr Anthony Santoro

 **QLD** - Ms Marilyn Connell, Assoc. Professor Deb Bower

 **NT** - Assoc. Professor Deb Bower