tyton Ecological Intelligence

Success Story

Nyamba Buru Yawuru Limited

Nyamba Buru Yawuru Limited (NBY) is a not-for-profit development and investment company committed to a vision of an inclusive and sustainable economy and enabling Yawuru and other Aboriginal people to become active and prosperous participants in the region.

The Yawuru people are traditional owners and native title holders of the lands and waters in and around Rubibi (Broome).

NBY partnered with Tyton EI to assist its country managers develop a better understanding of habitats for rare and threatened fauna species over a 322km² area on Roebuck Plains Station.

TytonAI was used to assess and quantify vegetation across this large area to inform feasibility studies that would ultimately help find the precise location fence in a wildlife enclosure.

"NBY sought assistance from Tyton EI to undertake a fauna and habitat assessment over a 322km² area of Roebuck Plains Station. The data captured by TytonAI's machine learning tool gives us a wholistic understanding of the vegetation composition across the entire site, ensuring we have the best information to inform the enclosure placement. We would not have been able to achieve the level of detail over such a large area with our small team and budget without TytonAI."

Julie Melbourne
NBY Manager Land and Sea Unit

The challenge

Given the expansive area, a combination of desktop and on-ground fauna and habitat assessments of small sample areas had been occurring, taking considerable time to compile.

To meet State Natural Resource Management (NRM) funding milestones NBY was required to conduct a habitat survey of the project area.

Due to a small team and small budget compared to the project area's scale, only limited and small sample assessments had been conducted manually, which meant the surveys were struggling to meet certain criteria.

NBY needed a solution to increase its survey coverage capability and speed up a process that had first commenced in 2017.

The solution

Tyton EI was engaged to assist accelerating data collection and compilation to move the project forward.

Data previously collected by country managers was fed into TytonAI along with complementary aerial imagery of the project site.

This allowed efficient classification of individual vegetation lifeforms and individual plants at landscape scale within the feasibility site.

The results

TytonAI's machine learning function enabled NBY to quantify vegetation composition and structure for each habitat type over the full 322km² project area.

This data provides complete coverage of the site and allows for detailed enclosure placement based on protecting the most suitable habitat for rare fauna.

NBY's Land and Sea Unit and country managers were able to upskill by learning how to use TytonAI software to complement existing and future on-ground activity.

Through machine learning, TytonAI's mega model was expanded to include critical life forms and species specific to the West Kimberley region of WA.

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