

Geospatial Analysis for Volunteer Conservation Groups

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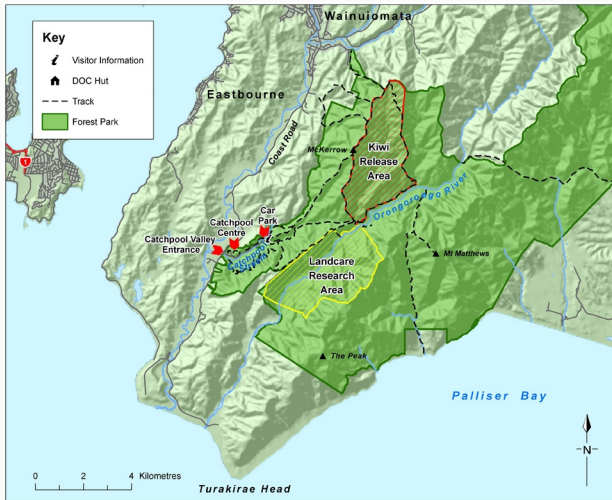
Predator Free 2050 Vision

Aotearoa is home to many unique and ancient species of birds, frogs, lizards and plants. Our biodiversity is so distinct because we have been geologically isolated for 85 million years, since splitting from the supercontinent of Gondwana.

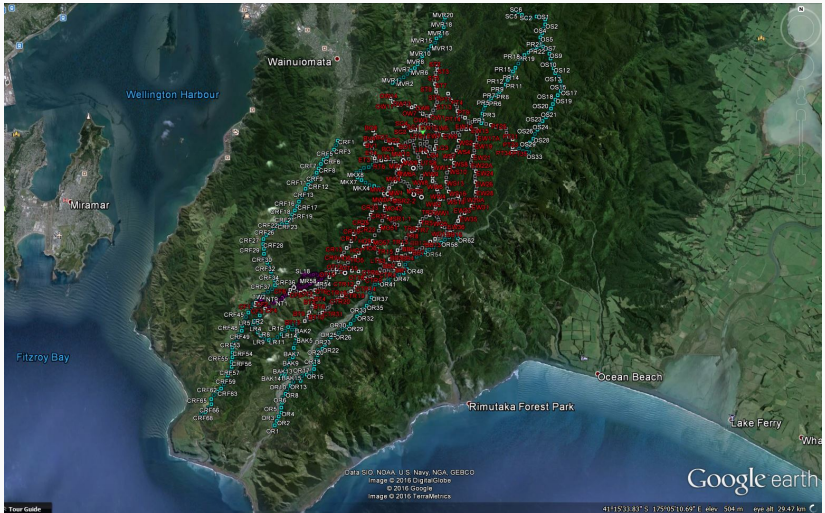
Many of our species are found nowhere else on Earth and this isolation also makes them vulnerable to introduced predators such as rats, stoats, cats and possums.



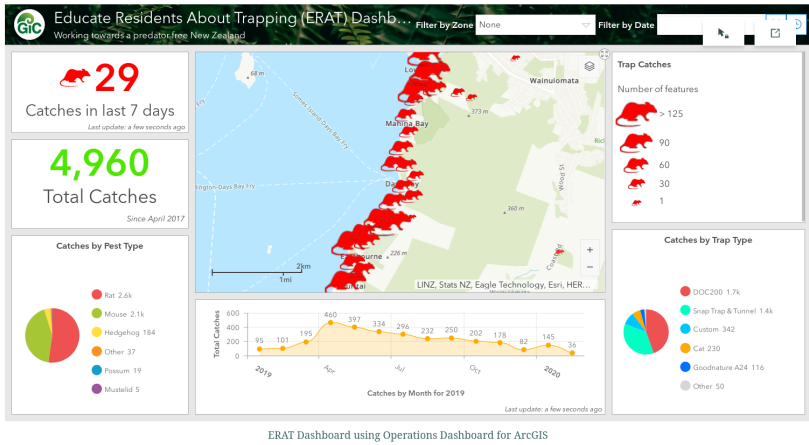
Remutaka Conservation Trust (RCT)



RCT Trap Network



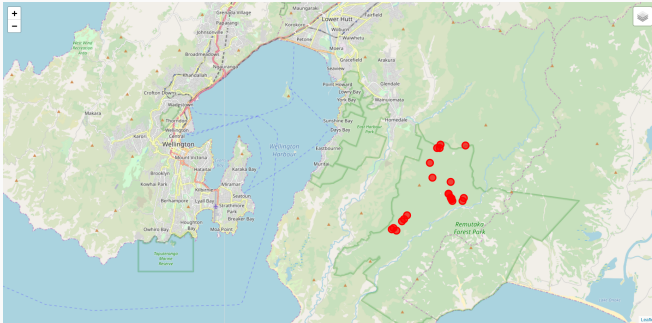
Analytics in Conservation



ERAT Dashboard using Operations Dashboard for ArcGIS

ERAT storymap

Lightweight Mapping

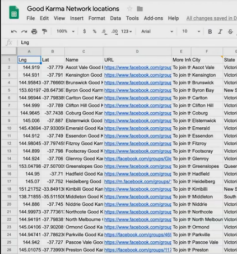


- Simple static webpage in folium (wrapper around Leaflet)
- But has to be manually updated: (1) regular download of data from Google Sheets and (2) processed, plotted on a map and pushed to Github pages
- <https://shriv.github.io/fixit/>

Eureka at FOSS4G

Why Google Sheets?

- Familiar
- Concurrent editing
- Commenting
- Build workflows
- Future-proof
- CSV API



Steve Bennett - Lightweight community mapping sites, powered by spreadsheets

- Steve Bennett's talk at FOSS4G Oceania 2019 on Lightweight community mapping sites, powered by spreadsheets
- This was exactly what I wanted!

Or so I thought

- Using Google Sheets as a 'live' DB is easy enough to set up but embedding it in a static HTML map requires Javascript - which I don't know and I didn't want to learn!
- But I want to, cue lofty aspirations, build some cool geospatial data science thing. So, I used Python.

WIP Architecture

- Single app.py file for a basic webapp
- Python code published to Github and deployed on Heroku.
- [Python code on Github](#)

package	function
pandas	data frames
geopandas	geo data frames
folium	interactive web maps using Leaflet
flask	setting out the webapp

<https://rct-fixit.herokuapp.com>

To Do

- Make something useable!
- Data cleaning and checking required - especially of trap locations
- Use track network from OpenStreetMap where they exist to mark the traplines
- Build a dashboard - more than just a map with circles!

- Heroku vs. other cloud deployment options
- Flask templates of dashboards (for ideas)
- Responsive app