

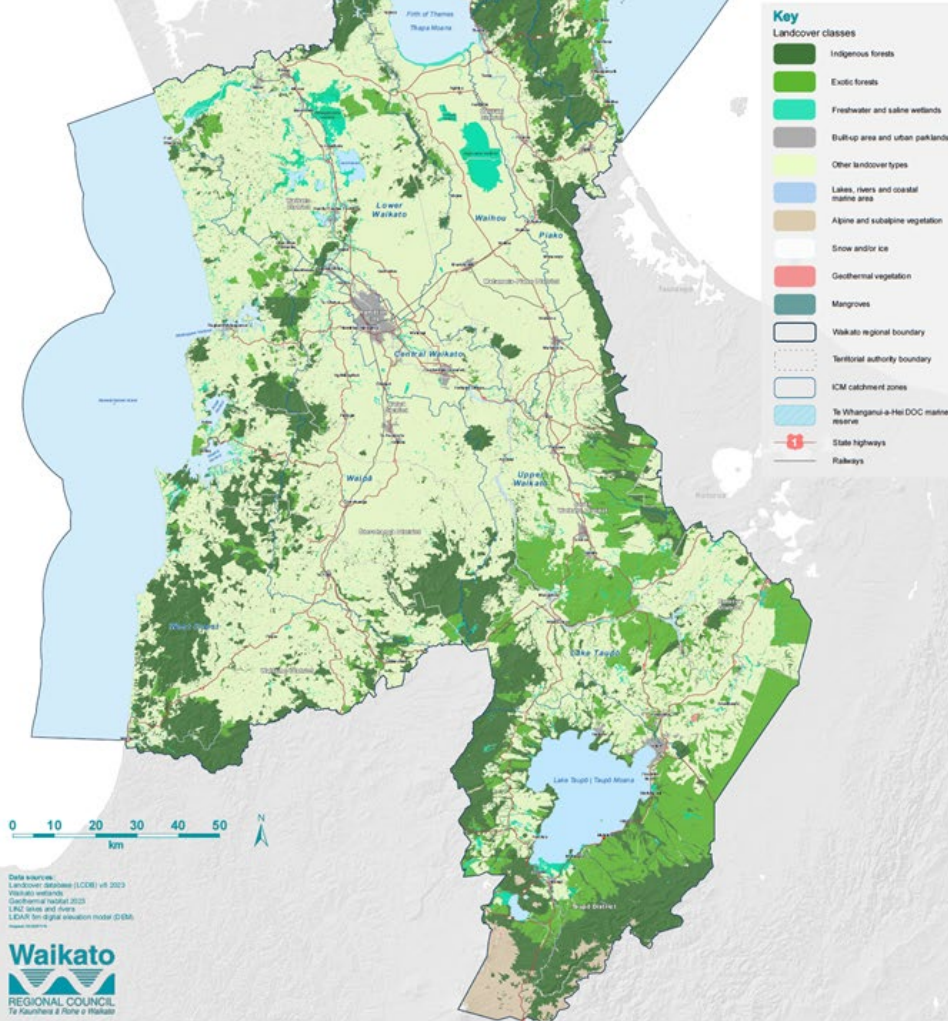
Innovation and Efficiencies through Geospatial Capabilities

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waikatoregion.govt.nz

Background

- Presenting a quick snapshot of just some of the work we do
- BAU – internal & external requests, data management, systems support, etc
- Spatial projects including emerging technology
- Supporting projects across a range of areas



Open Data

- 200 datasets freely available for public download or request
- Enhances transparency, builds public trust, and fosters economic growth
- Drives internal efficiency by enabling self-service

The screenshot displays the COLAB Data Portal interface. At the top, the COLAB logo "COLAB BETTER TOGETHER" is on the left, and navigation links "Home", "Data Portal", "OneView", "About", "Guides", and a "Request Help" button are on the right. Below the header is a search bar with a magnifying glass icon and the text "Search".

The main content area shows search results for "Source: Waikato Regional Council". On the left, there are filter sections: "Filters" with a "Reset" button, "Collections" with radio buttons for "All content (425)", "Data (387)", "Documents (6)", and "Apps & Maps (31)", and "Location" with a search box "Find address or place" and a map showing "Results: 103" in the "South Pacific Ocean".

The search results are displayed in a grid view, showing "1 - 12 of 103 results". The top row features three dataset cards, each with a map thumbnail, a "Dataset" label, a title, and a description:

- Waikato Potential Ecosystems**: Waikato Regional Council. Description: "The ecosystem classification used to map potential..."
- Flood Extent (1% AEP) - Lower Waikato and...**: Waikato Regional Council. Description: "Lower Waikato River (Horotiu to Port Waikato = Polygon), Mid..."
- Waikato Regional Council Property Boundaries**: Waikato Regional Council. Description: "A Waikato Regional Council version of property boundarie..."

Below these are three more dataset cards, partially visible, showing similar map thumbnails and titles.

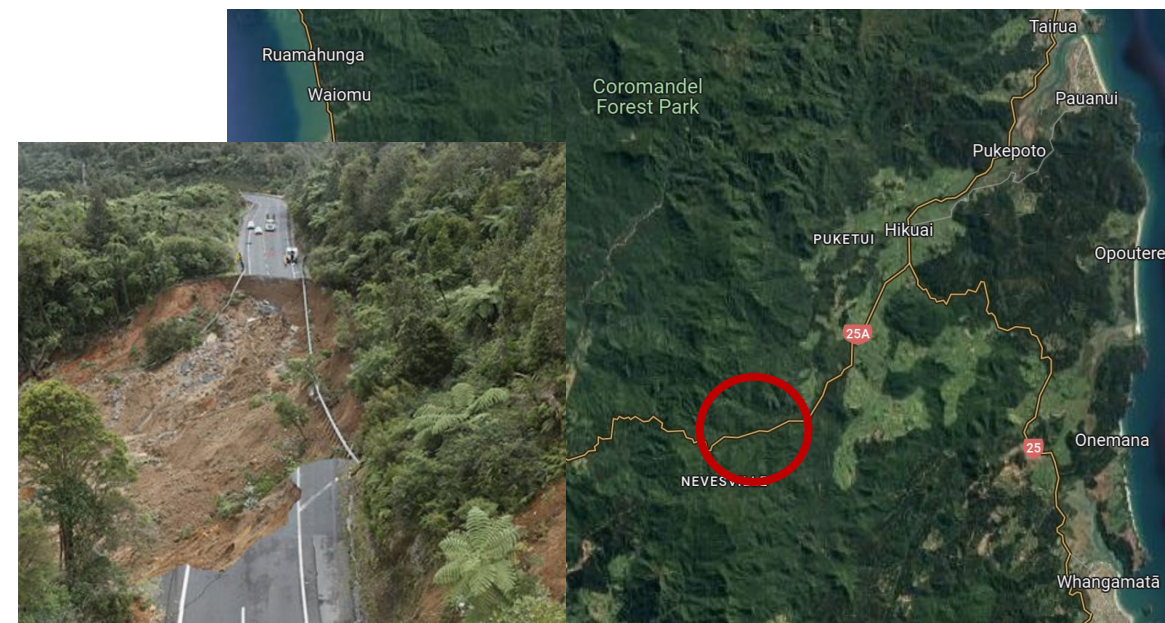
Benefit of LiDAR Dataset availability

Manulife Morrison Forest project, Aotea

- NZTA required improved sight lines at new road intersection
- Traditional design cost estimated at \$360,000
- Used Lidar data to develop new approach internally
- Still achieved safety requirements with total cost <\$10,000 – significant savings to business

SH25A rebuild (BECA)

- Post-cyclone damage assessment, design & rebuild
- Lidar critical for accurate 3D ground profile before slips
- Underpinned speedy design solutions
- SH25A re-opened Dec'23 – economic benefit



Streamlining Field Data Capture

SOE PELLET COUNT SHEET
 Measured by: *Alan West / Ethan Morgan*
 Recorded by: *Alan West*
 Date: *20/11/2024*

SOE CHEW C
 Field Operator: *Alan West / Ethan Morgan*
 Survey: *20/11/2024*
 Date collected: *20/11/2024*



CHEW CARD

Plot ID: *
AD97

Transect: *
AA DD MM PP

Date Deployed:
Thursday, 1 August 2024

Deployed By:
Kerry Jones

Date Collected:
Date

Collected By:
Date

Capture GPS Point (Vege point corner):
37°47' S 175°17' E ± 10.8 m

Paper based to digital



- Time savings
- Improved data quality
- Improved visualisation of data

Biodiversity Terrestrial monitoring data capture summary dashboard

Pellet card list

- CH63 - MN
- CH63 - AB
- CH63 - PI
- CJ58 - AB
- CJ58 - DE
- CJ58 - MN
- CJ58 - PI
- CJ64 - MN
- CJ64 - AB
- CJ64 - PI
- CK50 - DE
- CK50 - AB
- CK50 - MN
- CK50 - MN
- CK50 - DE

Subplot: CM63-DE

| | |
|-------------------------------|------------------------------------|
| SubplotID | CM63 DE |
| Subplot Number: | 17.00 |
| Land Cover: | Exotic Grassland |
| Land Use: | Drystock |
| Are Pellets Present? | Present |
| Animal: | Deer-Goat,Cattle,Sheep,Other, Hare |
| Other Species: | Bird, goat |
| Rabbit pellet count (<18cm): | |
| Hare pellet count (<18cm): | 0.00 |
| Deer/Goat pellet count (<1m): | 0.00 |
| Non intact pellets? | |
| Comments | |
| Bearing to next subplot: | 178.00 |

Pellet count transects
92

Chew card transects
83

Streamlining Field Data Capture

9:41

Coast Care Planting Activity Completed - 5123

▼ SITE INFORMATION

Polygon

Date

Thursday, 13 November 2025

10:30 AM

Coast

Select which side of the coast the activity is taking place

Site Location

Site Name

TLA

Group Type

Group Name

9:41

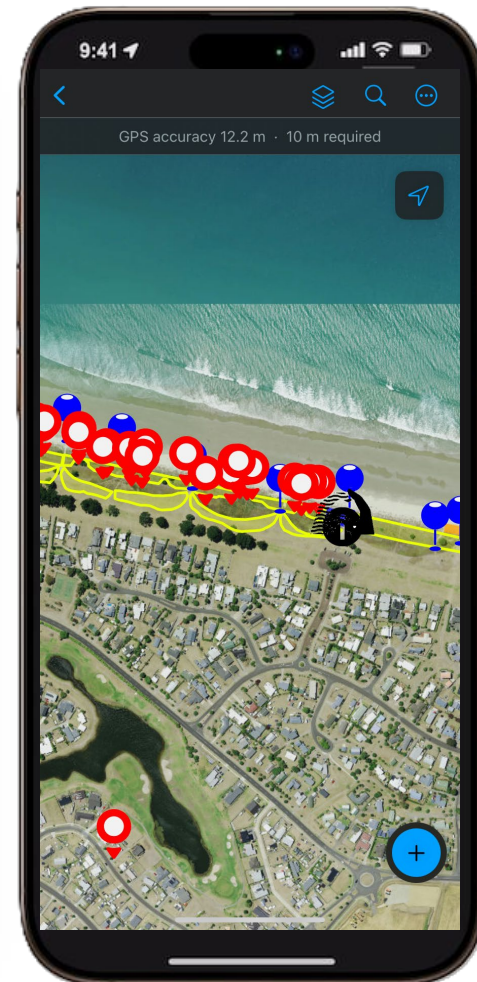
Coastal Signs...d Information

Sign Information

| | |
|-----------------------|-----------------|
| Coast Care | Dune Planting |
| Information/Interpret | Beach Access |
| NZ Dotterel | Nesting warning |
| Dog Control | Tracking Tunnel |
| Monitoring Transect | Other |

Supporting Information

GPS accuracy 15 m



- Capturing and reporting on planting event data
- Keep track of signs and monitoring devices
- View all of this data on a map in the field

Data Visualisation

Waikato Regional Hazards Portal

Overview **River flooding** Flood Management Waikato District Defended areas Coastal Hazards Coastal Inundation Earthquakes and landslides

River Flooding

Floods are New Zealand's number one hazard in terms of frequency, losses, and declared Civil Defence emergencies. River floods occur due to heavy rain that causes rivers to overflow their banks. Other types of flooding include ponding, contributed to by poorly drained soils and/or high water tables, and urban flooding caused by street drains becoming blocked or overcome.

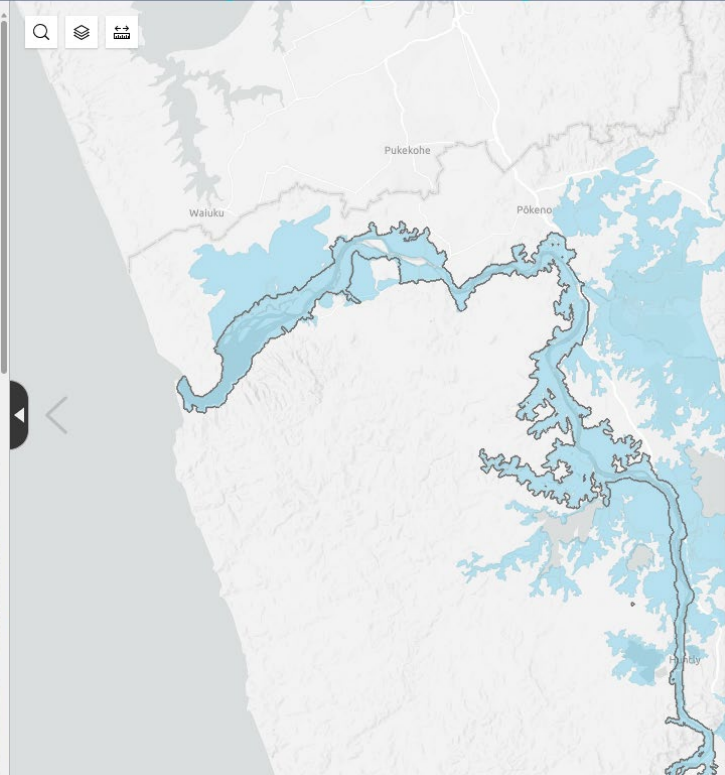
The Waikato region has 20 large rivers and about 1400 small river systems. Many of the region's river systems are prone to flooding and flooding is frequent because of steep terrain, low lying flood plains and areas of high rainfall.

To see a map with local scale flood depth data (instead of hazard) from the same scenario, click on the big arrow to the right side of the map.

For more information on flooding, click [here](#).

For flood warnings and updates for the Waikato, visit WRC's [Flood Room](#).

For what to do in the event of a flood, click [here](#).



Welcome The Waikato sub-region **Where we will grow** Priority Development Areas Fast-track Transport Three waters Spatial Studies Sustainable dev

Where we will grow

We're growing - but we're ready for it

In the next 30 years, the demand for dwellings will increase by around 60%.

This means we will need to make way for another **66,000** houses in our urban areas alone.

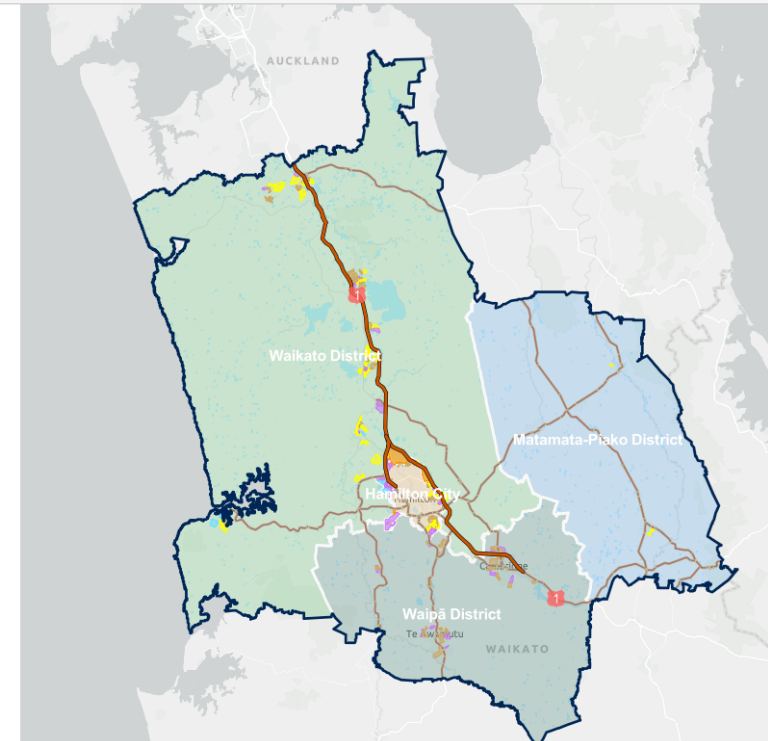
We've confirmed a settlement pattern that will help us welcome this growth.

Future development will be focused 'in' – through infill and intensification and 'around' – through new growth areas.

Click on the [+](#) areas below to zoom in on the map

[+](#) **Hamilton City**

At least 50% of growth will be through regeneration of existing parts of the city.



- Online tools to reduce requests for information

- Map centric story telling to engage communities

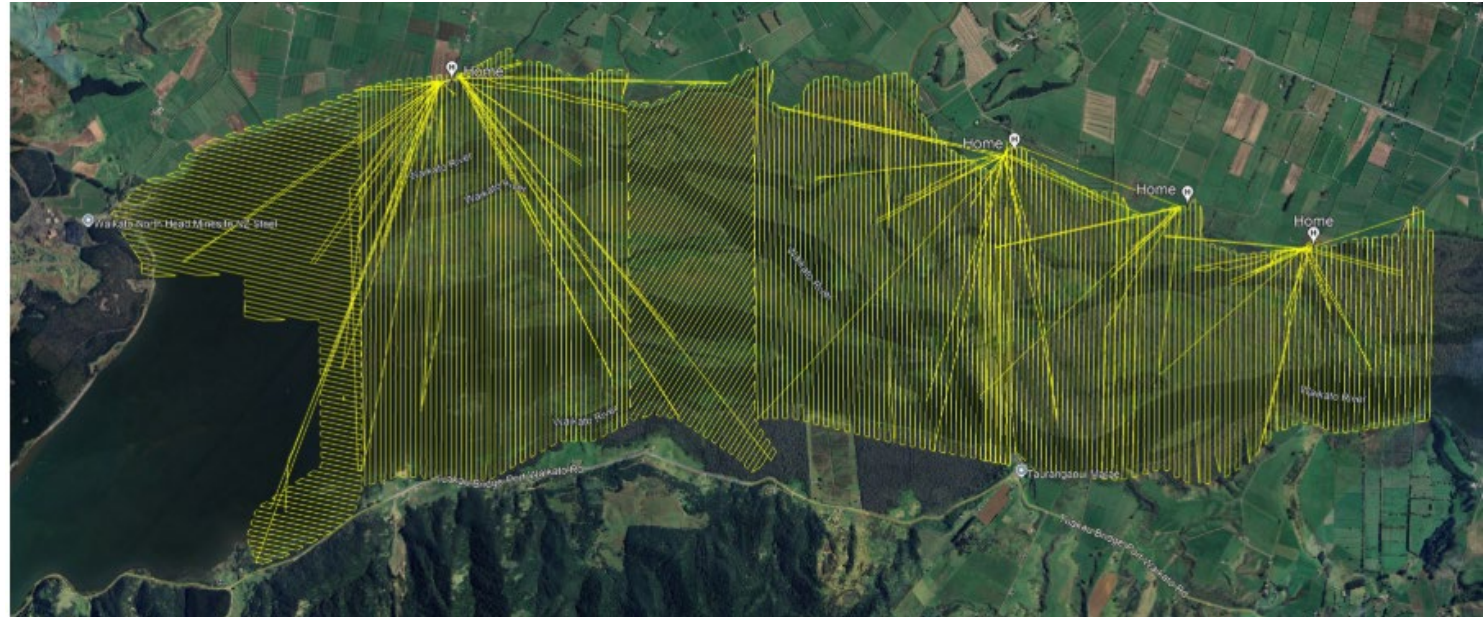
Remote Sensing and GeoAI – Wilding pines

- Early detection and control of smaller infestations is cheaper and more effective
- Trial of GeoAI approach as ground detection is labour intensive and aerial surveys are expensive.
- Model trained then tested with ground truthing with around 80% accuracy
- Good enough to support operational planning processes to identify priority areas. Further work to improve the model.



Remote Sensing and GeoAI – Pest Plants

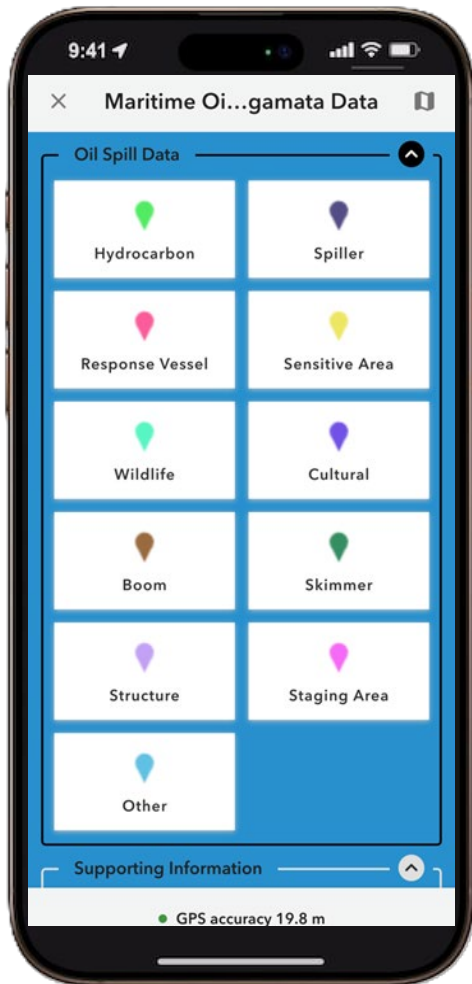
- Large scale drone mapping - repeatable high-quality data
- Desktop assessments - more coverage and less risk on difficult terrain.
- GeoAI deep learning algorithms to automatically identify clusters of target species.



Marine Oil Spill Support



Marine Oil Spill Support



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