

Presentation to Dataversity Workshop

# Biodata Management by NGOs

Biodata Holdings  
Data Management Maturity  
Data Needs

M.A.I.N. Trust NZ

Mapping, Analysis and Information Network Trust, New Zealand



DataMap Ltd.



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October 2013

**Nature**

**Watch**  
**NZ**



An online community of NZ nature watchers  
Observations of any species, anywhere  
ID Please

Community verified observations  
Standard core fields, plus custom fields for projects

**A biodata creation engine**

Data can be downloaded for external analysis on sites like MAIN.

# 1. Biodata Holdings

NatureWatch NZ is able to hold species observation data on any species in NZ at any time and anywhere in NZ (in reality we can also take any species in the world anywhere in the world, but our online community is strongly focused on NZ and observations from elsewhere we recommend get redirected to [iNaturalist.org](https://www.inaturalist.org)).

At writing, NatureWatch NZ contains 368,708 observations.

We have more than 100,000 further observations from the legacy NZBRN system, mostly garden bird survey data, waiting to be added across. Plus, we're about to launch our bulk data upload feature which should greatly increase our rate of data growth (for a start, I have a few hundred thousand databased observations of my own waiting for a suitable online home).

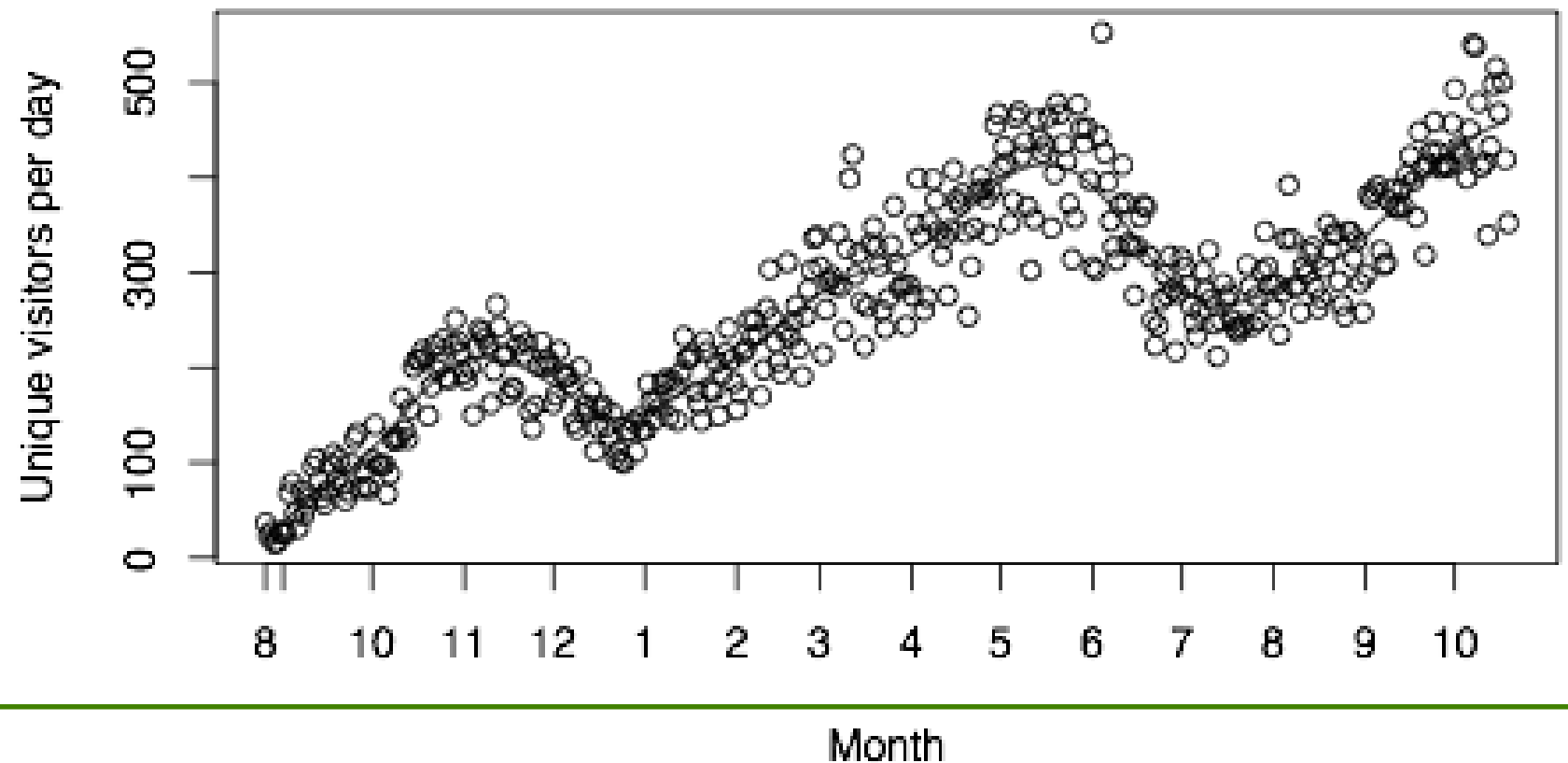


Since our launch of the NatureWatch NZ system at the 2012 Dataversity conference last August, as of 8 October;

**532** people have added  
**30,857** observations  
of **4,909** taxa  
including **46,483** photos

**>28** invertebrate taxa not listed on  
NZOR  
**1** new native to NZ  
**3** new exotics to NZ  
inter-island range expansions

**81,276** unique visitors  
**140,084** visits  
**869,965** page views

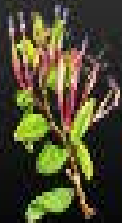


## **2. Data Management Maturity**

Some parts are "Managed", some "Automated", and some "Integrated".

## **3. Data Needs**

NatureWatch NZ is primarily about building a community that make biodata, not so much digesting other's data. However, we would be very keen to display complete species distribution maps on our species pages, if they were available through a web service. Plausibly, we could also use such a national wide data feed to alert users (e.g. via our smart phone app) when they've found something that's likely important and unusual. Both of these uses we would see as important additions to our current functionality.



# NZ PLANT CONSERVATION NETWORK

*Roopu hononga Koiora Taiao ki Aotearoa*

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## DACRYCARPUS DACRYDIOIDES

The best remaining examples of kahikatea swamp forest are found on the West Coast of the South Island

### SEARCH FLORA

SEARCH

### QUICK SEARCH

NATIVE FLORA

EXOTIC FLORA

THREATS

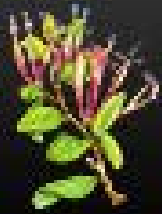
PUBLICATIONS

PLANT LISTS

ECOSYSTEMS

### TEST YOUR PLANT KNOWLEDGE

try  
the **flora quiz**



## NZ PLANT CONSERVATION NETWORK

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### **Key stats:**

The Plant Network Website receives 1 million visits per year (2500 visits per day)

Species pages for 7500+ plant taxa

27000+ plant photographs (likely to pass 30,000 by Christmas)

Ecosystem pages for 149 ecosystem types (not live yet)

### **Bio Data:**

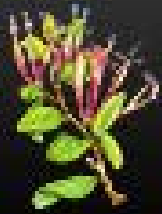
We have built a Bio data stack for species occupancy data covering 6000+ native and exotic vascular plant taxa

2.6 million plant observations covering all vascular flora

Data sharing agreements with the Department of Conservation, Landcare Research and others

Data capture (approximately 10,000 observations per year) from members of the public and Network members





## **NZ PLANT CONSERVATION NETWORK**

*Roopu hononga Koiora Taiao ki Aotearoa*

### **Platform:**

Public website  
Microsoft asp.net  
MySQL database

### **Mobile platforms:**

Mobile optimised version of the website is available at [m.nzpcn.org.nz](http://m.nzpcn.org.nz)  
(automatically redirected when accessing from a smartphone)  
Native tree and shrub smartphone app about to be launched (for 650 plant taxa)

### **Access:**

Majority of data available to public  
Sensitive species records blurred (e.g., threatened species or orchids)  
60% of images freely available and 40% of images only available to  
Network Members  
On-line forum used as plant ID service by some.  
Facebook and Twitter feeds





<http://nzlizards.landcareresearch.co.nz/>

## 1. Biodata Holdings

Our data is basically a 'knowledge-base' sourced from the published literature of the lizards of New Zealand. This data goes back to 1769 to present day, and covers all of New Zealand. The data consists of encyclopaedic-type species synopses (c. 100 lizard species) recording factual knowledge (c. 30,000 words per species), detailed species identification photographs (up to c. 10 per species), and an extensive bibliography (c. 3,500 papers, reports and the like), including with hyperlinks to the document. Maps are provided by the Department of Conservation's electronic Atlas of reptiles & amphibians in New Zealand.

The first reference was published in 1769 in French, and even Captain Cook himself in 1777 contributed his own two cents worth towards our knowledge—

*"... for we found no reptile here, except two or three sorts of small harmless lizards"* CAPTAIN JAMES COOK, FEBRUARY 1777



<http://nzlizards.landcareresearch.co.nz/>

## 2. Data Management Maturity

The category that NZ Lizards best falls in is: Improvised, although it is quite close to Managed. The largest issue that NZ Lizards Database faces is the lack of funding available - no funding sources have been able to be identified.

At present, the database is not being actively managed. It relies on *pro bono* work in keeping it up to date under a Memorandum of Understanding between Landcare Research and EcoGecko, but this has proven to be difficult to put into practice, because EcoGecko needs to prioritise contracted & funded work over unfunded work.

(See detailed notes on Maturity)



<http://nzlizards.landcareresearch.co.nz/>

### 3. Data Needs

The Department of Conservation already holds c. 20,000 records of New Zealand reptiles and amphibians in BioWeb Herpetofauna, a separate system. These records can be sensitive in nature, due to risk of wildlife poaching. There is another records collection system developed for 'citizen scientists' called NatureWatch, which should be feeding their reptile & frog reports into BioWeb, but it is unclear if this is being done. The NZ Lizards database currently links to the maps produced by DOC's Atlas system, as this is the safest way of showing lizard records publically.

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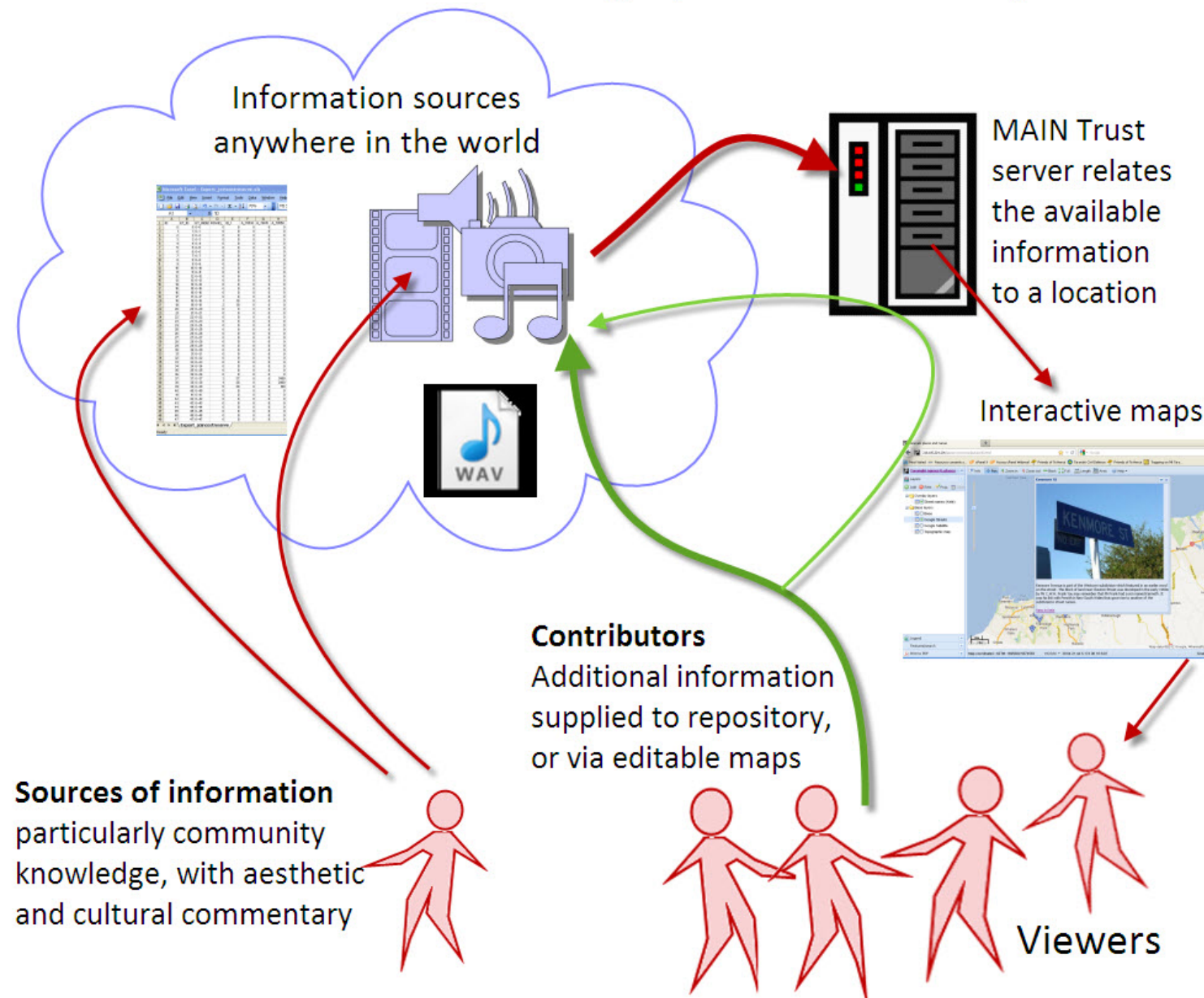


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[www.datamap.co.nz](http://www.datamap.co.nz)  
[www.main.net.nz](http://www.main.net.nz)

## The role of the MAIN Trust Geographic Information System



[main@main.net.nz](mailto:main@main.net.nz)

[www.main.net.nz](http://www.main.net.nz)





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## 1. Biodata Holdings

The online GIS projects are community project based. This means designing data collection for specific needs, for example Nga Motu Marine Reserve Society has several requirements:

- General map of images – photo points
- Penguin sightings (dead, footprints, burrows, swimming)
- Pest trap-data collection and analysis
- Seashore transects for baseline studies and also for 'Experiencing Marine Reserves' school activity.

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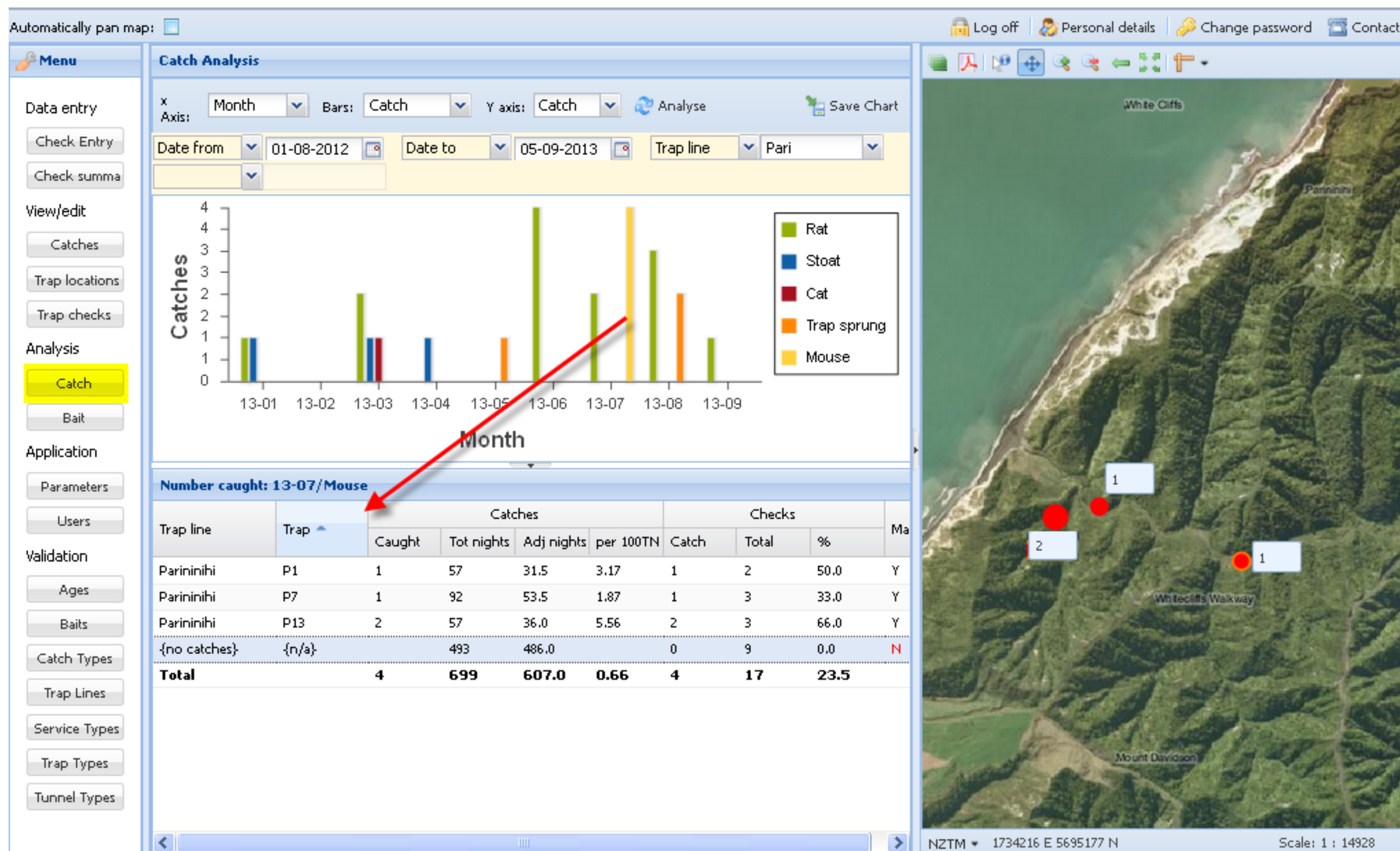


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## 2. Data Management Maturity

### Maturity Criteria for Automated

Automated across [Data Management Activities](#)

[Capture](#) – Tools enable consistent and efficient data capture.

[Ingest](#) – Tools enable consistent and efficient ingestion process (system enforces control).

[Store](#) – Tools enable consistent and efficient storage (specialised custom system).

[Share](#) – Tools enable consistent and efficient sharing (standards-based data & metadata online).

[Analyse](#) – Tools enable consistent and efficient analysis (system can carry out spatial analysis).





[www.datamap.co.nz](http://www.datamap.co.nz)  
[www.main.net.nz](http://www.main.net.nz)

### **3. Data Needs**

We need to collaborate more effectively with other NGOs and prevent duplication of effort.

We need support from national agencies to fulfil national data standards and management to allow interoperability of our data