# Monitoring under the RMA Joining the Dots

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#### One of the dots

- Resource Consents Compliance Unit
  - 60 Monitoring Inspectors (Consented sites)
  - 35 Incident Investigators (Unconsented sites)
- Stuff we do
  - 30,000 consents to monitor
  - 55,000 noise complaints (contracted out)
  - 10,000 other RMA complaints
- Ensuring outcomes as envisaged by consents and plans
- Feedback on efficiency and effectiveness of consents and plans.



### What is status quo - "Check Box"?

- Officer reviews file, inspects site, checks that the things are there, records outcome and then files it before it starts again.
- Things we check
- Certification documents
- Monitoring documents
- Problems: inefficient, time consuming, generally unable to get around everything so something misses out. What do we do with it?



#### But it's not all bad

- "Check box" monitoring is simple and inexpensive and enables high volumes of work to be completed.
- Risk based
- We have a record of the inspection outcomes
- Evidence collected by warranted officers is good for enforcement
- Work with others to compare the effectiveness of our particular provisions and monitoring regimes



## What is status quo - feedback loops?

- Consenting planners
  - Different roles but same department
  - Located in the same building, around the region
  - Both informal and formal feedback mechanisms
- Policy planners
  - Completely different part of the organisation
  - Located in a different building, only in the CBD.
  - Only formal feedback mechanisms



### How can we do it differently/better?

- Drones
- Satelitte pictures/measurements
- CCTV/Webcams
- League tables of contractors
- Complain to Council app
- Get community groups/neighbours to do it for us







### **Crowd Sourcing Geiger Counters**

- 11 March 2011 Tohuku Earthquake and tsunami damages
  Fukushima Daiichi nuclear power plant
- Limited information available and low trust in Government
- Personal Geiger counters sell out worldwide





# **Crowd Sourcing Geiger Counters**

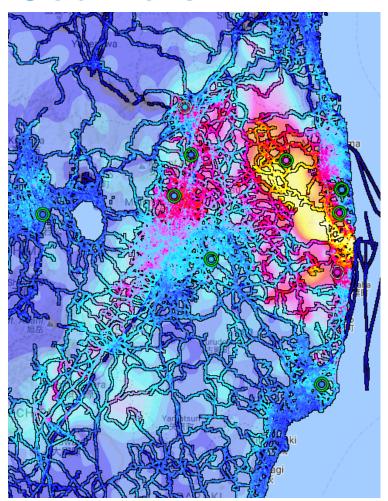
- Safecast formed the day after
- Available information collated
- Volunteers drive around, take measurements and upload
- Issues with data quality
- Design and build their own open source Geiger counter
- Costs \$1000 and takes about a week to build





#### **Crowd Sourcing Geiger Counters**

- High resolution dataset
- Reliable and covers a wide area
- 7<sup>th</sup> edition bGeigie nano now only \$600 and 4 hours to build
- 40 million measurements
- Helped boost confidence in government





## Could we crowd source monitoring?

- Air quality
- Water quality
- Sediment yield
- Stormwater
- Noise



### **Challenges with this**

- Data quality
- Cost of technology, and who develops it
- Communities and consent holder's willingness
- Council's perception of poor data quality
- High risk sites especially with unproven technology
- What do we do with even more data?
- Who leads it regulatory or research?



#### **Future**

- How can we provide feedback in a way that is actually able to be used to improve our planning regime?
- Let's think about the expected outcomes
- And let's measure those!
- Do we already have datasets that are shareable?
- Can we get other datasets?
- Are we able to take some time out from checking boxes to quantify and feed real objective information back into the planning system to show that we are actually making a difference..



# **Thank You!**

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