



# Point Discharges in the Takaka Water Management Catchments

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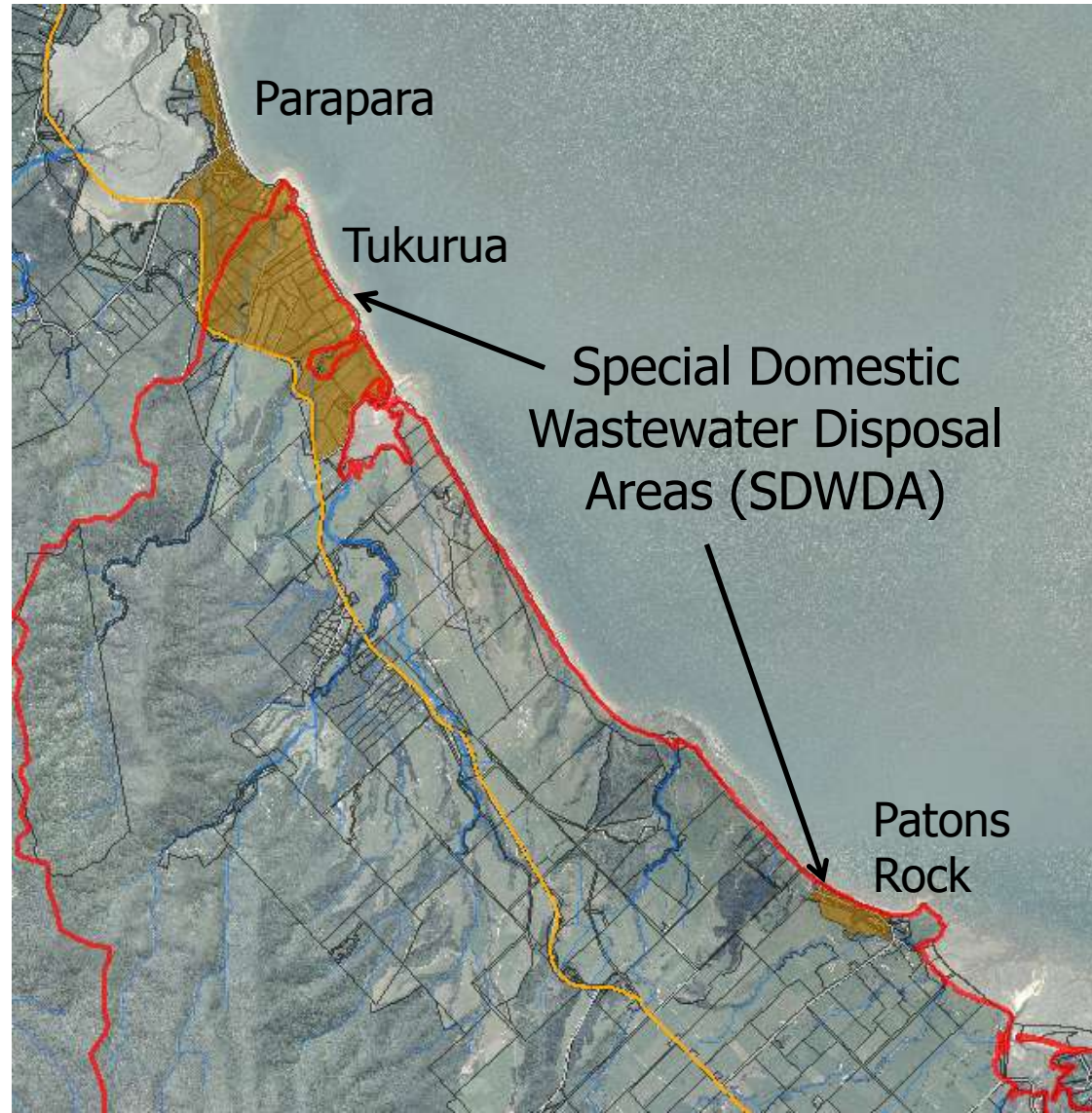
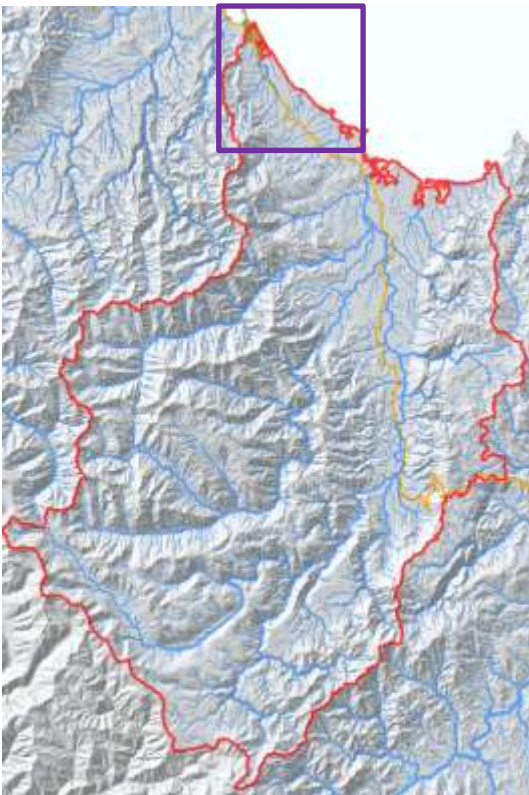
# Overview

- **TRMP context for discharges**
- **Permitted Discharges in TRMP**
- **Types of Consented Discharges in Takaka WMC**
- **Review of potential onsite wastewater contributions to nitrates**



# Takaka WMC and Special Areas

- Two Special Domestic Wastewater Disposal Areas (SDWDA)
  - Parapara -Tukurua
  - Patons Rock



# Permitted Discharges (permitted with conditions)

## • To Land :

- Fruit Dump Water
- Fruit or Vegetable Processing Wastewater
- Bird or Animal Effluent (<200kg/ha/yr nitrogen)
- Domestic Wastewater (before 1998, in SDWDA)
- Domestic Wastewater (after 1998, in SDWDA – higher quality effluent)
- Greywater
- Human Effluent from a Long Drop Toilet
- Drilling Water
- Leachate from Compost
- Leachate from Offal Pits
- Mining wash water
- Fertiliser
- Pesticides (not onto urban/community water supply catchment area)
- Stormwater or drainage water

# Permitted Discharges

## (permitted with conditions)

- **To Fresh Water or Coastal Water:**
  - Fruit Dump Water
  - Mining wash water
  - Sediment or debris from land disturbing activities
  - Vegetation from land disturbing activities
  - Discharges from activities in the beds of rivers and lakes
  - Discharges from stock entering or passing over beds
  - Dye
  - Water
- **To Water:**
  - Stormwater or drainage water
  - Pesticides (not onto urban/community water supply catchment area)

# Consented Point Source Discharges (~70)

- Onsite wastewater systems
- Industrial and commercial discharges
  - Milk whey/wastewater discharge
  - Boat wash-down water
  - Mining water
  - Cobb cleaning maintenance water and generation discharge
  - Salmon farming effluent
  - Dairy effluent
- Potentially contaminated stormwater
  - Subdivisions, industrial and commercial yards
  - Refuse leachate
- Other
- Land disturbance activities (potential for sediment discharge)

# Onsite wastewater systems (permitted)

- **Most onsite wastewater discharges are permitted activities - so limited information kept by Council**
  - Some design & maintenance records for newer systems
- **Estimated potential systems in Takaka WMC from:**
  - Residential and business building data
  - Building Consent data (no. of toilet pans)
  - Resource Consent (wastewater discharges)

(Census meshblock data is too coarse)
- **The datasets are only considered to be indicative**
- **Assumptions:**
  - Each residential building & business has toilet facilities
  - Those not in the Wastewater UDA are on-site systems



# Residential Dwellings and Businesses

(onsite w/w)

Data likely incomplete, but illustrates potential spread

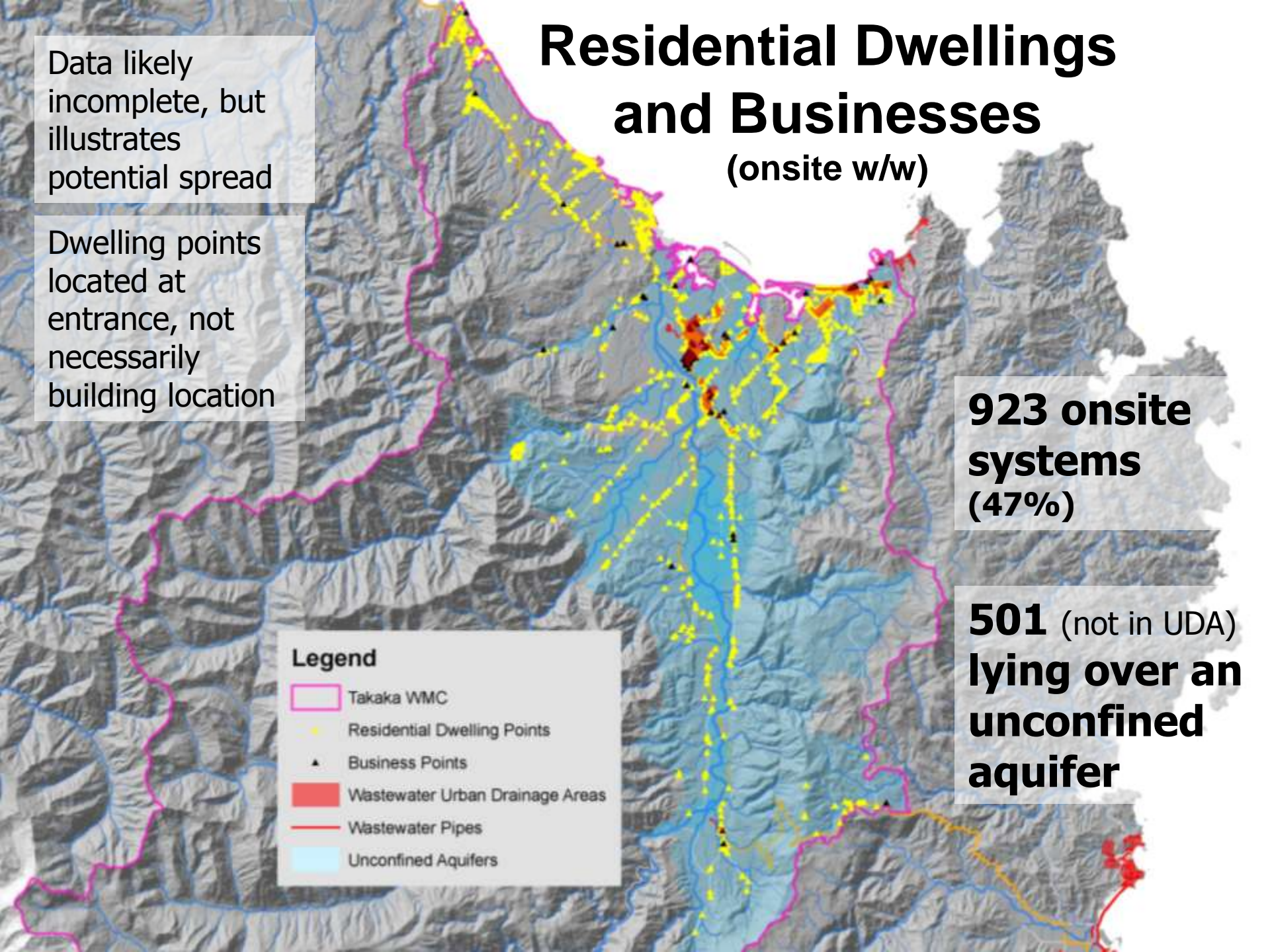
Dwelling points located at entrance, not necessarily building location

**923 onsite systems**  
(47%)

**501** (not in UDA)  
**lying over an unconfined aquifer**

## Legend

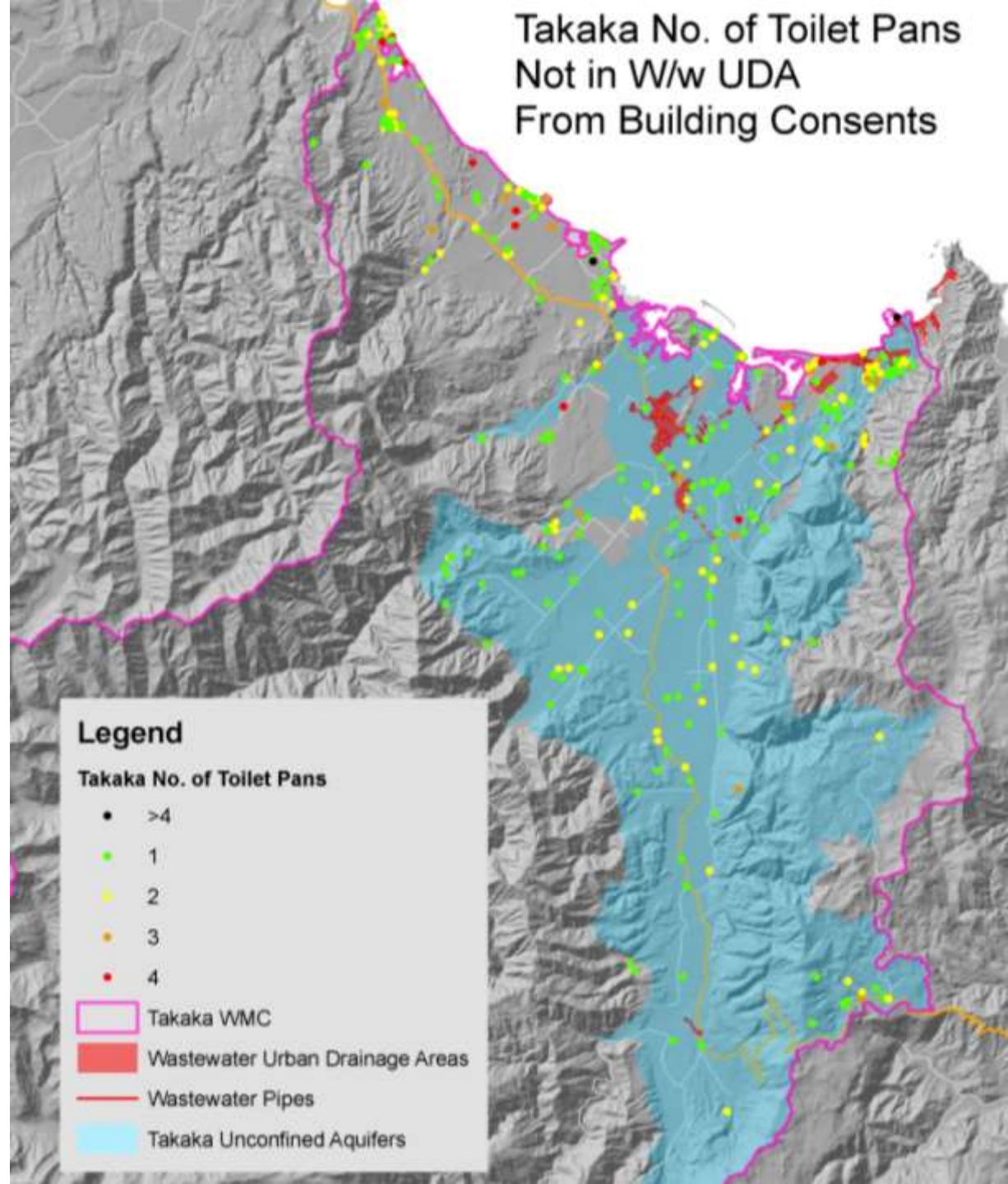
-  Takaka WMC
-  Residential Dwelling Points
-  Business Points
-  Wastewater Urban Drainage Areas
-  Wastewater Pipes
-  Unconfined Aquifers





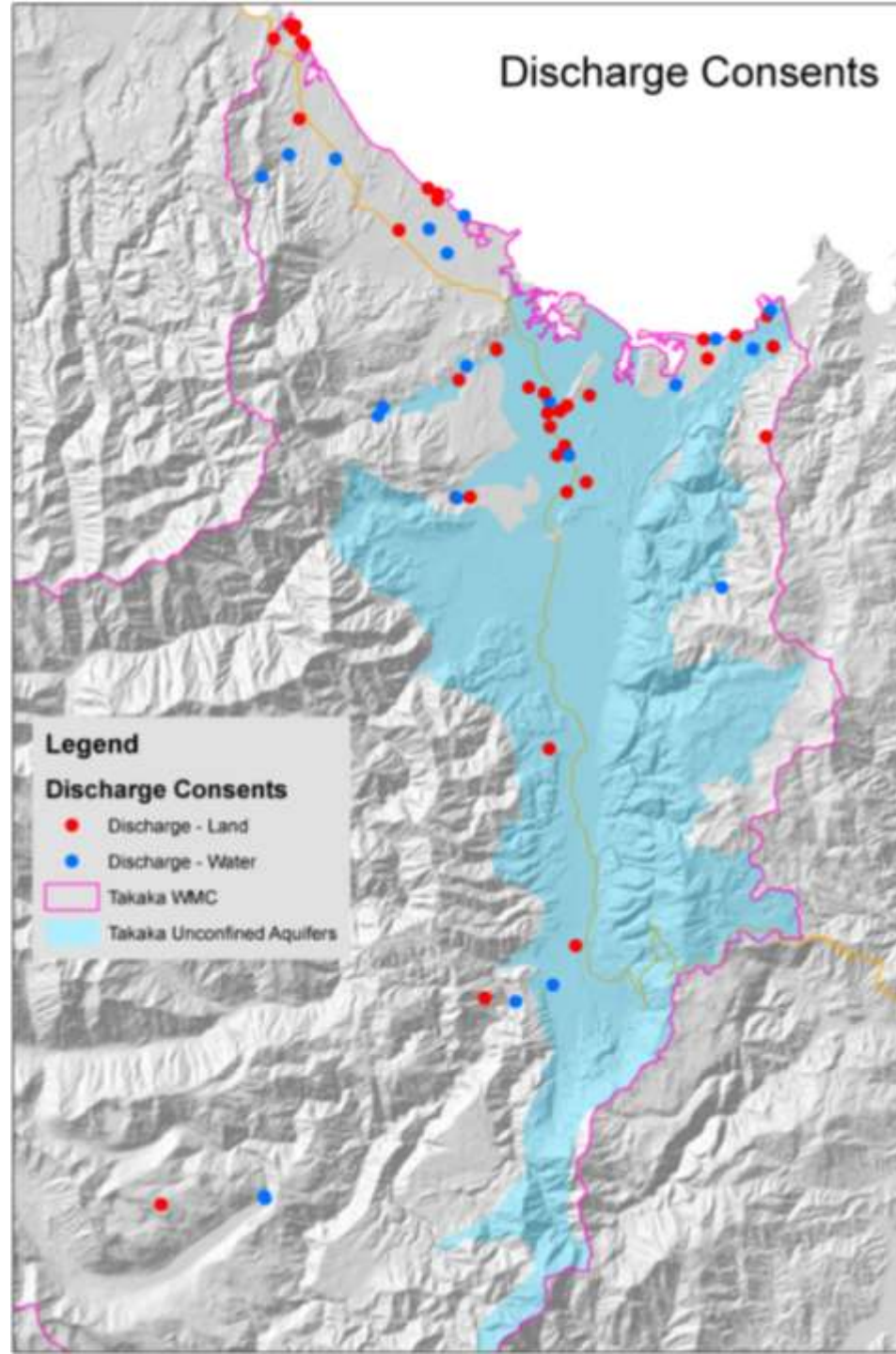
# Building Consent Data: Toilet Pans

Data likely incomplete, but illustrates potential spread



# Resource Consent Data – Discharges

- 43 to land, 27 to water
  - 2 under appeal
  - 4 in processing

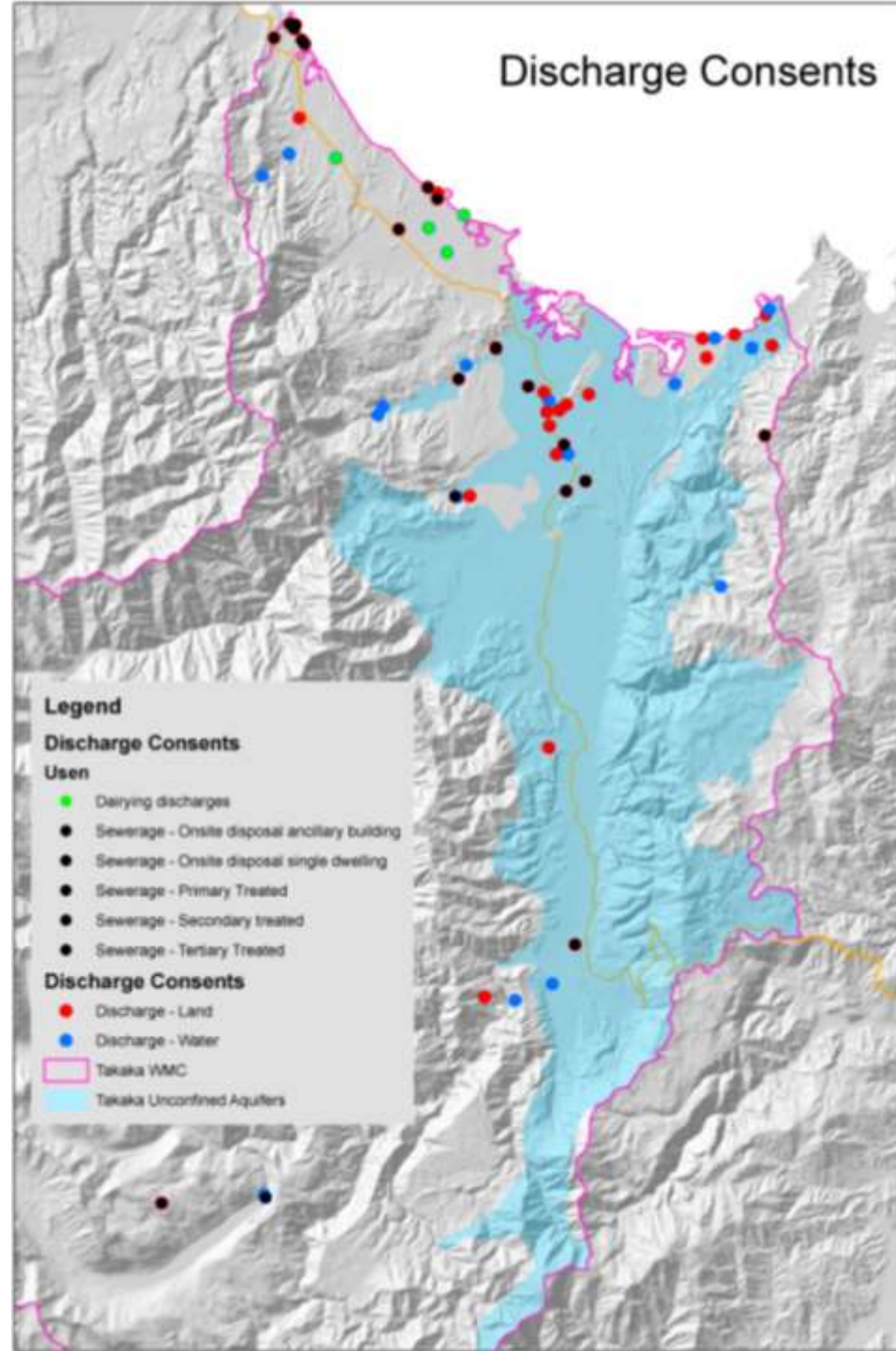




# Resource Consent Data – Discharges

## Sewage and dairy effluent

- 20 wastewater to land (1 under appeal)
- 3 treated dairy effluent to water (renewals in process)
- 1 dairy effluent to coast (renewal in process)





# Onsite Wastewater - Nitrate Leaching

- **Standard septic tanks do not retain nitrates well**
- **Modern systems can - if designed to do so - to variable rates** (EBoP 2007-8: 45, 78%)
- **Disposal fields may retain up to:** (Env.Waikato 2003:)
  - 15% of nitrates in coarse grained soil
  - 25% of nitrates in fine grained soil
  - 30% (10-72%) of nitrates in modified soils (eg adding organic matter and dose loading effluent)
- **Up to 70%-85% of effluent nitrates potentially passing into underlying soils**
- **Nitrogen leaching estimates: 8.7-15.3 kg/yr per standard septic system** (Env.Waikato, assumes an average occupancy of 3.5 people – Waimea Plains may be less than this, EBoP 2012 ~12.7 kg/yr/system)

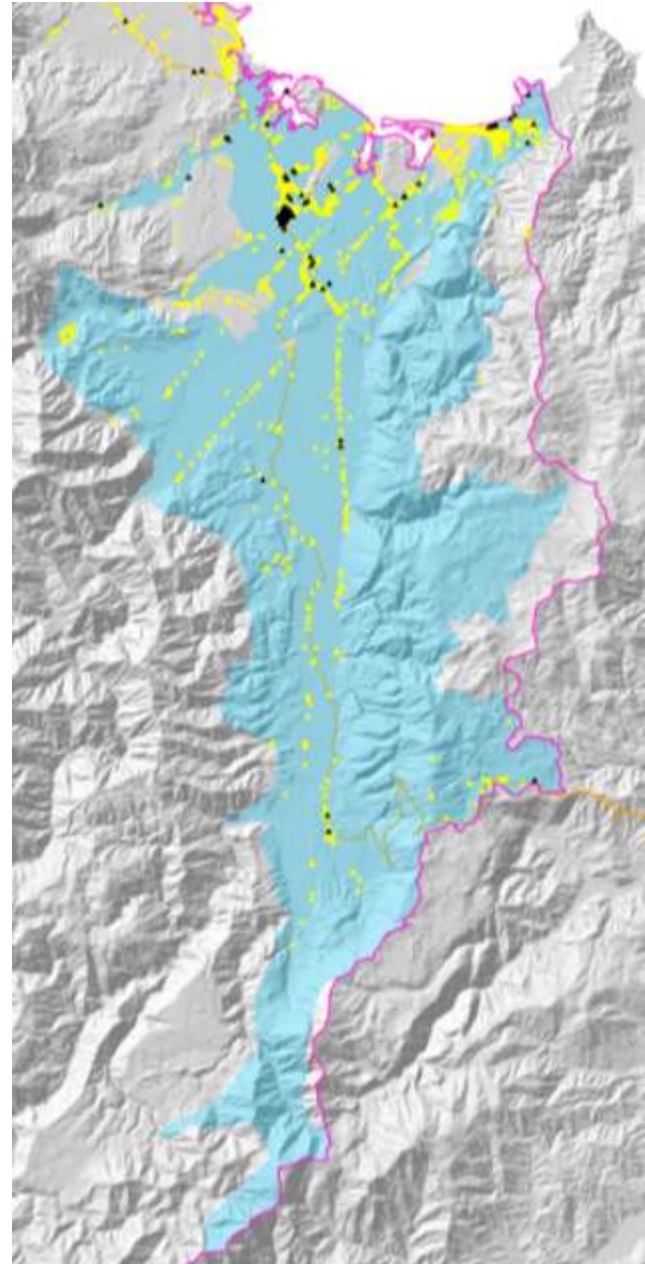
# Onsite Wastewater - Nitrate Leaching

For Takaka WMC - overlying unconfined aquifers (excluding Wastewater Urban Drainage Areas):

- 483 dwellings and 18\* businesses

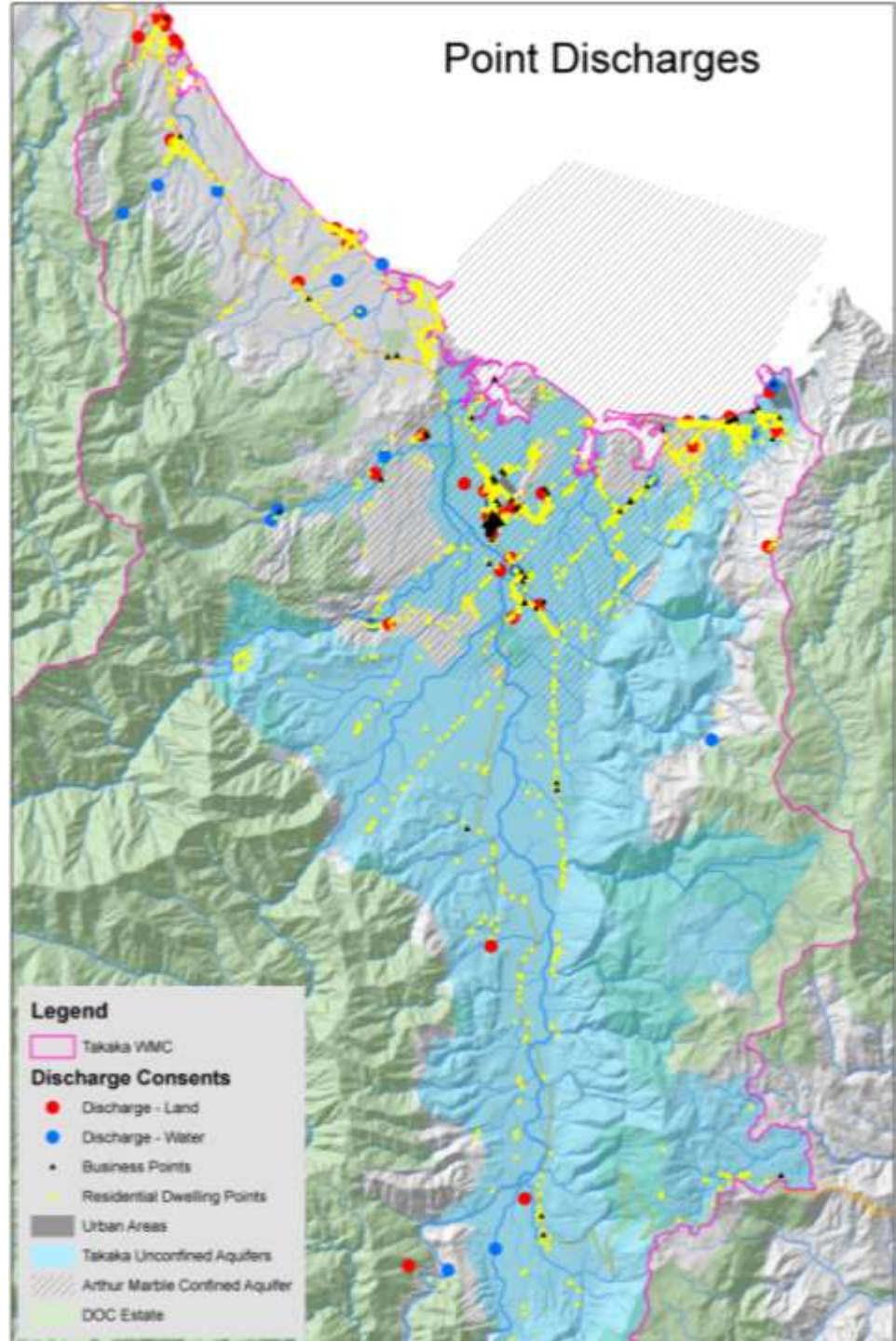
\*assumed all have toilet facilities (501)

- 4,000-8,000 kg/yr nitrate over area (~13-24,000ha)
- **Less than 0.6kg/ha/yr**
- For context: TRMP Permitted Activity level for bird and animal effluent is 200kg/ha/yr



# Summary

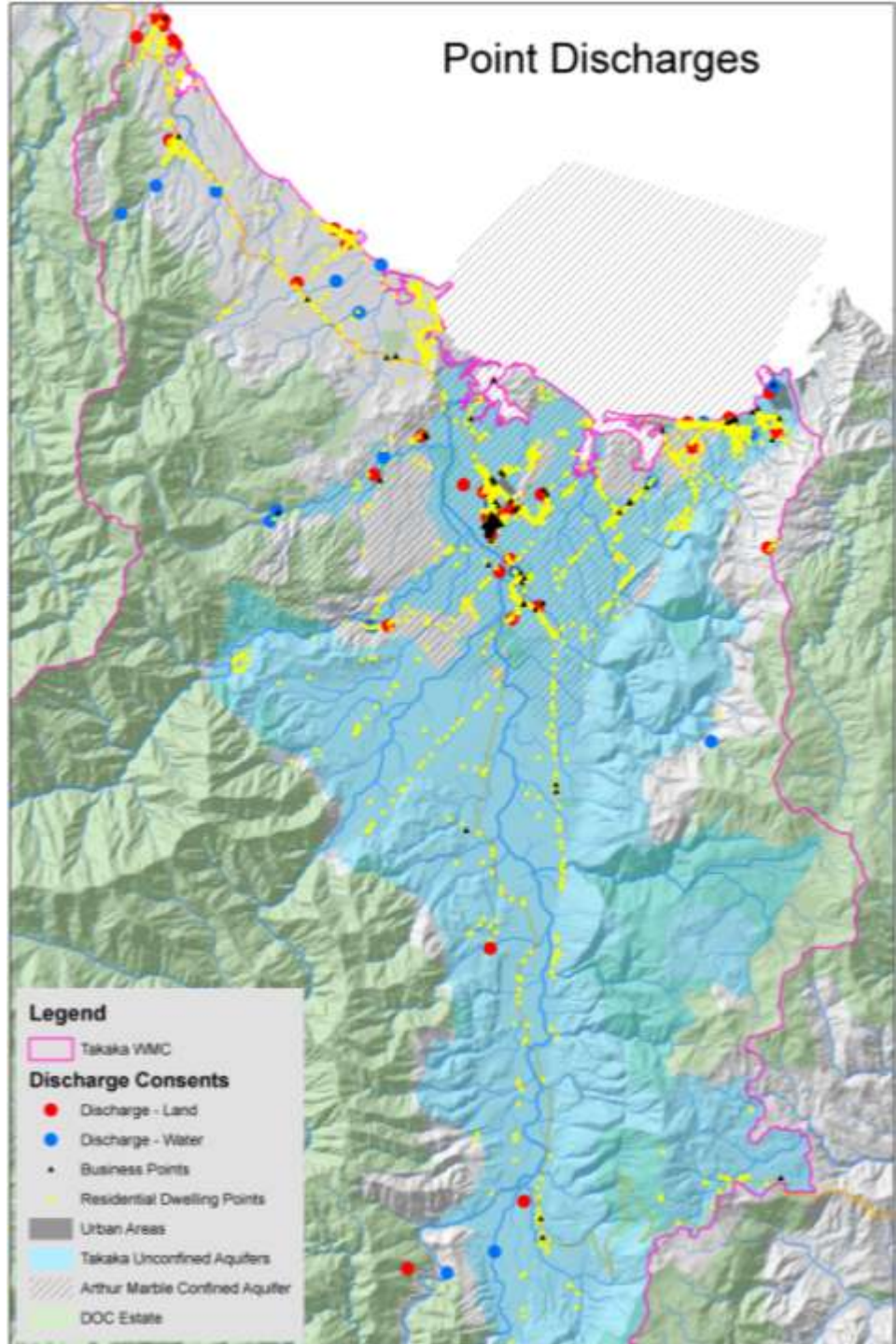
- **Various point discharges**
  - mostly on valley floor and private land
- **Potential for cumulative and localised impacts**





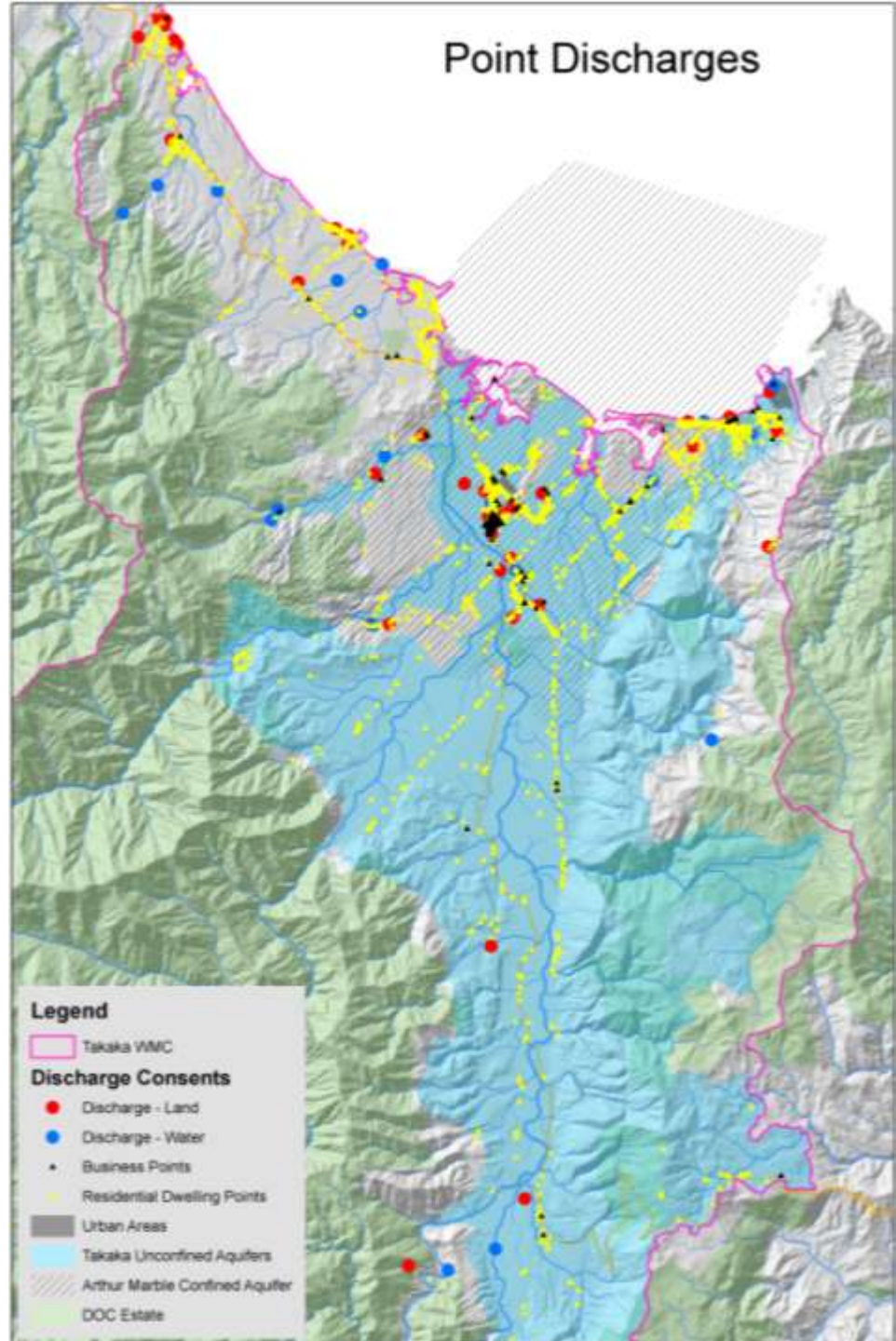
# Summary

- Limited data available for permitted activities
- Potentially ~500 on-site wastewater systems in area overlying the unconfined aquifers
  - Relatively small nitrate contributor on the whole
  - Could have localised impacts, particularly if systems not functioning and located close to water takes



# Summary

- Potential for illegal unconsented discharges





**Questions?**





# Bibliography

- Env. Waikato Report: Overview Of Issues Related To Nutrient Management Of Lake Taupo Wastewater Treatment And Disposal. June 2003
- EBoP Reports:
  - Nutrient loads from septic tanks. 6 November 2012
  - On-site Wastewater Treatment System Environment Discharge Performance Appraisal For the Biolytix BF6 2500 PAT. May 2007. Number EDPA002/07.
  - On-site Wastewater Treatment System Environment Discharge Performance Appraisal For Oasis Clearwater S2000 (Trial 3). November 2008. EDPA 010/08.