



Point Discharges on the Waimea Plains

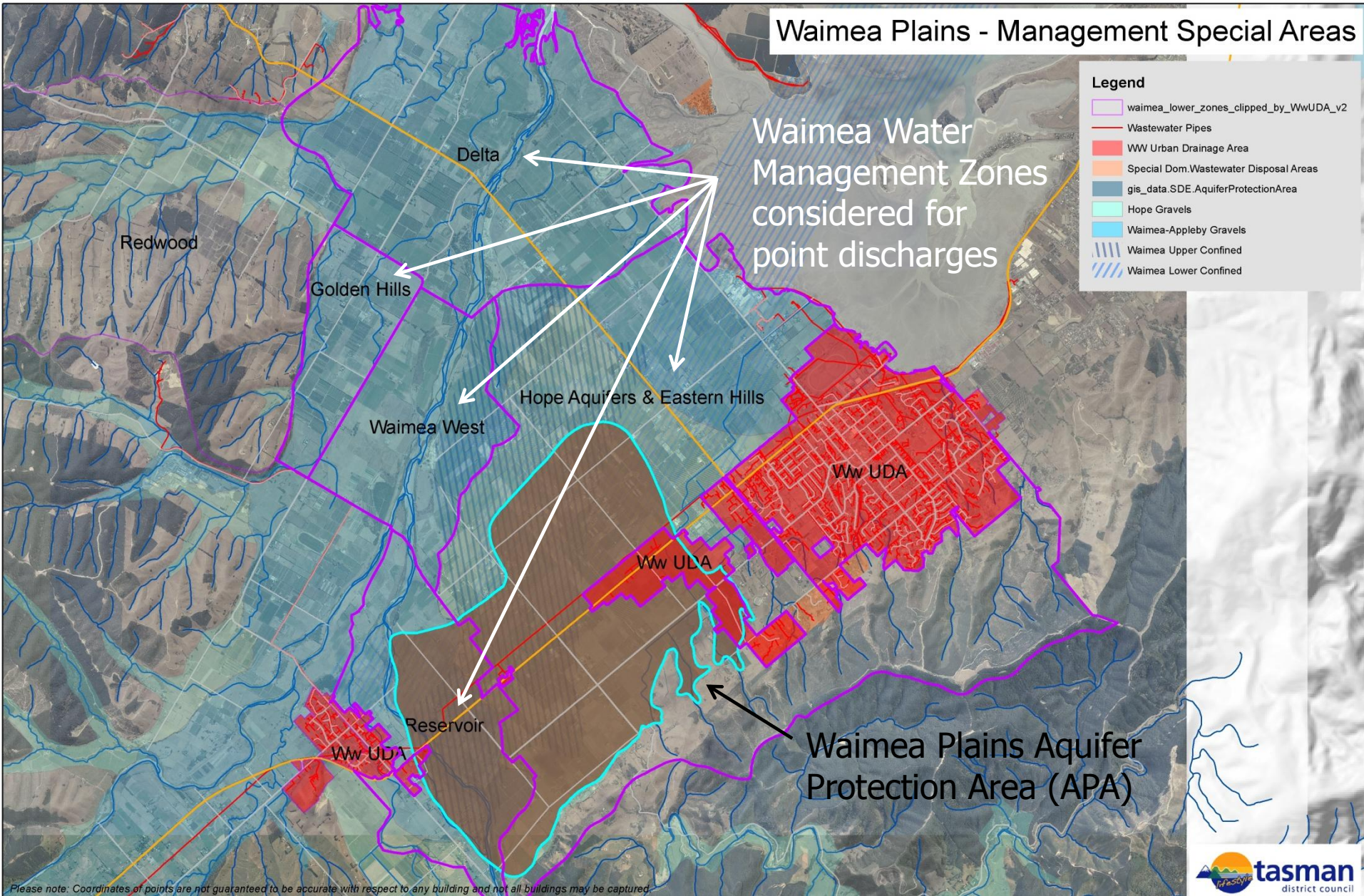
Lisa McGlinchey

14 July 2014

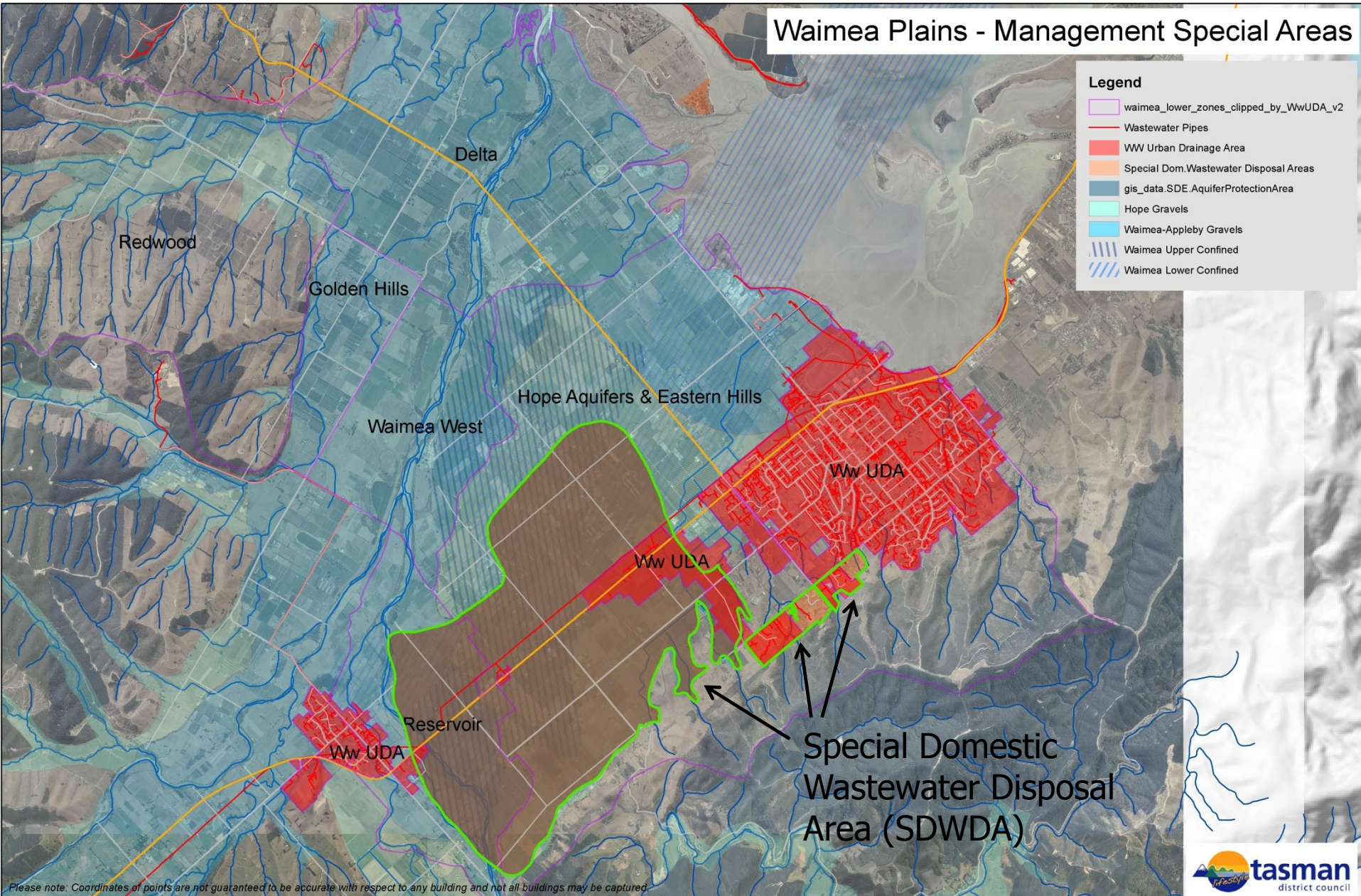
Overview

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

Waimea Plains Zones and Special Areas



Waimea Plains Zones and Special Areas



Permitted Discharges (permitted with conditions)

• To Land :

- Fruit Dump Water
- Fruit or Vegetable Processing Wastewater
- Bird or Animal Effluent (not to APA and <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 (not to APA)
- 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 (73)

- Onsite wastewater systems
- Industrial and commercial discharges
 - Milk processing water
 - Treated industrial effluent / cooling water
 - Vehicle/truck wash water
 - Winery waste
 - Pipeline flushing water
 - Log wash water
 - Sediment from truck crossings and gravel/shingle washing
- Potentially contaminated stormwater
 - Subdivisions, industrial and commercial yards
- Oil for dust suppression
- Need to look at specific consents to determine potential contaminant contributions

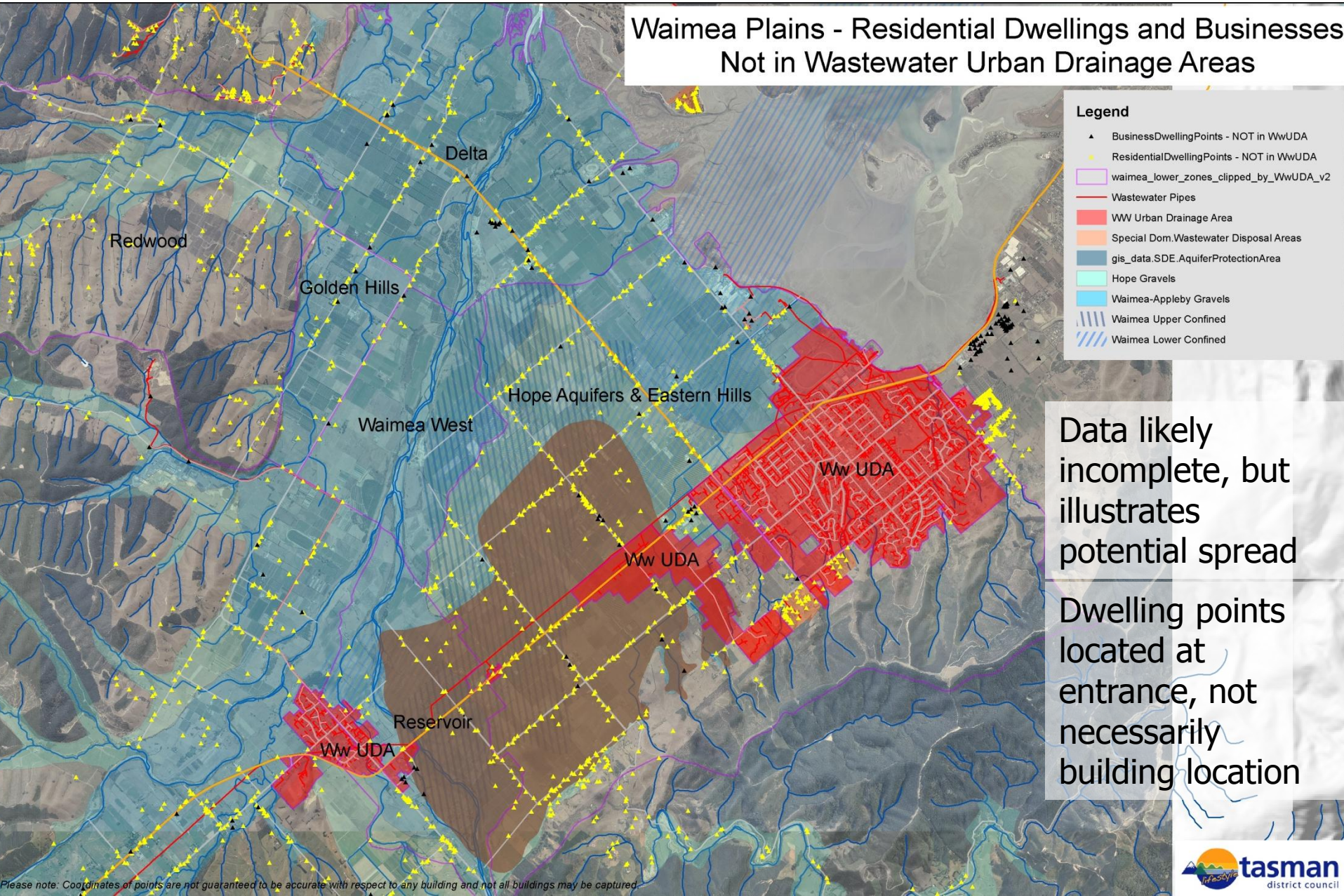
Onsite wastewater systems (permitted)

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

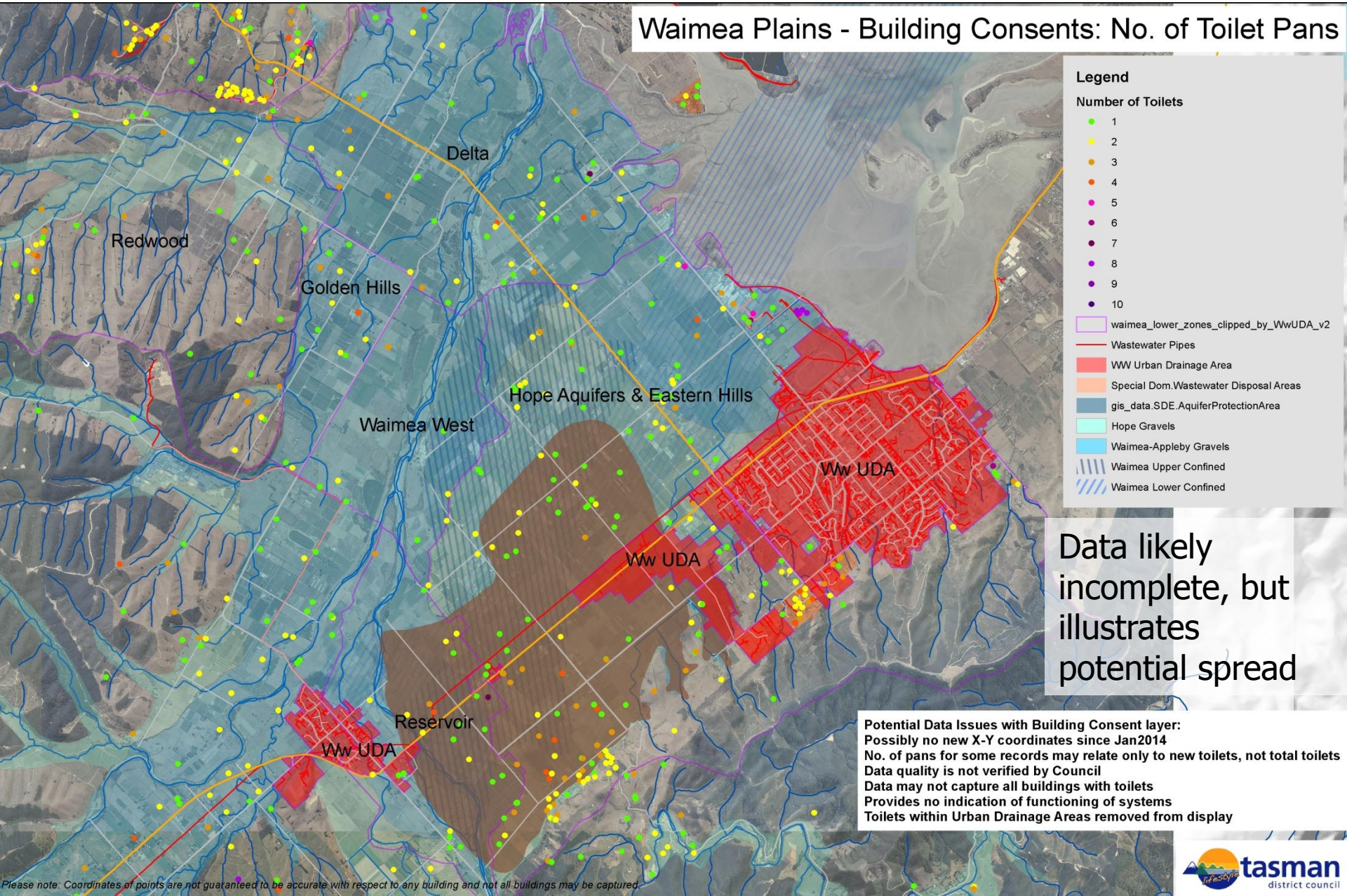
(Census meshblock data is too coarse)
- **The datasets are only considered to be indicative**
- **Assumptions:**
 - Each residential building & business has toilet facilities
 - Those not in the Wastewater UDA are on-site systems

Residential Dwellings and Businesses

Waimea Plains - Residential Dwellings and Businesses Not in Wastewater Urban Drainage Areas

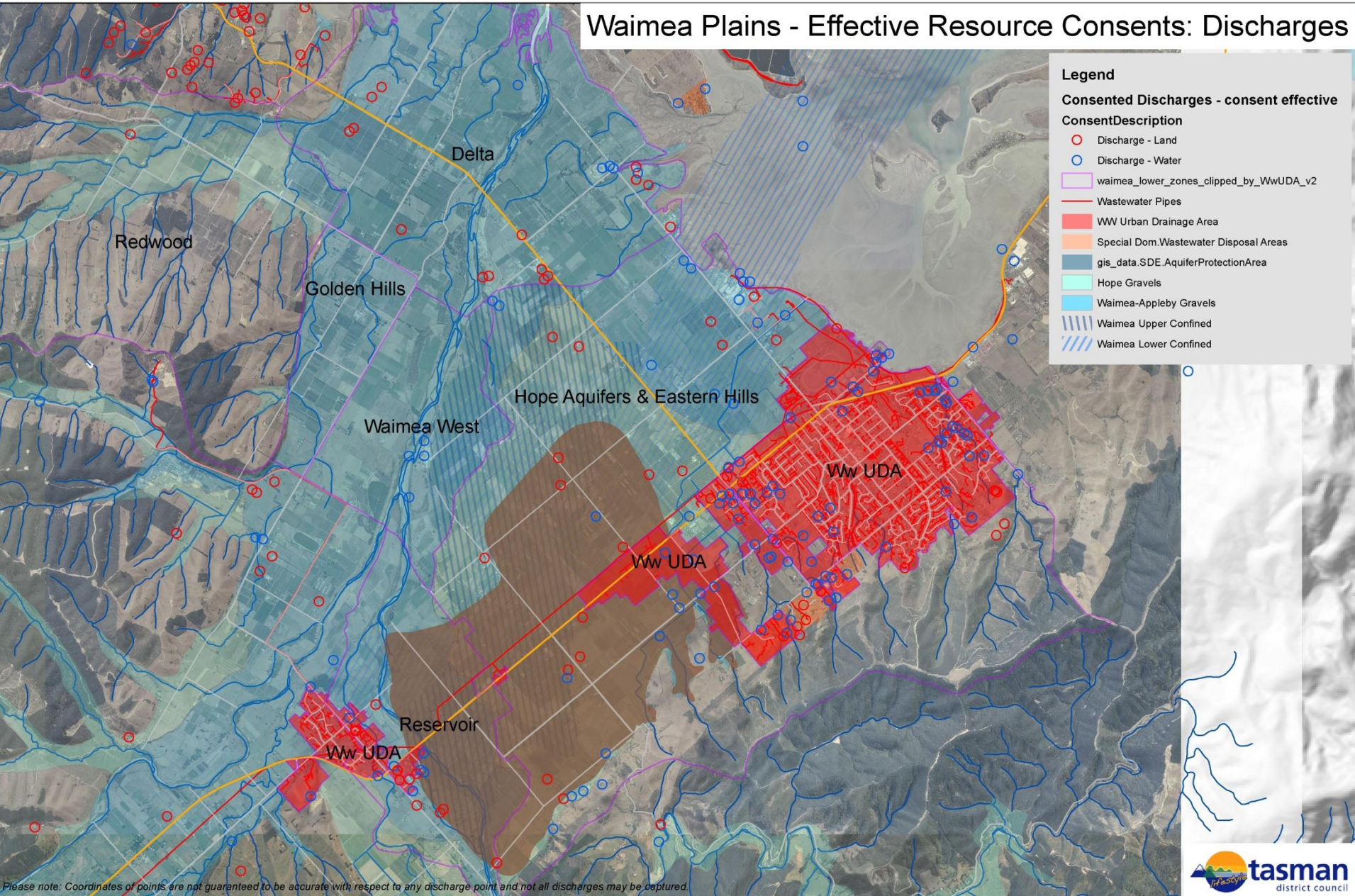


Building Consent Data – Toilet Pans



Resource Consent Data – Discharges

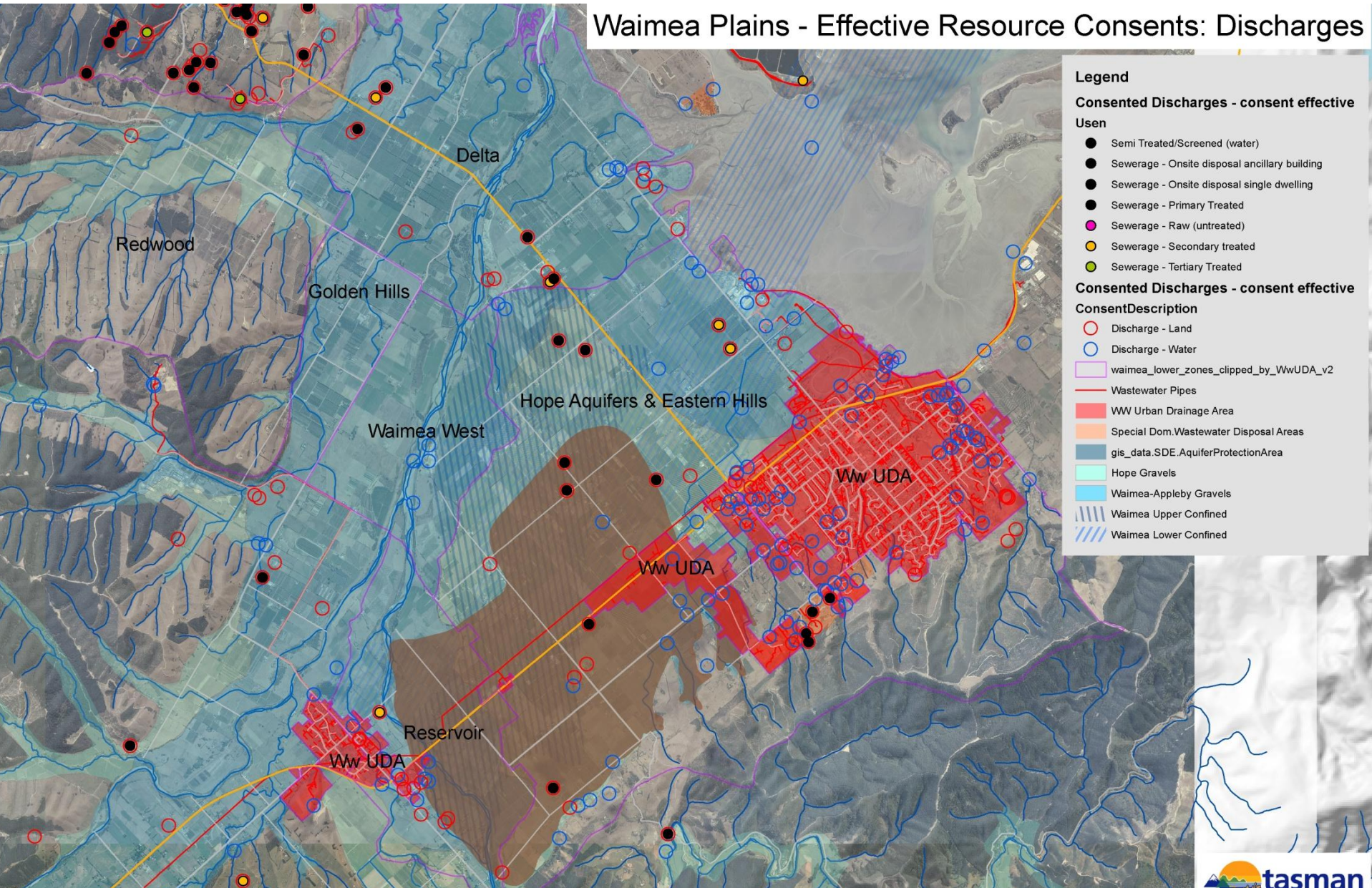
Waimea Plains - Effective Resource Consents: Discharges



Please note: Coordinates of points are not guaranteed to be accurate with respect to any discharge point and not all discharges may be captured.

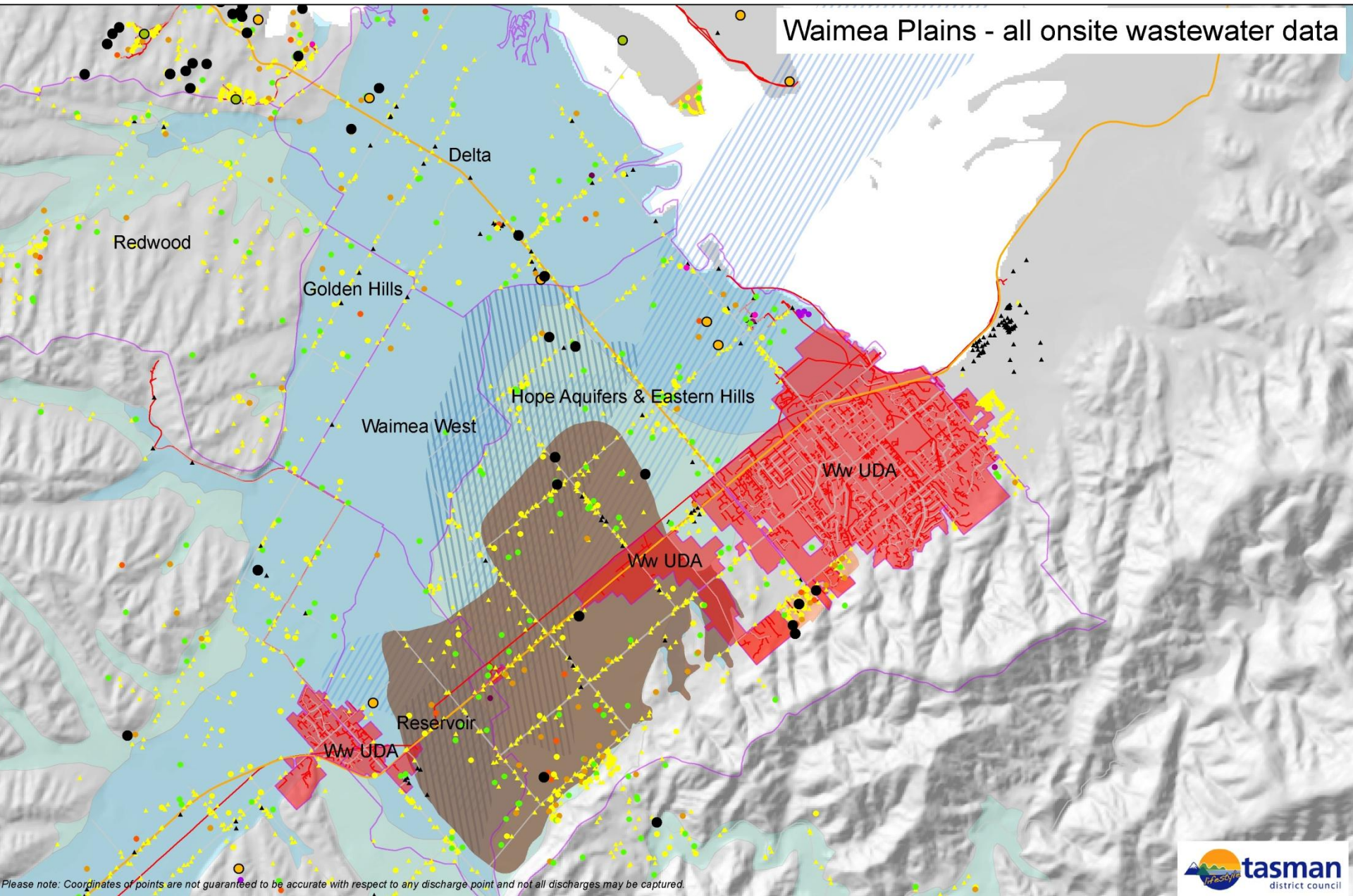
Resource Consent Data – Ww Discharges

Waimea Plains - Effective Resource Consents: Discharges



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All Data – onsite wastewater discharges



Waimea Plains - all onsite wastewater data

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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 highlighted zones -
excluding Wastewater Urban
Drainage Areas:

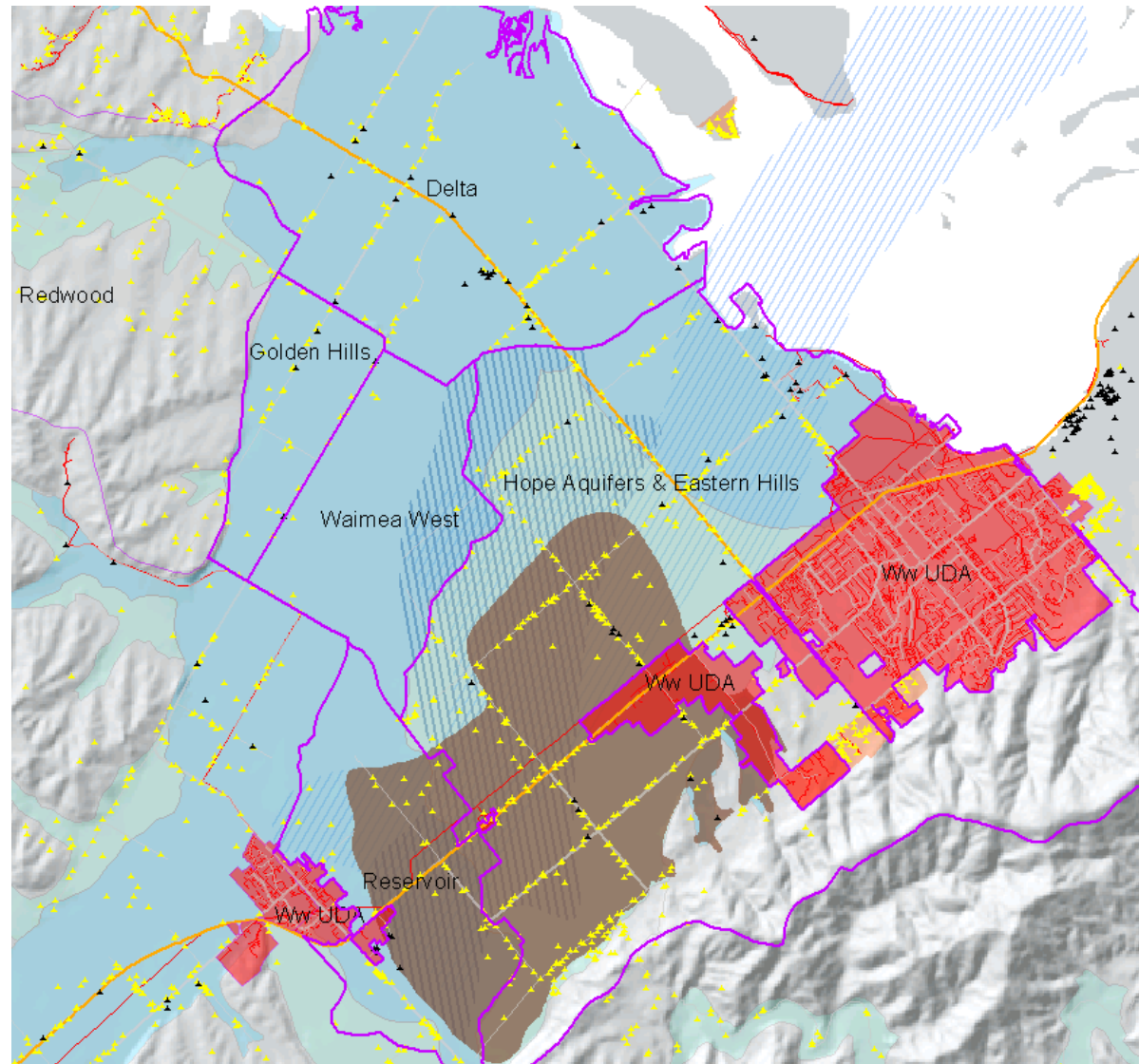
- 721 dwellings and
68* businesses

*assumed all have toilet facilities (789)

- 6,000-12,000 kg/yr
nitrate over whole
area

- **Less than 2kg/ha/yr**

- For context: TRMP
Permitted Activity
level for bird and
animal effluent is
200kg/ha/yr



Summary

- **Various point discharges on the Plains**
- **Most expected to be relatively minor for water quality impacts, but could have cumulative and localised impacts**
- **Limited data available for permitted activities**
- **Potentially over 700 on-site wastewater systems in the Waimea Plains zones**
 - Relatively small nitrate contributor on the whole
 - Could have localised impacts, particularly if systems not functioning and located close to water takes
- **Potential for illegal unconsented discharges**
 - Eg truck wash shut down following compliance action

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.