

## **Briefing on upcoming changes to S-map August 2022: where a significant area will be replaced with an updated soil survey covering the Hauraki – Coromandel – Mamaku area.**

### **Overview**

The new Hauraki/Coromandel S-map soil survey is an area of approximately 540,000 ha, covering the Hauraki Plains, Coromandel Peninsula, the west side of the Kaimai ranges and Mamaku Plateau. Apart from the lower plains (an updated legacy map) comprising two peat domes and Holocene marine sediments, the remaining area is a new soil survey. Where there is LiDAR digital elevation model coverage (Hauraki Plains and BOP) the new map linework has a much better fit with the landscape, in particular separating soils of the levees and bars from hollows and channels. This was not possible with air photograph interpretation used in the previous mapping. The new mapping has replaced five separate legacy maps, completed at different times by different people, giving much better continuity of soil map units and soil-landscape relationships across the region. The replaced legacy maps were based on limited field work and the outdated New Zealand Genetic Classification. The new mapping draws upon advances in both the characterisation and classification of soils, with the result that many soils are now classified in different soil Orders. On the Mamaku Plateau a much better understanding of the “Mamaku Podzols” has been gained, given new field observations, and supported by laboratory data.

### **Changes in soil order**

The location of any major changes in the New Zealand Soil Classification are summarised in Figure 1, which compares changes in soil order between the previous 2021 version of S-map, and the August 2022 update. In summary:

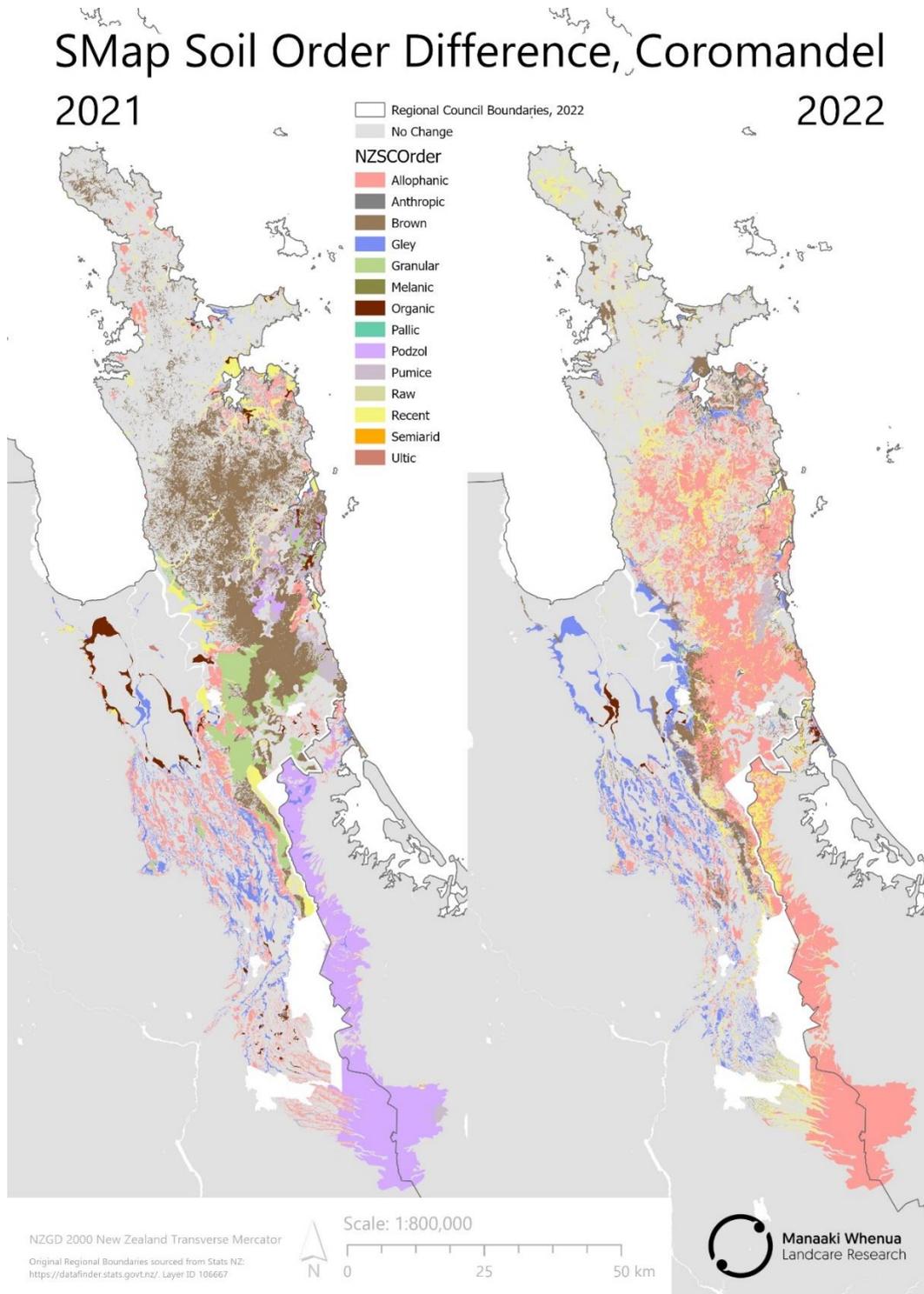
- On the Hauraki Plains there are some areas bordering the Torehape and Kopuatai peat domes that have been reclassified from Organic to Gley soils, reflecting that these soils are predominantly comprised of mineral soil material. An area north of Paeroa previously mapped as Organic soil has been reclassified as Gley soils.
- In the upper Hauraki Plains more Gley soils have been identified, reflecting the better mapping of topography through high-resolution LiDAR.
- Allophanic soils have been more extensively mapped across areas of the Coromandel Peninsula and down to the Mamaku Plateau. This reflects the greater amount of field work and laboratory analysis in these areas, than what had been conducted in the earlier legacy surveys, which were based on limited fieldwork and estimates of assumed soil genesis.
- On the Mamaku Plateau a single legacy map unit of Podzol soils has been replaced by a map unit that is a complex of Allophanic (dominant sibling) and Podzol soils, with another map unit covering hollows and ponding areas on the plateau where soils are mostly imperfectly drained as opposed to the well-drained legacy map unit.
- More Recent soils have been identified on steep land on the Kaimai and Coromandel Ranges.
- Most legacy Granular soils have been reclassified as Brown or Allophanic soils.

### **Changes in profile available water (PAW)**

The location of any major changes in the PAW to 0.6 metre depth are summarised in Figure 2, which compares changes between the previous 2021 version of S-map, and the August 2022 update. In summary:

- On the Hauraki Plains there are some areas bordering the Torehape and Kopuatai peat domes that have changed due to the remapping of the Organic Soils area.
- On the lower Hauraki Plains there is a large area that has been mapped with increased PAW, reflecting more laboratory data measurements of soil texture, showing the soils have higher clay, and lower sand contents, than previously estimated.

- Areas of the Coromandel Peninsula are mapped with increased PAW, reflecting the recognition of extensive areas of Allophanic Soils, and more field observations that indicate the soils are often deeper and less stony than estimated in the previous legacy soil surveys.
- On the Mamaku Plateau PAW has increased in some places where the sand content has been reduced

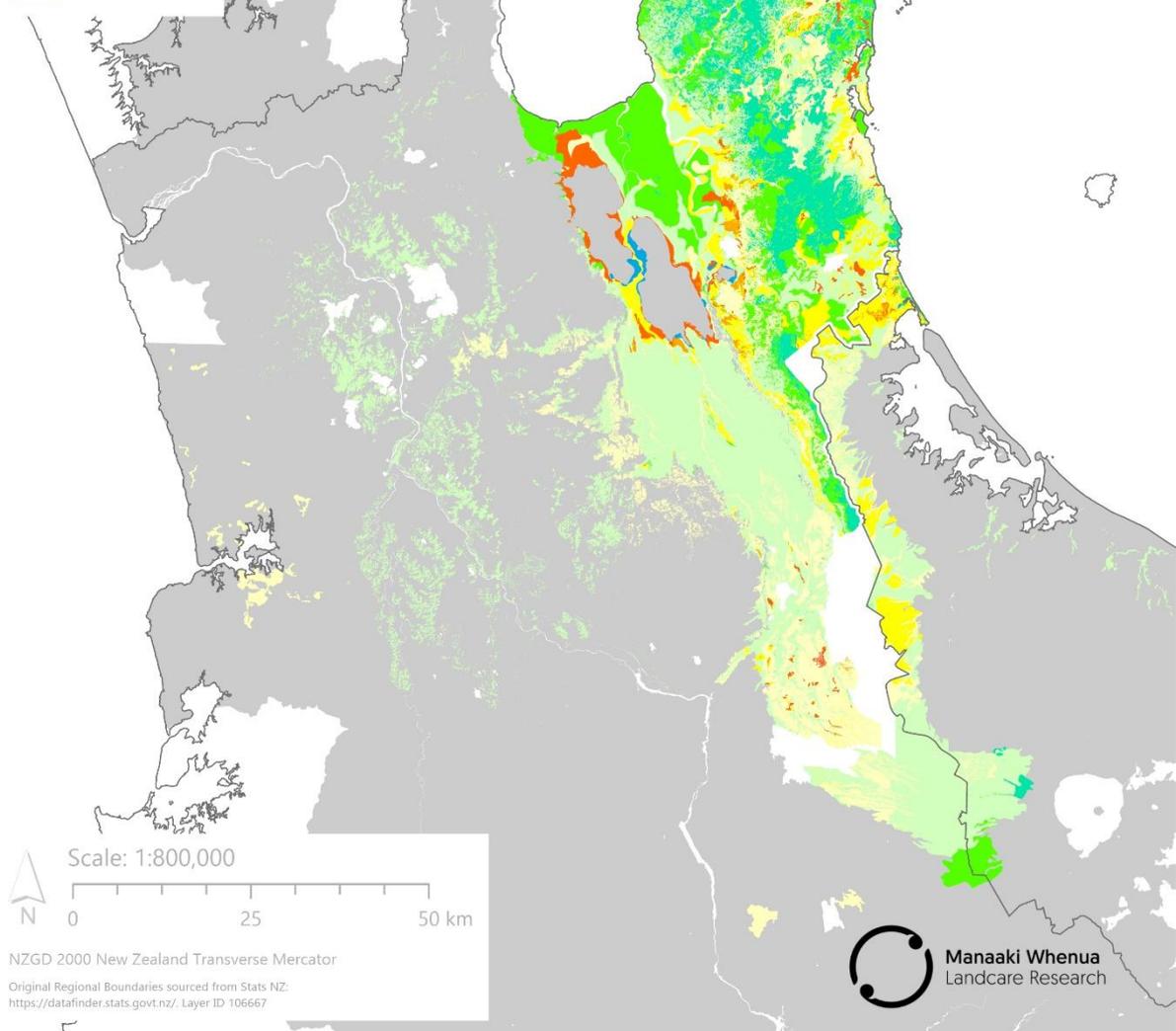


**Figure 1** Changes in soil order between the previous 2021 version of S-map, and the August 2022 update. Areas coloured grey have no change in the soil order

# SMap PAW to 60cm Depth, Difference 2021-2022, (Dominant Sibling)

Regional Council Boundaries, 2022

PAW Difference to 60cm Depth (mm)



**Figure 2 Differences in profile available water (to 0.6 metre depth) between the previous 2021 version of S-map, and the August 2022 update. Areas coloured grey have no change.**