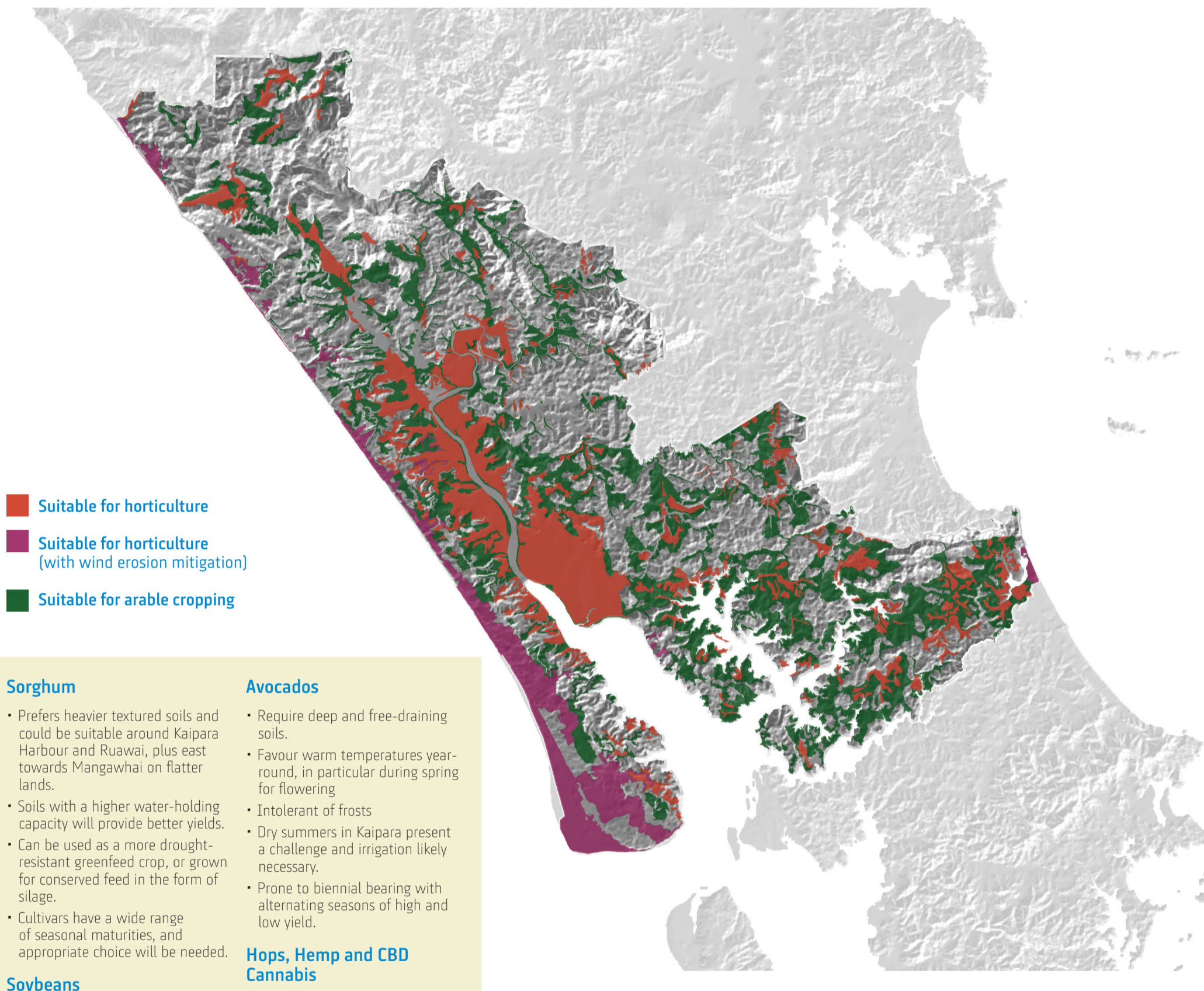


KAIPARA CROP SUITABILITY

There are 310,000 ha of land within the boundaries of the Kaipara District Council. A non-crop specific assessment of general horticulture found that approximately 44,200ha (14%) of this land is generically suitable for horticulture (orange). An additional 17,000 ha (5%) of land (pink) could also be suitable, although this area is susceptible to wind erosion and would most likely require appropriate management, shelter mitigation, and irrigation. In addition to these areas, a further 69,000 ha (22%) is considered suitable for arable cropping (green).

Some soils in the Kaipara District have poor drainage and shallow potential rooting depths. Mitigation options, such as pan breaking, artificial drainage, and/or mounding along the row of horticultural crops, would need to be investigated.



- Suitable for horticulture
- Suitable for horticulture (with wind erosion mitigation)
- Suitable for arable cropping

Sorghum

- Prefers heavier textured soils and could be suitable around Kaipara Harbour and Ruawai, plus east towards Mangawhai on flatter lands.
- Soils with a higher water-holding capacity will provide better yields.
- Can be used as a more drought-resistant greenfeed crop, or grown for conserved feed in the form of silage.
- Cultivars have a wide range of seasonal maturities, and appropriate choice will be needed.

Soybeans

- Fix nitrogen and therefore a useful rotation crop with pasture, kumara, sorghum and peanuts.
- Sensitive to both daylength and temperature. Longer days and warmer temperatures enhance development.
- Early to mid-October planting date is possible, heavy spring rainfalls notwithstanding.
- Prefers heavier textured soils and could be suitable around Kaipara Harbour and Ruawai, plus east towards Mangawhai on flatter land.

Avocados

- Require deep and free-draining soils.
- Favour warm temperatures year-round, in particular during spring for flowering
- Intolerant of frosts
- Dry summers in Kaipara present a challenge and irrigation likely necessary.
- Prone to biennial bearing with alternating seasons of high and low yield.

Hops, Hemp and CBD Cannabis

- Prefer soils with good drainage, and pH between 6.2 and 6.5.
- Can grow well in soils that are also used to grow potatoes and kumara.
- Main driver of growth and development is sunlight and daylength. Hops typically grown on high trellises.
- Grown from root cuttings planted in spring which grown vegetatively till mid-summer.
- Mites and downy mildew will require vigilant pest and disease control.
- Hops highly susceptible to wind damage and would require mitigation measures.

Peanuts

- Grow best in light sandy loam soils.
- Require little nitrogenous fertiliser and can work well in rotation.
- Require warm soil temperature, particularly in spring, for planting, and sustained temperatures above 18°C for sufficient growth.
- Suitable climate and soils make the Pouto Peninsula a likely candidate for peanut cultivation, but may require mitigation measures for wind damage, and to prevent soil erosion.

Olives

- Prefer well-drained, alkaline, and low to medium fertility sandy soils.
- Favour cool winters and warm summers - but adaptable to a wide range of conditions.
- Require winter chilling to trigger floral initiation. Cultivar choice will be an important climate-change mitigation measure.
- Susceptible to olive leaf-spot, or "peacock spot", which is influenced by lower temperatures and high humidity as might happen with autumnal rains.
- Roots are concentrated in the top 50-70 cm. Soil mounding along the row can help overcome rootzone depth limitations where there are pans or imperfect drainage.
- Already grown in Mangawhai, with the west coast around Dargaville and Pouto Peninsula having further potential.

This infographic is based information from the following report: *Current and future crop suitability in the Kaipara District* prepared by

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