

Hawke's Bay Irrigated Land Area

Landuse	Irrigated Area (ha)	landuse Percentage of Irrigated Area	Irrigation water use 2019/20 (Mm3)	Percentage of Total Irrigation Volume
Cropping	9,940	23	13.5	18.5
Pasture	16,159	37.3	27.9	38.3
Orchard/vineyard	16,679	38.5	29.8	40.9
Unknown	494	1.1	0.1	0.1
Unmapped consented	**	**	1.5	2.1
Sum	43,272	100	72.8	100

Numbers are based on an aerial photography assessment by Aqualinc (Dark 2020) for the Ministry for the Environment - National irrigated land spatial dataset: 2020 update (Dark, 2020). This national level data set was then further refined by HBRC (using consent data mapping, land use mapping, and local knowledge). While the data set is not absolute, it is currently the best estimate of irrigated land use in Hawke's Bay.



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Then we had Cyclone Gabrielle....

IRRIGATED PARCELS AFFECTED BY FLOODING

Landuse	Flood Affected Area (Ha)	Full Parcel Size of Affected Area (Ha)	Number of Parcels Affected
Cropping	3,303	5,124	209
Pasture	1,882	3,234	174
Orchard/Vineyard	3,523	5,118	445
Unknown	9	42	5
Sum	8,718	13,518	833

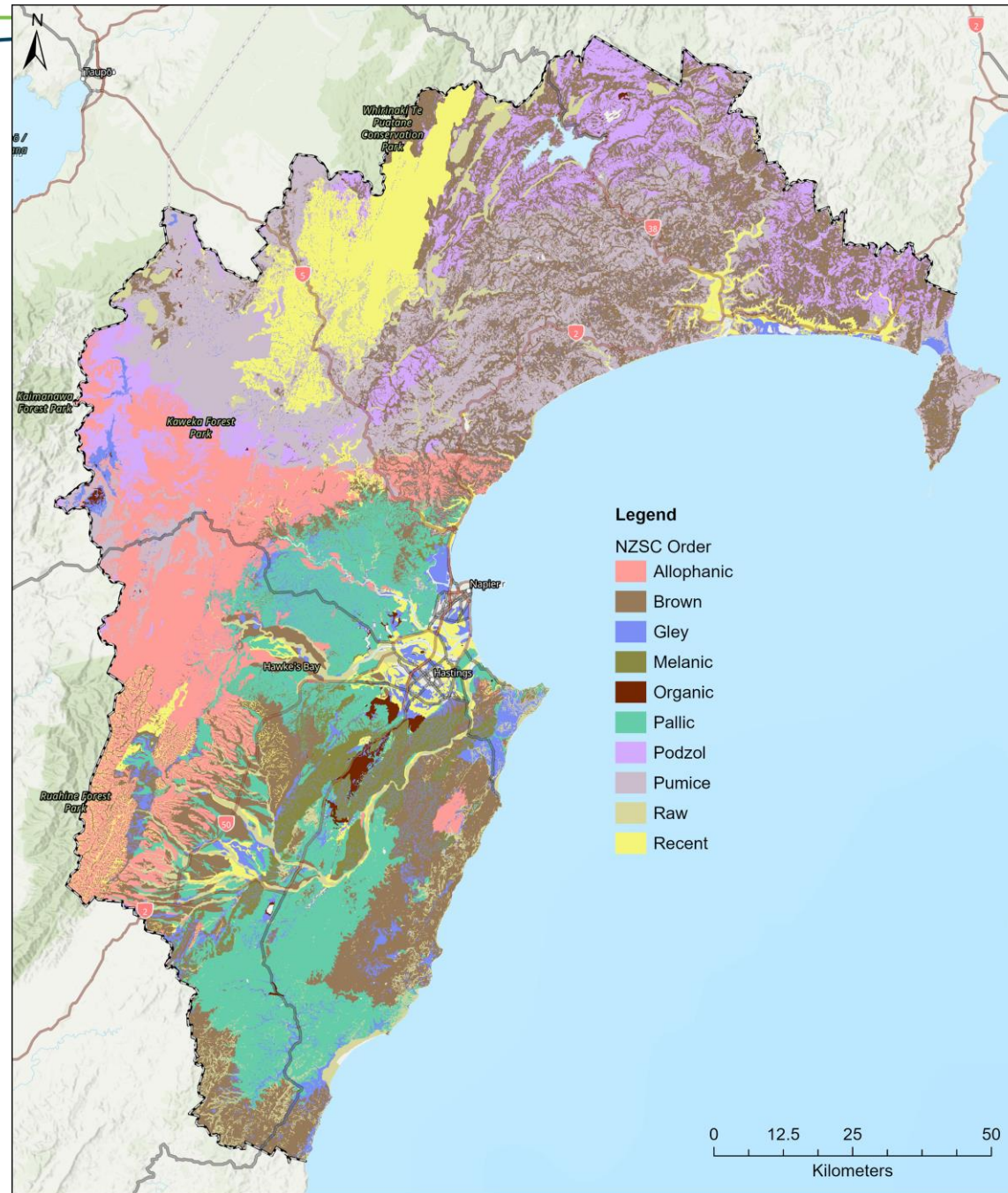


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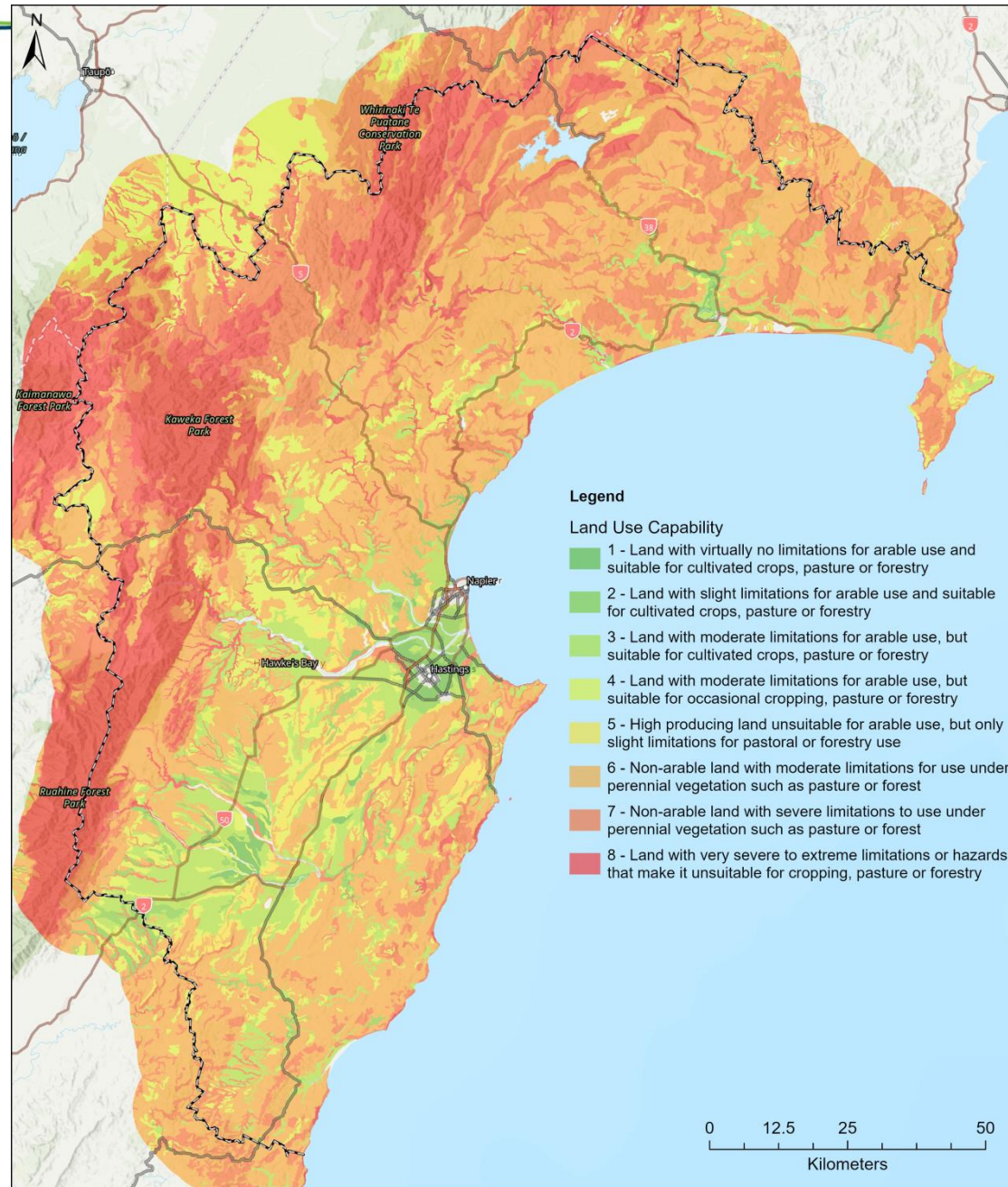
But it wasn't just water...

Gabrielle took soil and deposited soil

Hawke's Bay Soil



Hawke's Bay Land Use Capability

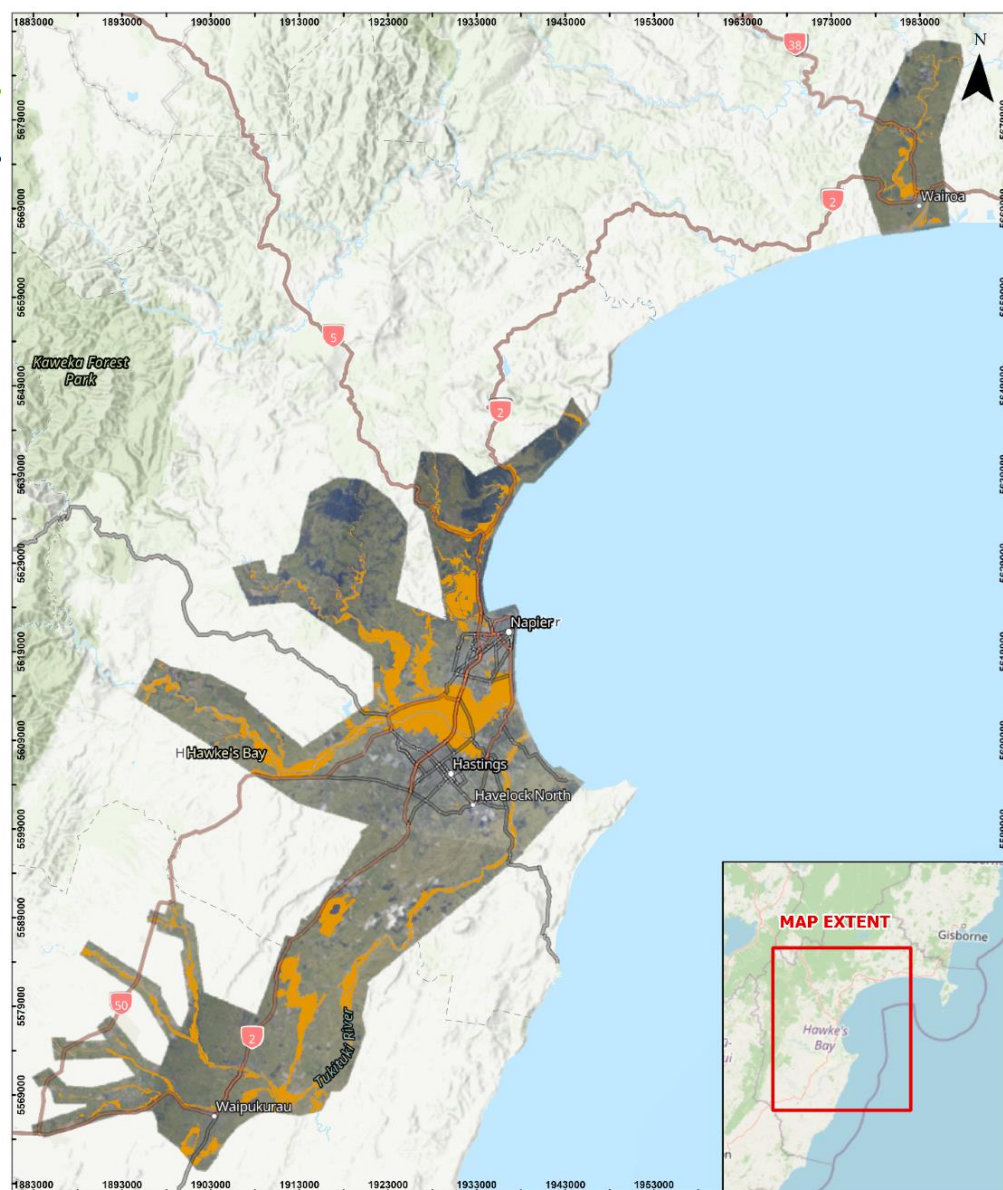


AREA OF ANALYSIS FOR SEDIMENTATION

LEGEND

-  Depositional Area
-  Hawke's Bay 0.10m Cyclone Gabrielle Aerial Photos (2023)

The mapped extent overlaying the aerial imagery captured by HBRC after Cyclone Gabrielle



LEGEND

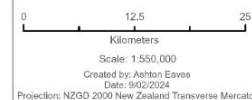
-  Depositional Area
-  Hawke's Bay 0.10m Cyclone Gabrielle Aerial Photos (2023)

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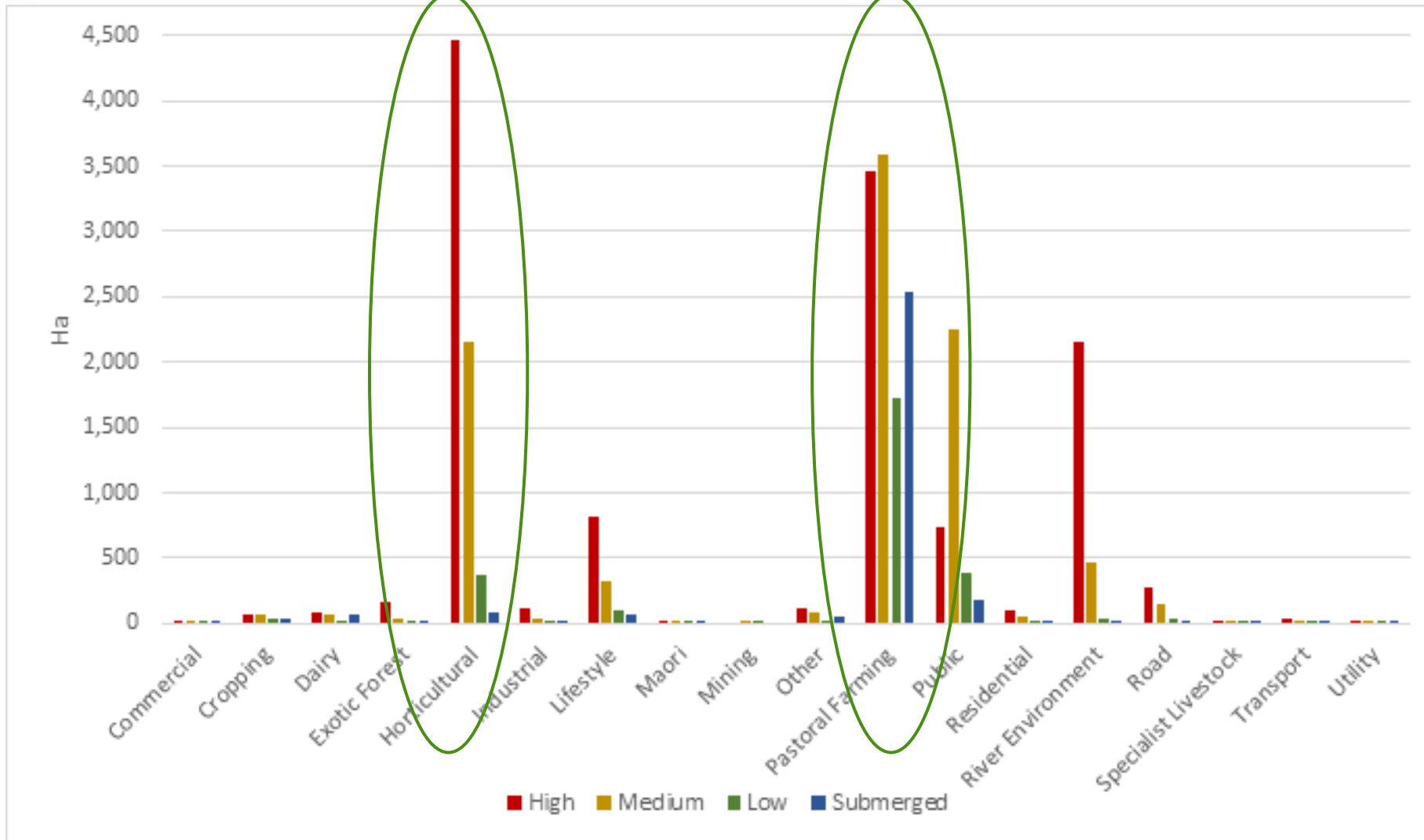
AREA OF ANALYSIS FOR SEDIMENTATION



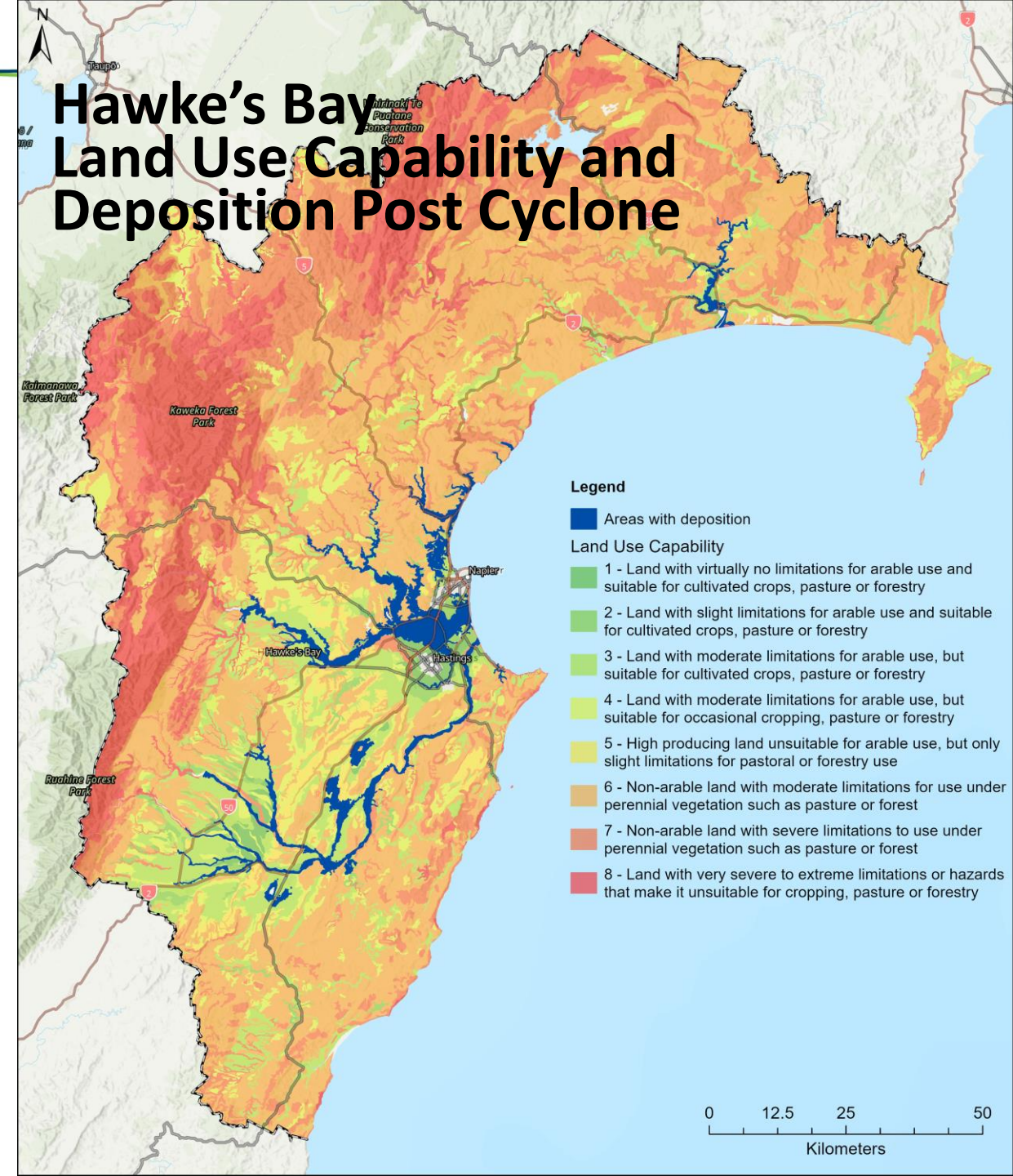
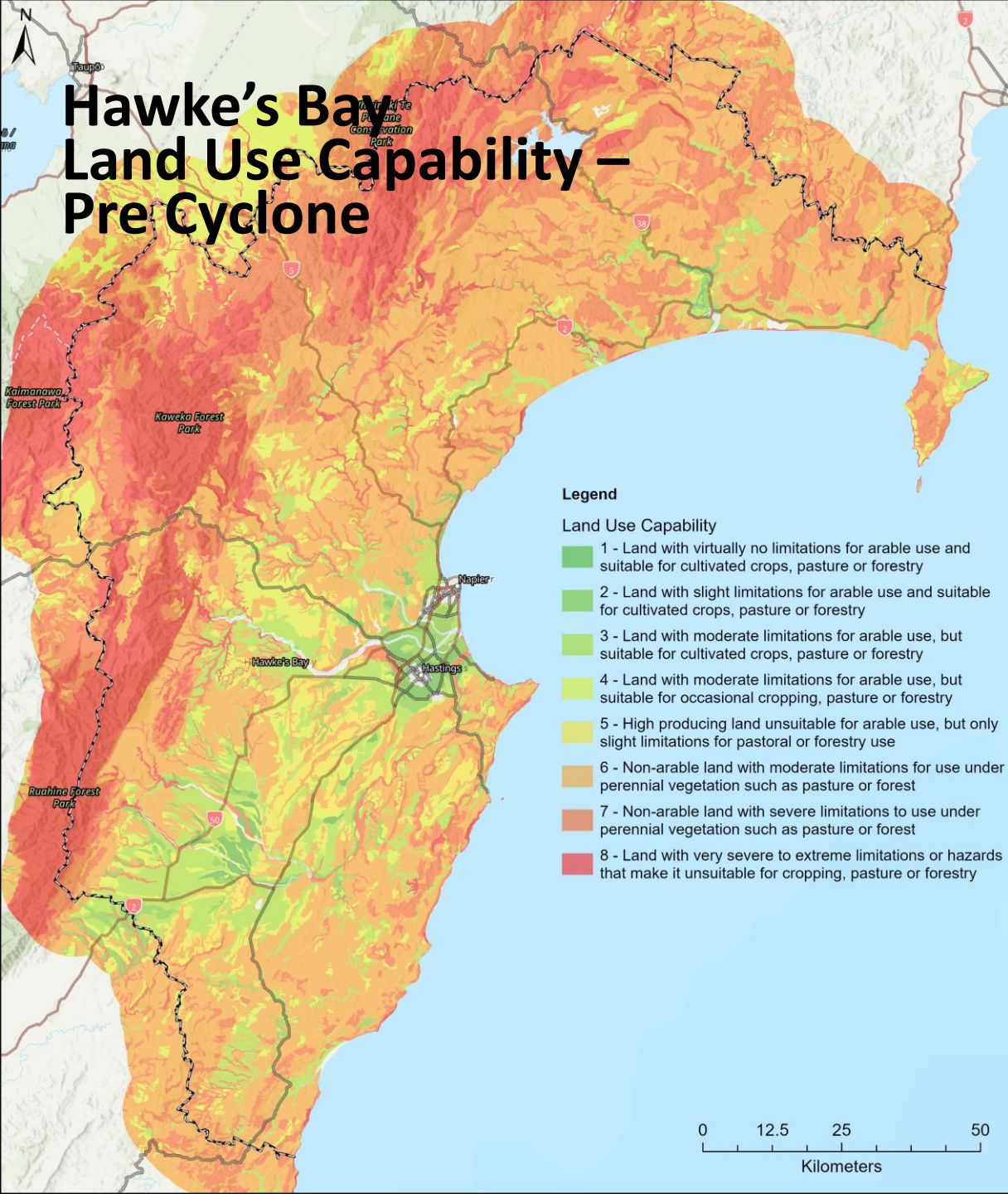
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Map Image: Map Image: Hawke's Bay 0.10m Cyclone Gabrielle Aerial Photos (2023) Aerial
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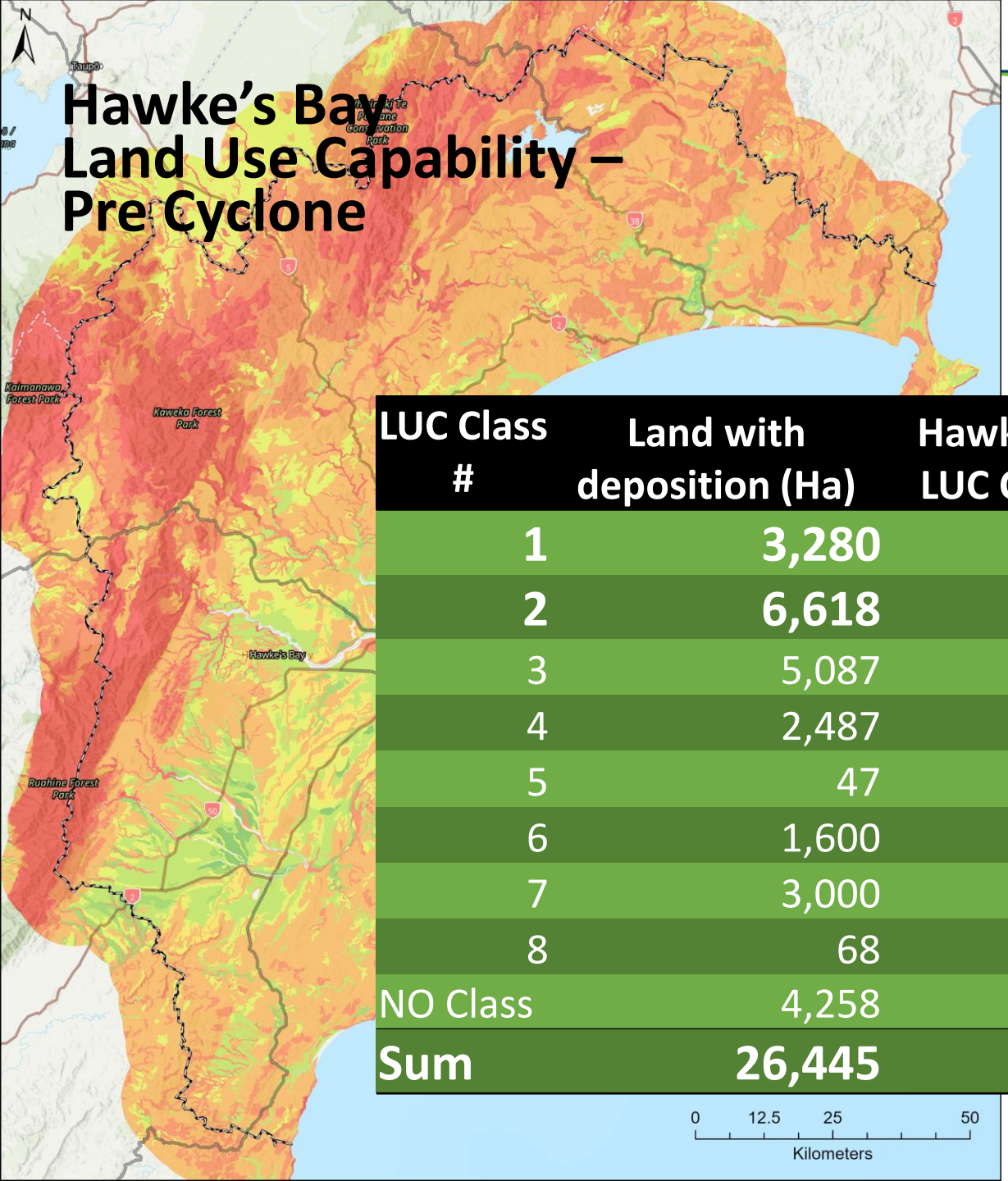


TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

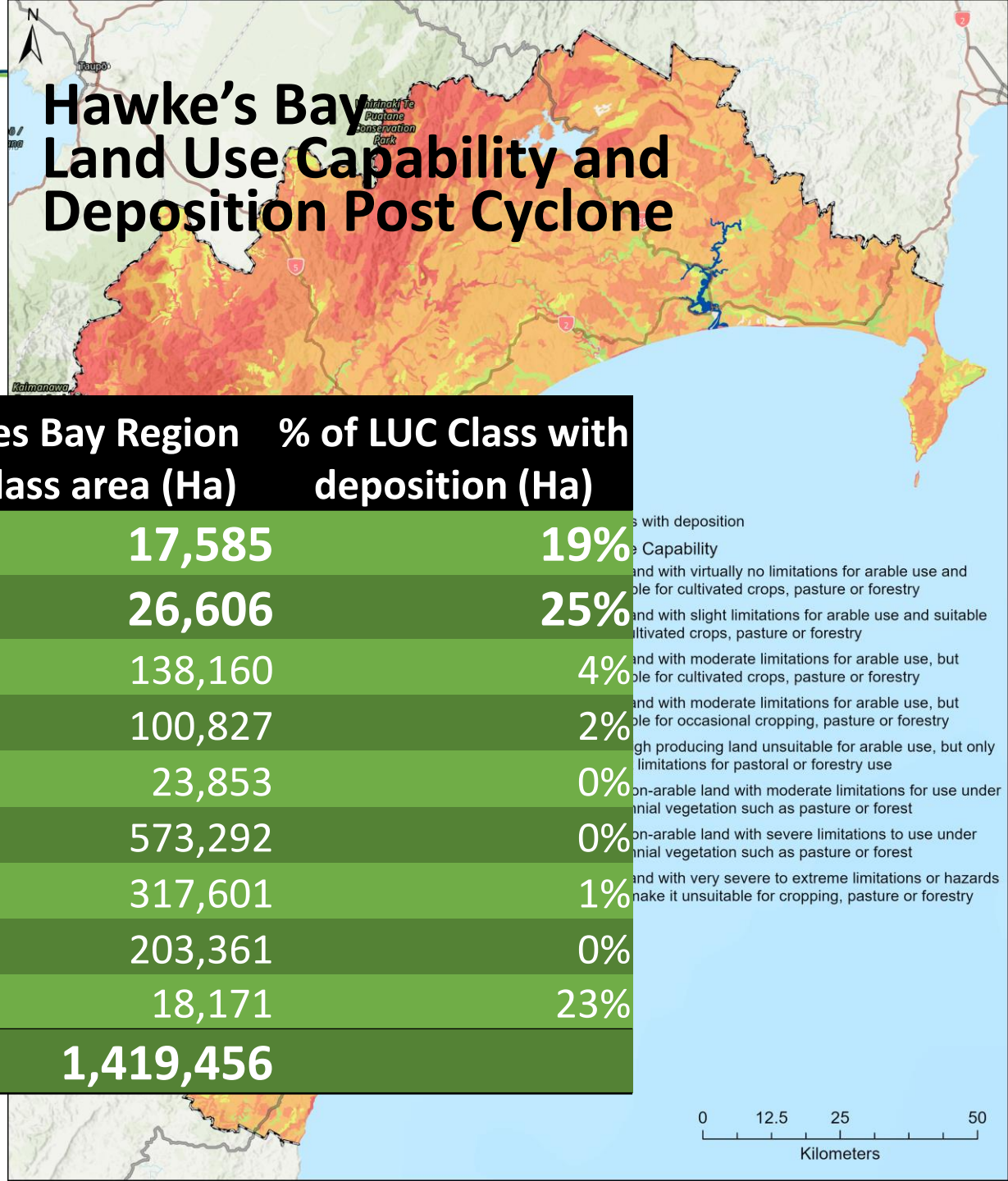


Total area of deposition by land use by confidence.





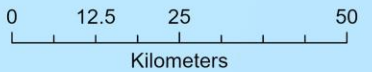
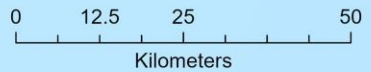
Hawke's Bay Land Use Capability – Pre Cyclone



Hawke's Bay Land Use Capability and Deposition Post Cyclone

LUC Class #	Land with deposition (Ha)	Hawkes Bay Region LUC Class area (Ha)	% of LUC Class with deposition (Ha)
1	3,280	17,585	19%
2	6,618	26,606	25%
3	5,087	138,160	4%
4	2,487	100,827	2%
5	47	23,853	0%
6	1,600	573,292	0%
7	3,000	317,601	1%
8	68	203,361	0%
NO Class	4,258	18,171	23%
Sum	26,445	1,419,456	

1 Land with deposition
 2 Land Use Capability
 3 Land with virtually no limitations for arable use and suitable for cultivated crops, pasture or forestry
 4 Land with slight limitations for arable use and suitable for cultivated crops, pasture or forestry
 5 Land with moderate limitations for arable use, but suitable for cultivated crops, pasture or forestry
 6 Land with moderate limitations for arable use, but suitable for occasional cropping, pasture or forestry
 7 High producing land unsuitable for arable use, but only suitable for pastoral or forestry use
 8 Non-arable land with moderate limitations for use under perennial vegetation such as pasture or forest
 9 Non-arable land with severe limitations to use under perennial vegetation such as pasture or forest
 10 Land with very severe to extreme limitations or hazards that make it unsuitable for cropping, pasture or forestry



Irrigation?

There is uncertainty around how these 'new' soils will behave and how they will develop over time

- Changes in soil types will likely affect soil properties:
 - Soil water holding capacity
 - Available water
 - Drainage
 - Nutrient immobilisation and mineralisation
- May have to reassess irrigation management and infrastructure in some areas:
 - Repair or replace damaged irrigation systems
 - Irrigation depths,
 - return periods etc

Hawke's Bay Regional Water Assessment



64%

of all water use in Hawke's Bay is for agriculture and horticulture.

Agriculture (incl. irrigation)	64%
Municipal Water Collection and Supply	19%
Manufacturing and Processing	13%
Non-reticulated Households	2%
Service Industries*	2%
TOTAL	100%

*Table from EnviroStrat report pg. 32



64%

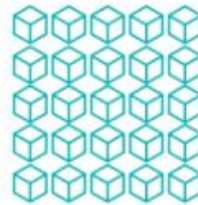
of all water abstraction is from aquifer systems.

Source	m ³	%
Ground Water	88,681,000	64%
Surface Water	48,908,000	35.3%
Collected rainwater	1,058,000	0.07%
TOTAL	138,647,000	100.0%

Demand and Supply Shortfall

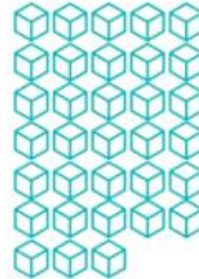
By 2040

Nearly 25 million cubic metres



By 2060

Nearly 33 million cubic metres



That's assuming significant improvements in water use efficiency and conservation

By 2040, the region could experience a shortfall between demand and supply of freshwater of nearly 25 million cubic metres, increasing to 33 million cubic metres by 2060. These estimates are under medium scenario projections that assume significant improvements in water use efficiency and conservation.