

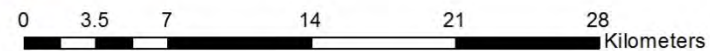
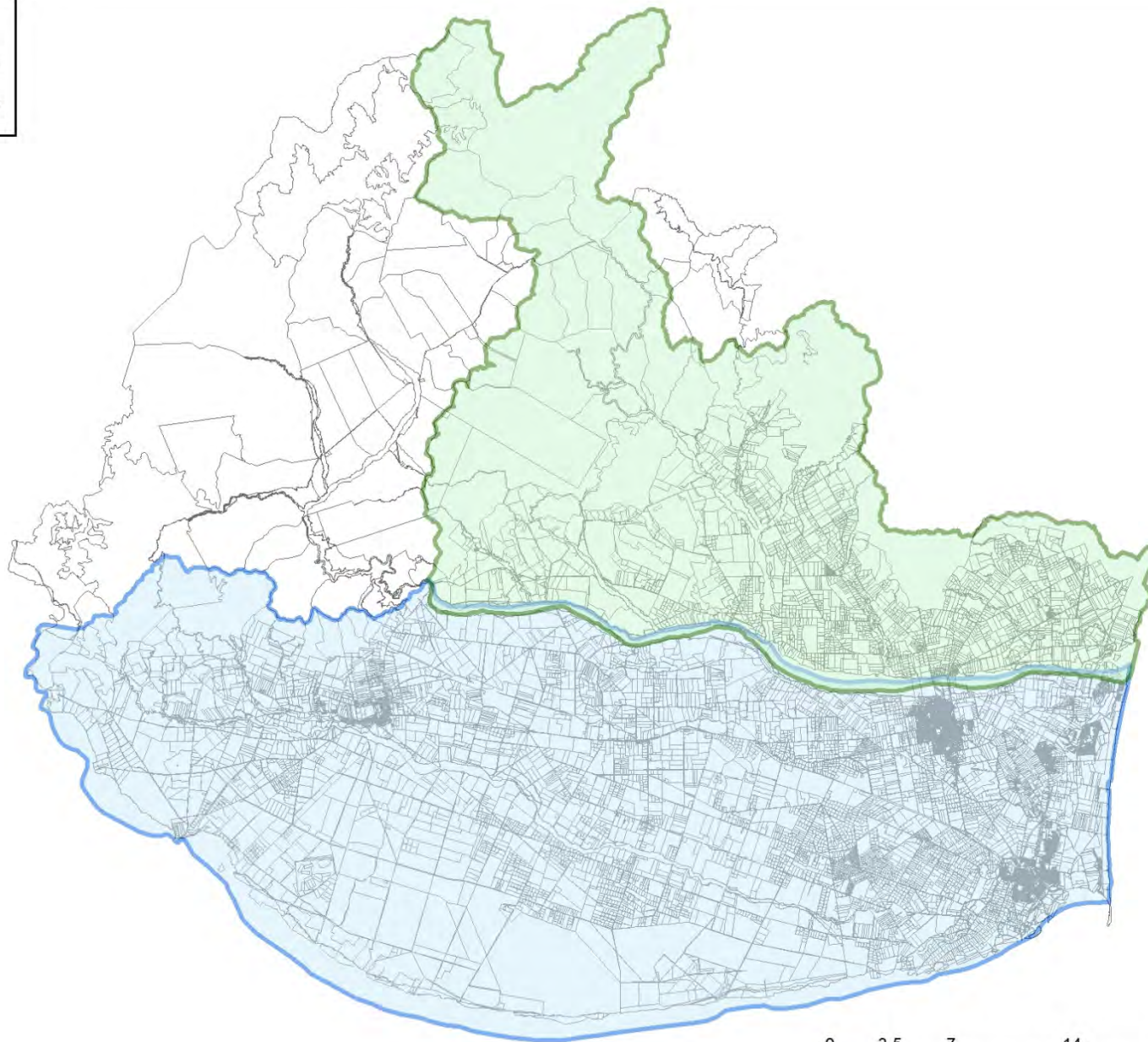



APPENDIX A MODEL BUILD DATA

Legend

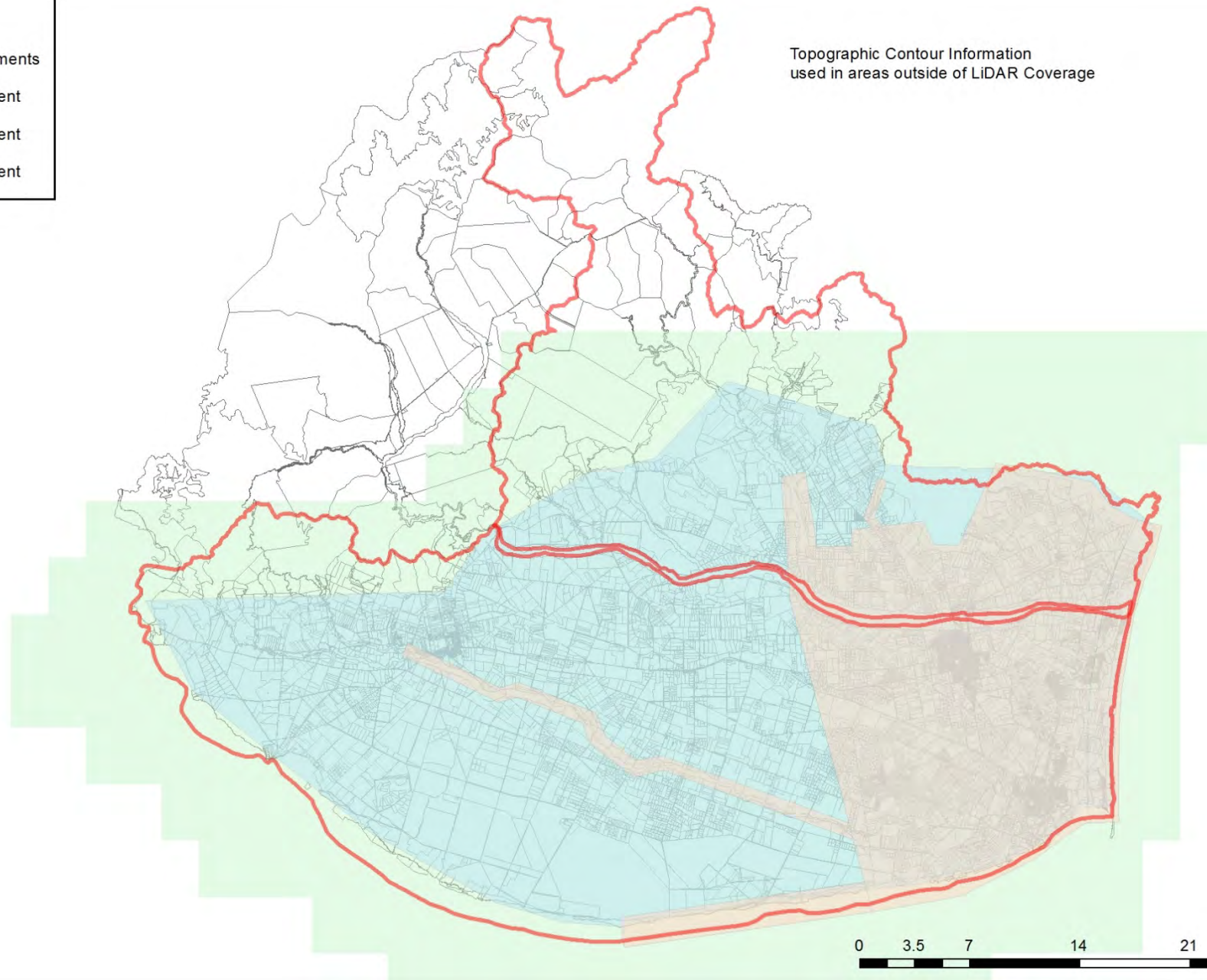
-  North Ashley Catchment 2015
-  South Ashley Catchment 2015



Legend


-  Modelled Catchments
-  2014 LiDAR Extent
-  2005 LiDAR Extent
-  2012 LiDAR Extent

Topographic Contour Information
used in areas outside of LiDAR Coverage



Legend

Drainage Structures

 Culverts

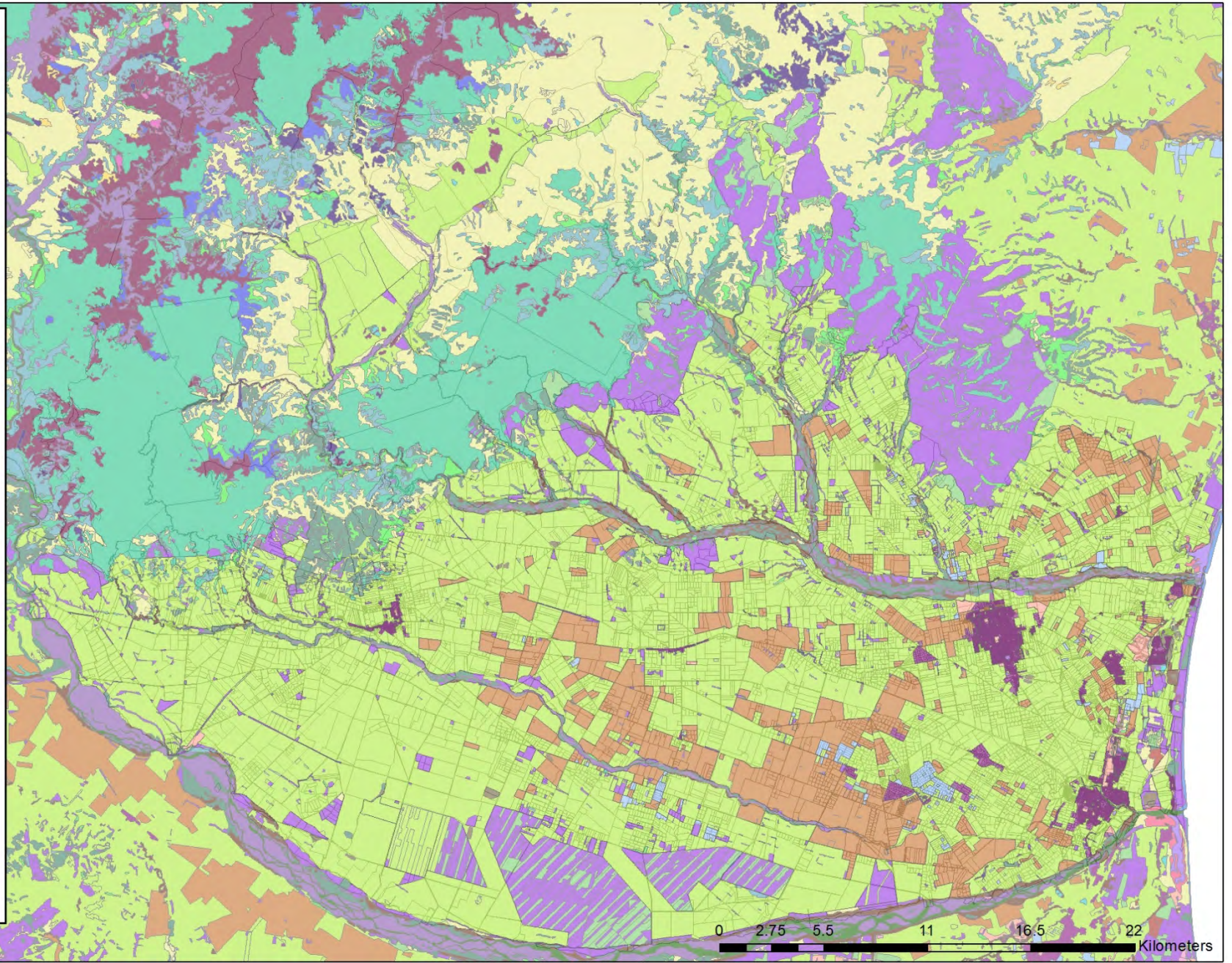
 Culverts with Weir



Legend

LCDB Land Use Types

- Alpine Grass/Herbfield
- Broadleaved Indigenous Hardwoods
- Built-up Area (settlement)
- Deciduous Hardwoods
- Depleted Grassland
- Estuarine Open Water
- Exotic Forest
- Fermland
- Flaxland
- Forest - Harvested
- Gorse and/or Broom
- Gravel or Rock
- Herbaceous Freshwater Vegetation
- Herbaceous Saline Vegetation
- High Producing Exotic Grassland
- Indigenous Forest
- Lake or Pond
- Landslide
- Low Producing Grassland
- Mangrove
- Manuka and/or Kanuka
- Matagouri or Grey Scrub
- Mixed Exotic Shrubland
- Orchard, Vineyard or Other Perennial Crop
- Permanent Snow and Ice
- River
- Sand or Gravel
- Short-rotation Cropland
- Sub Alpine Shrubland
- Surface Mine or Dump
- Tall Tussock Grassland
- Transport Infrastructure
- Urban Parkland/Open Space



WAIMAKARIRI DISTRICT COUNCIL
LOCALISED FLOOD HAZARD ASSESSMENT 2015
 Land Cover Database Version 4
 Land Use Categories

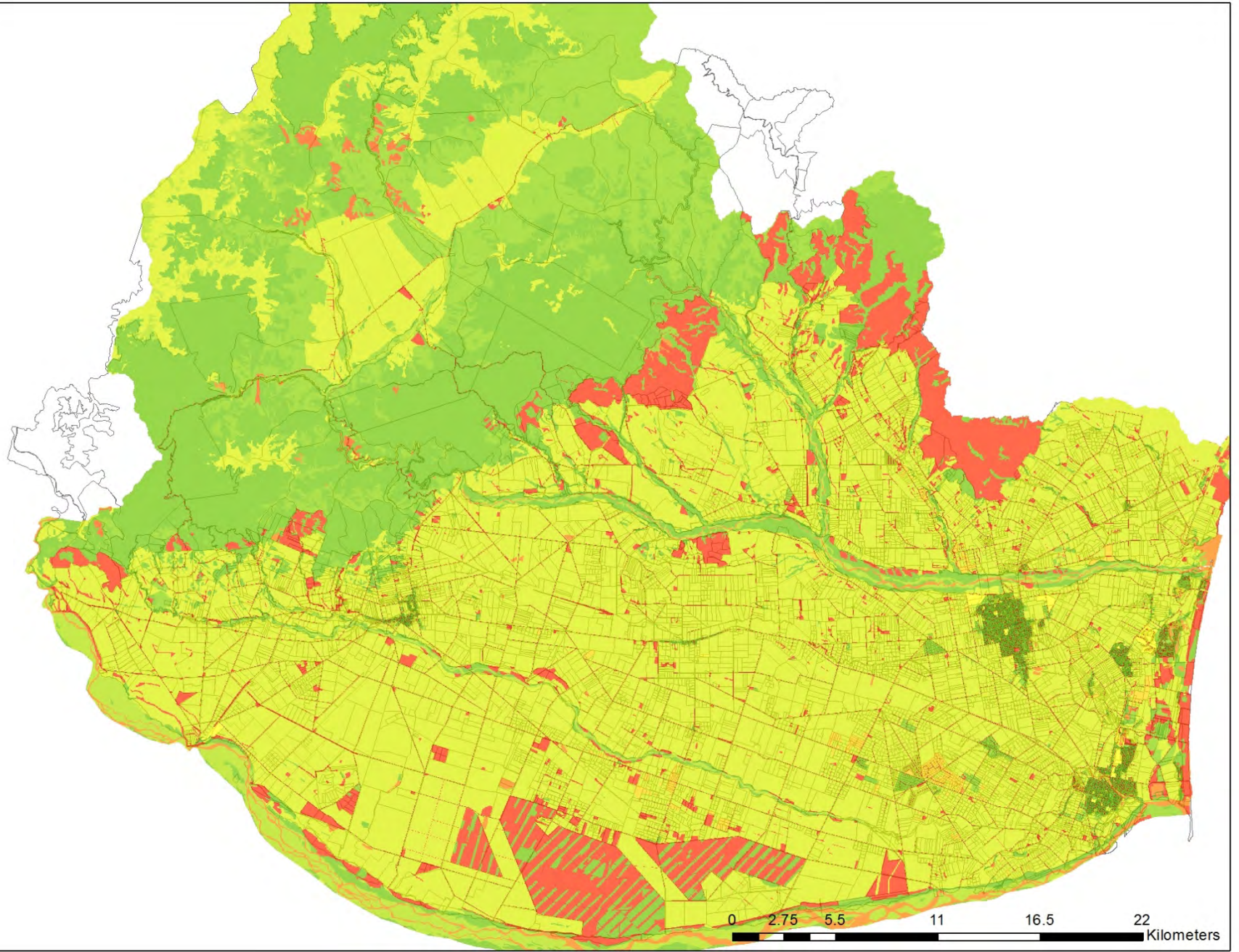
SCALE (A3)
1:200,000
 DATE
10/04/2015



Legend

Model Roughness (Mannings M)

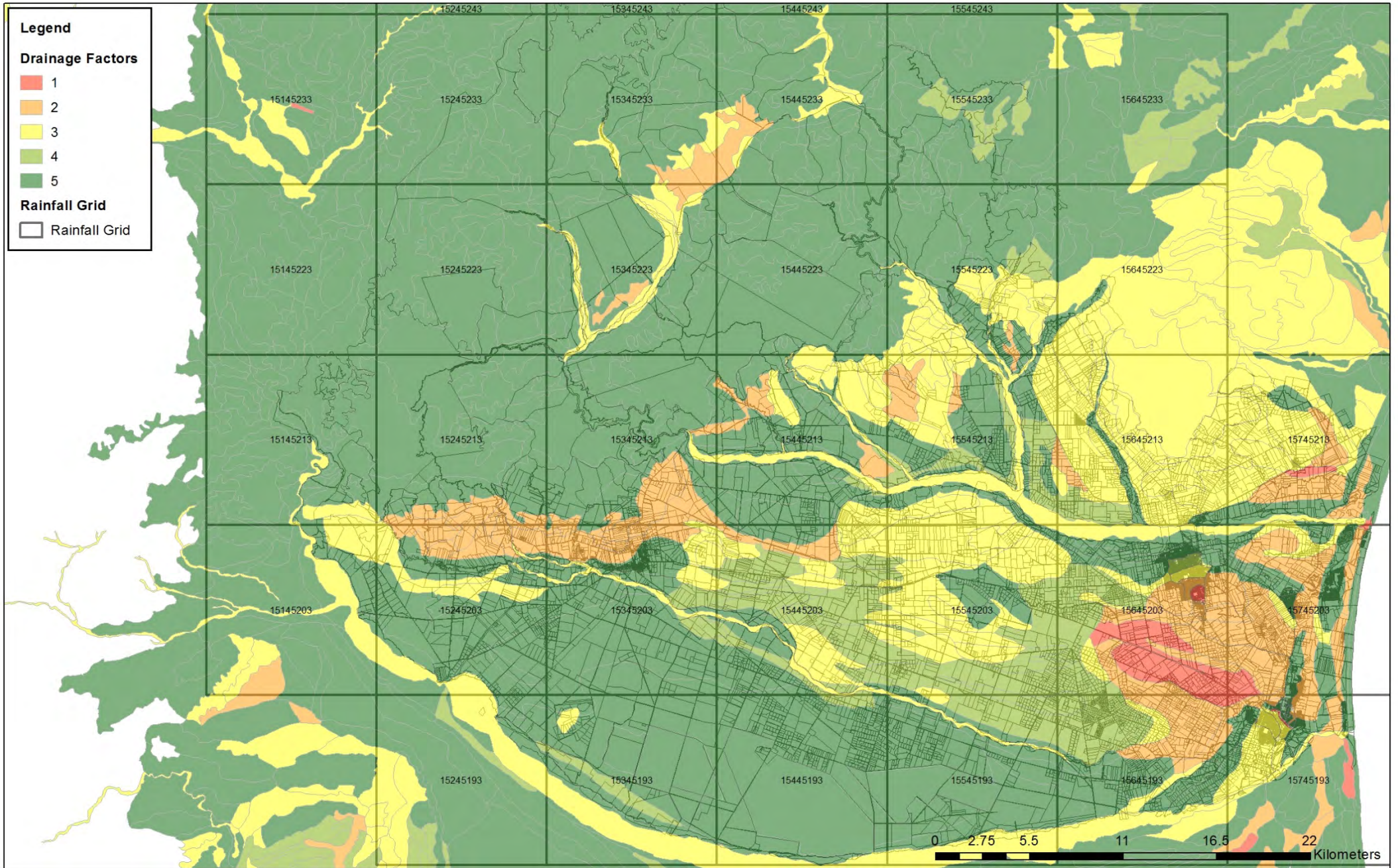
- 3
- 6
- 8
- 10
- 16
- 20
- 30
- 33
- 44
- 50
- 58
- 71
- 80



WAIMAKARIRI DISTRICT COUNCIL
LOCALISED FLOOD HAZARD ASSESSMENT 2015
Mannings Roughness Factors



SCALE (A3)
1:200,000
DATE
10/04/2015



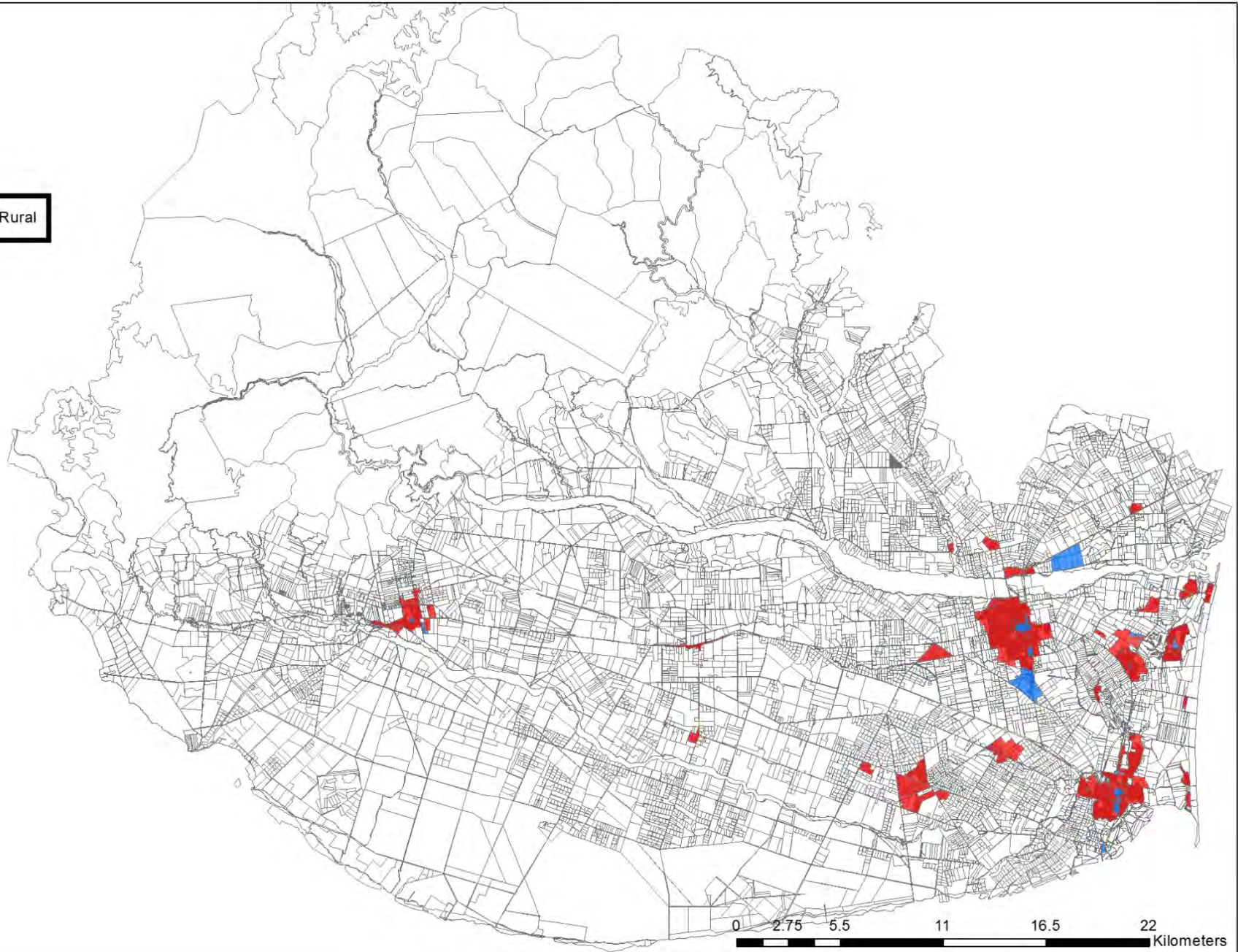


Legend

Land Use Types

-  Commercial/Industrial
-  Residential

Where not stated Land is treated as Rural




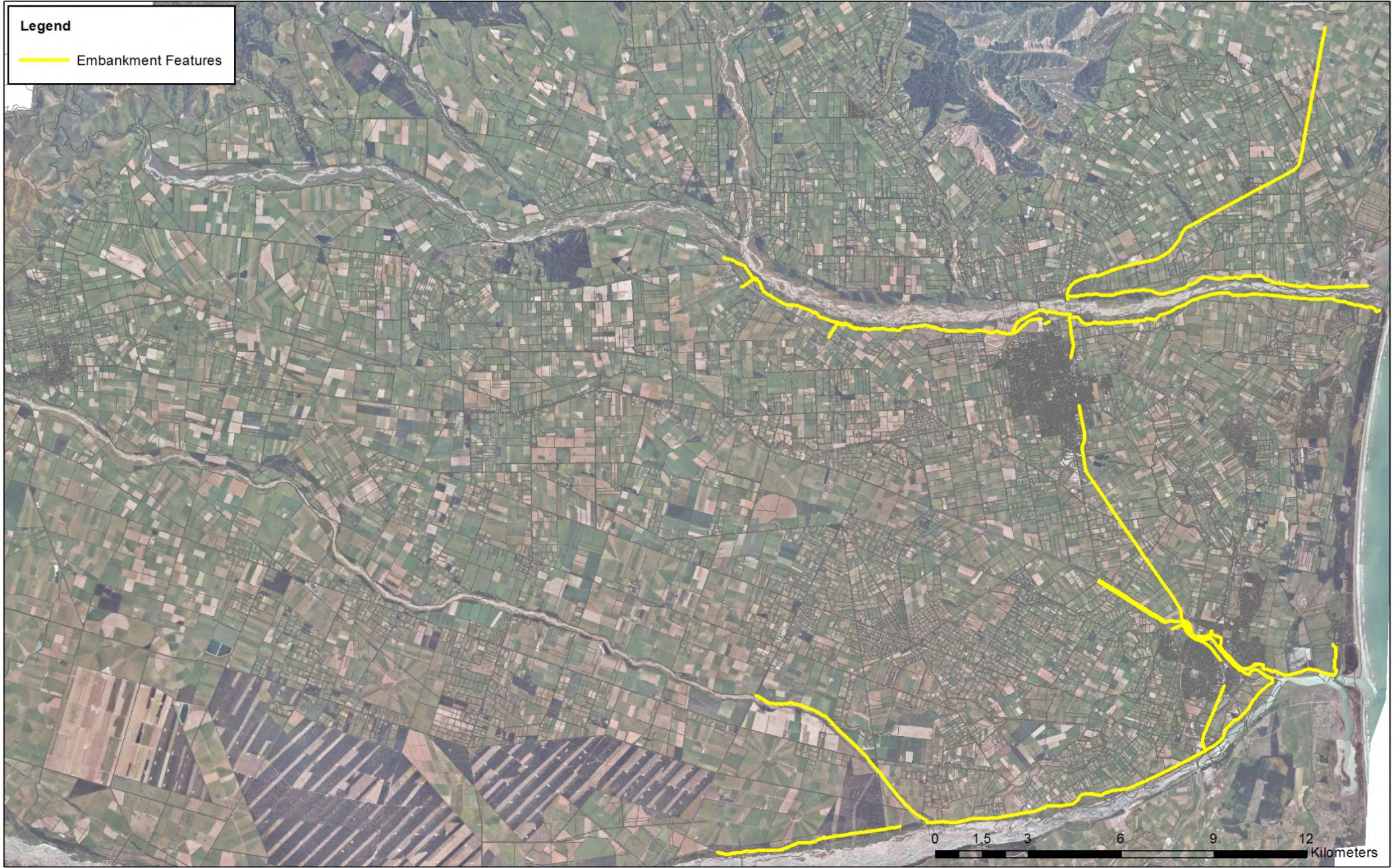
WAIMAKARIRI DISTRICT COUNCIL
LOCALISED FLOOD HAZARD ASSESSMENT 2015
Land Use Type

SCALE (A3)
1:200,000
DATE
10/04/2015



Legend

 Embankment Features

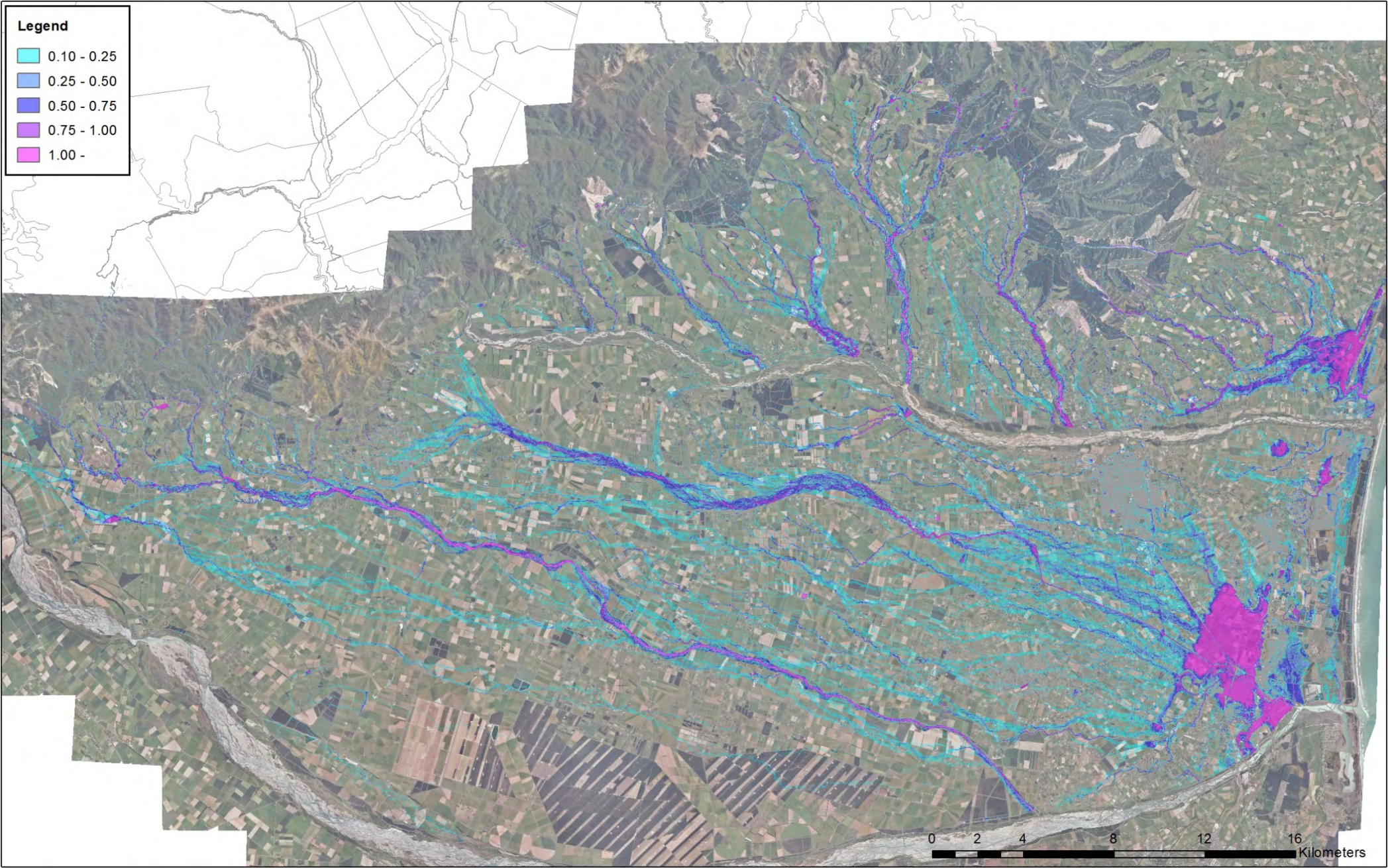


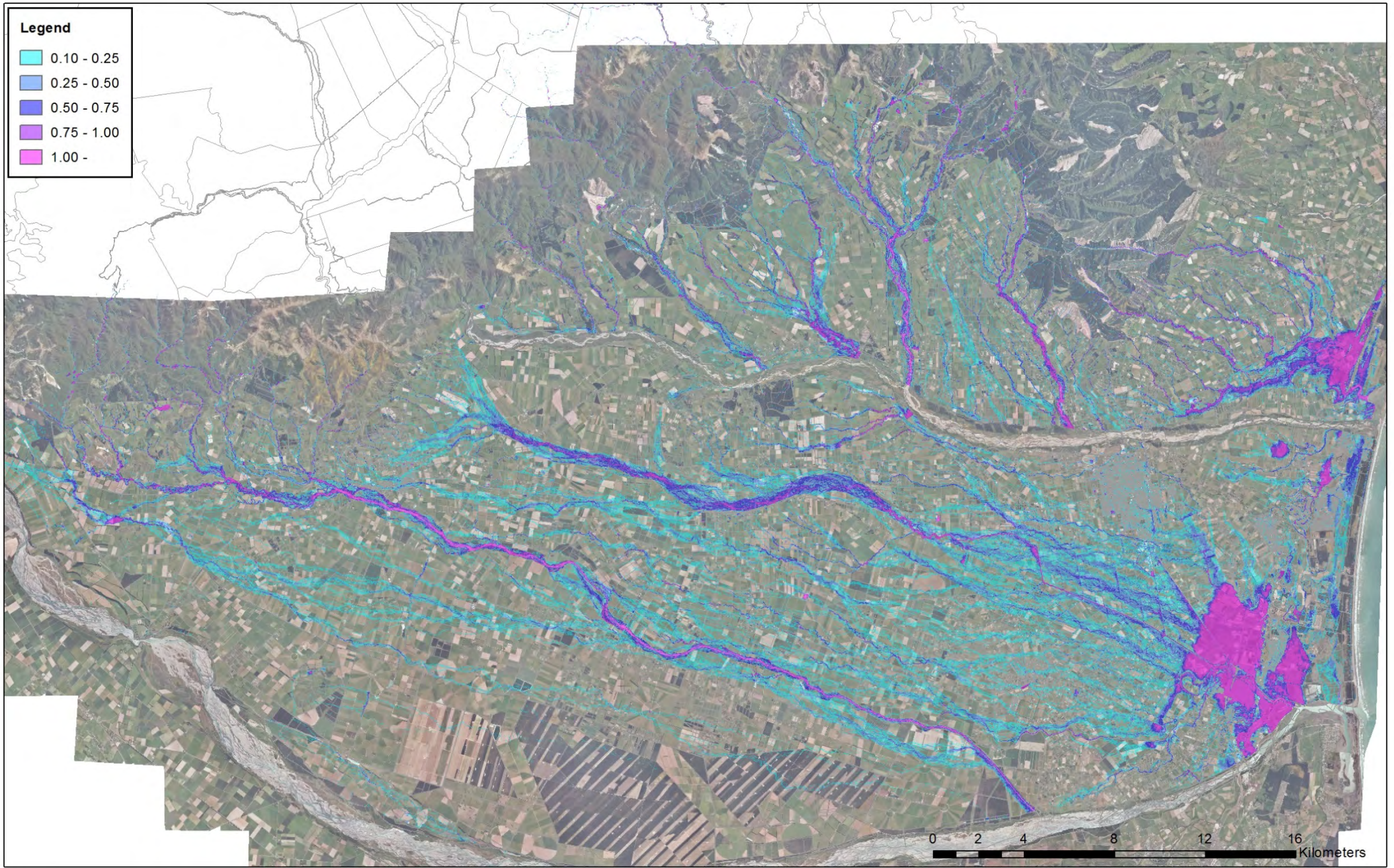
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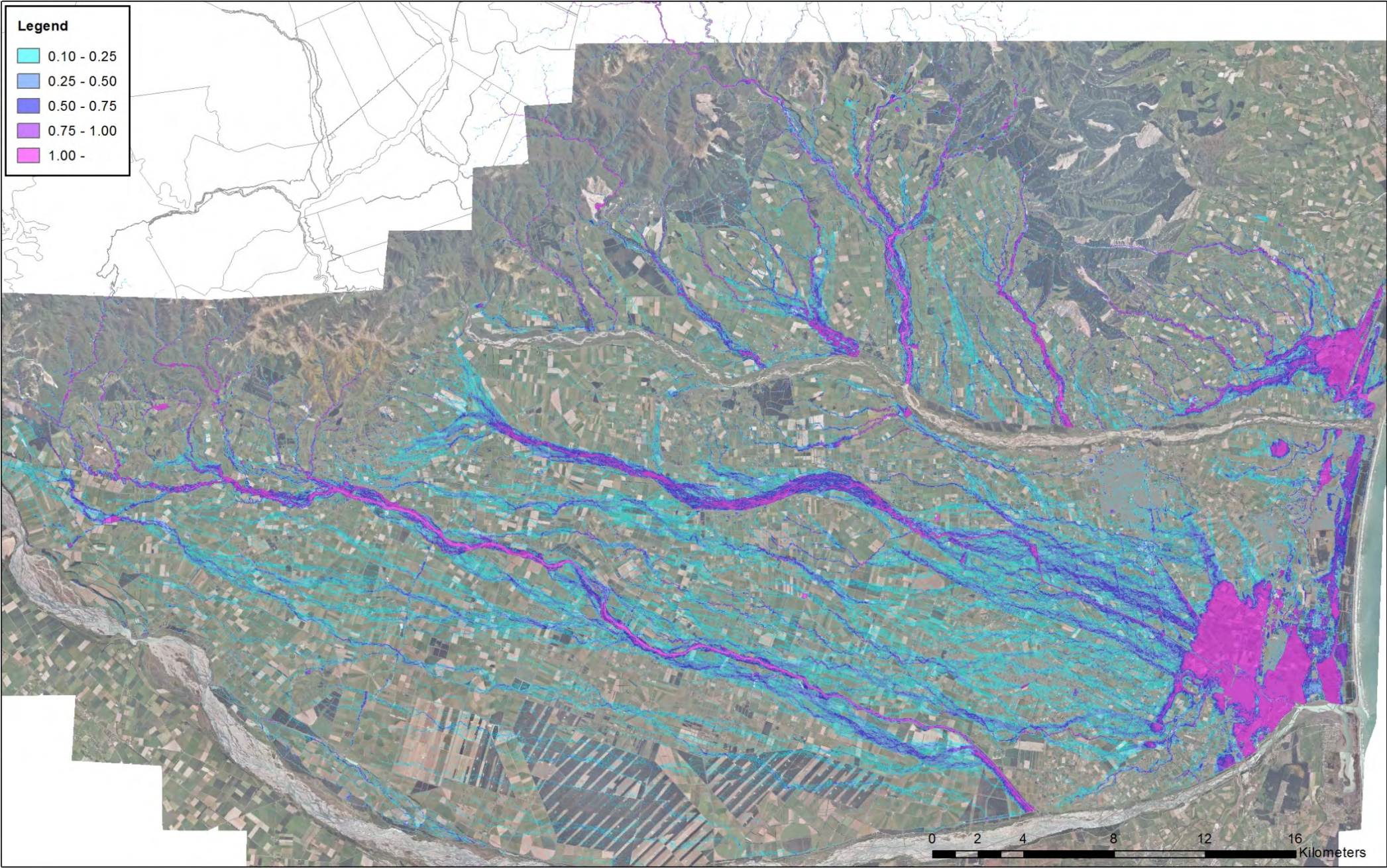
 Waterway Features Lowered



APPENDIX B MODEL RESULTS – MAXIMUM WATER DEPTH





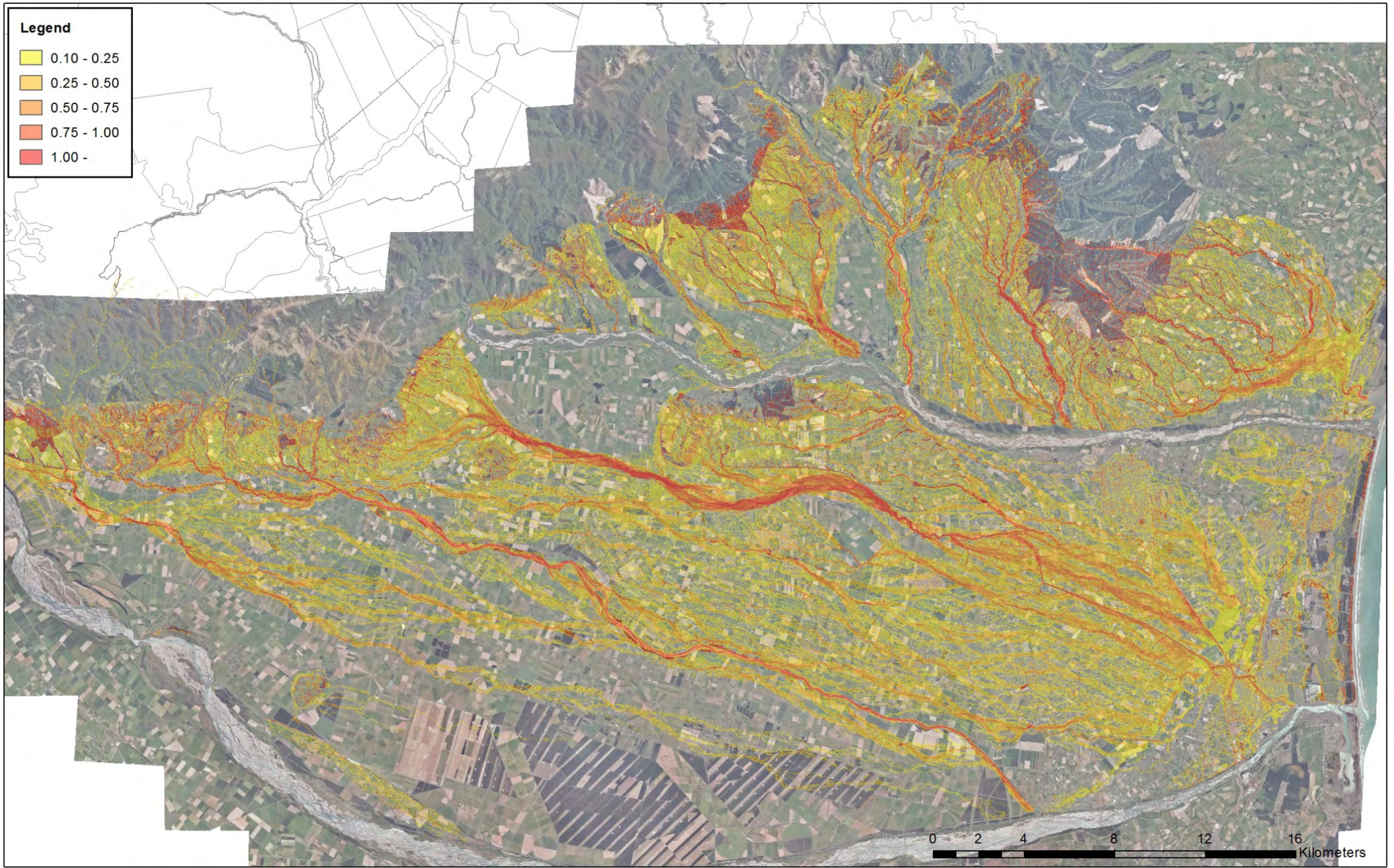


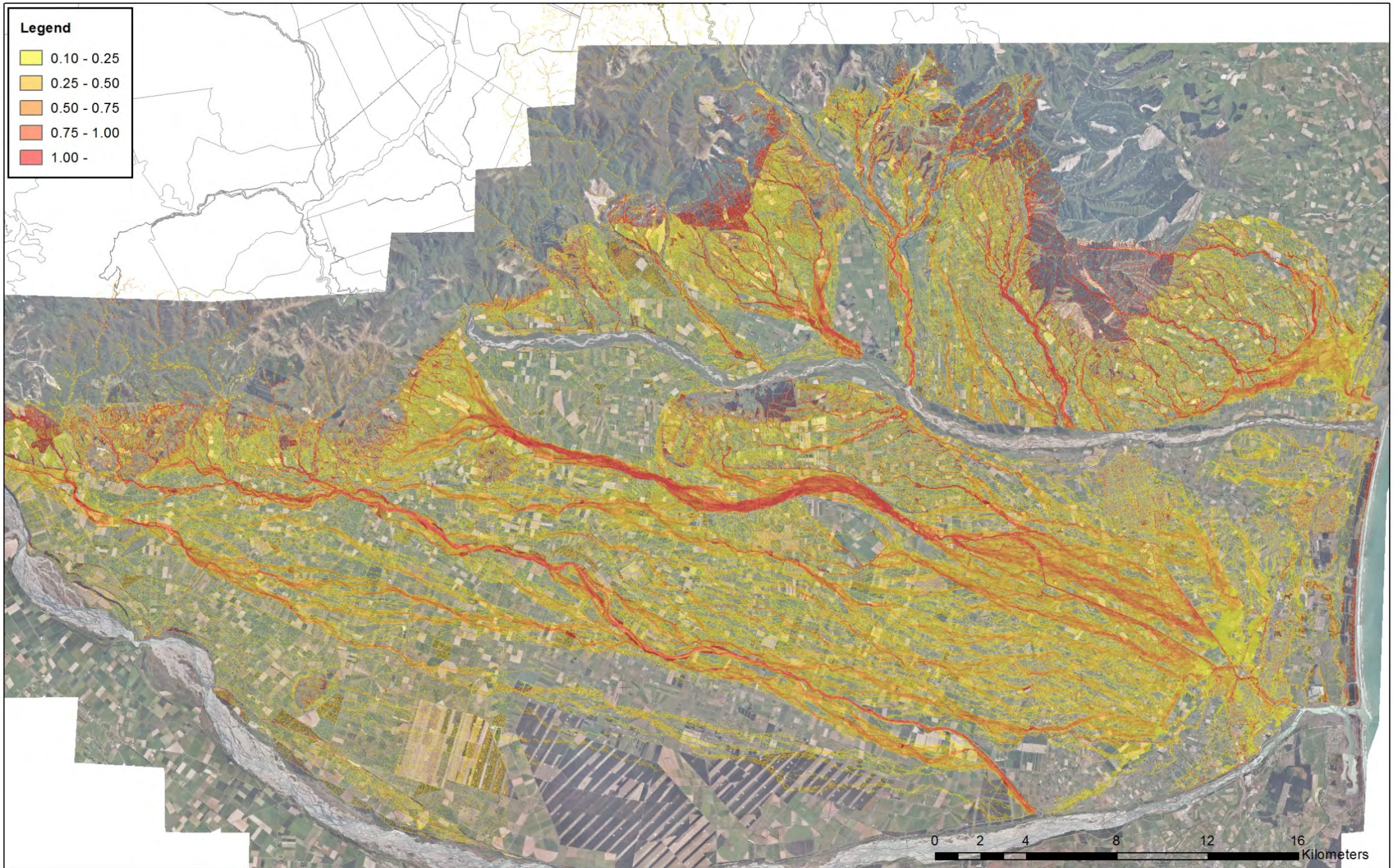
WAIMAKARIRI DISTRICT COUNCIL
LOCALISED FLOOD HAZARD ASSESSMENT 2015
Maximum Flood Depth (m)
500 Year ARI Event

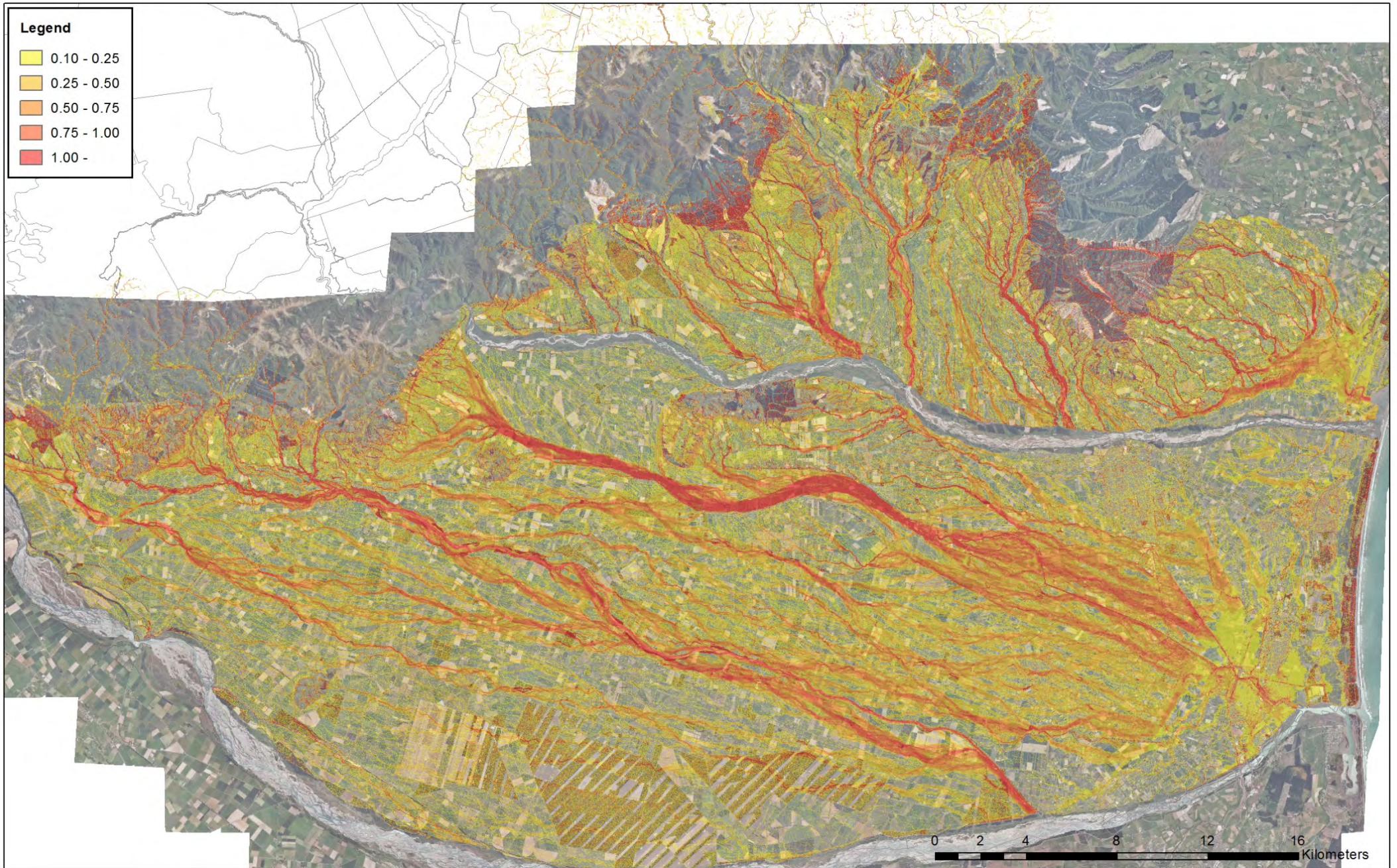
SCALE (A3)
1:150,000
DATE
3/07/2015



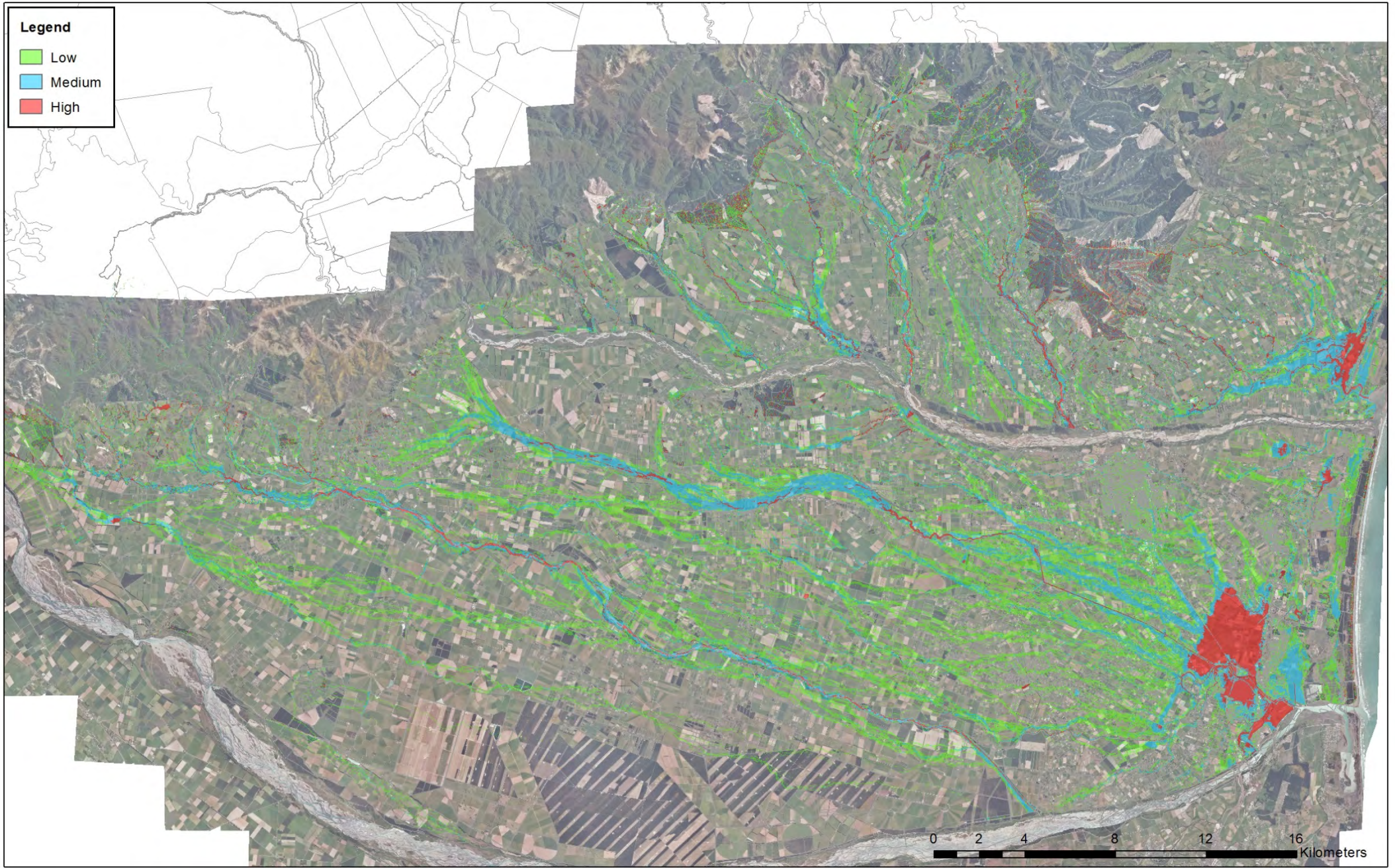
APPENDIX C MODEL RESULTS – MAXIMUM VELOCITY







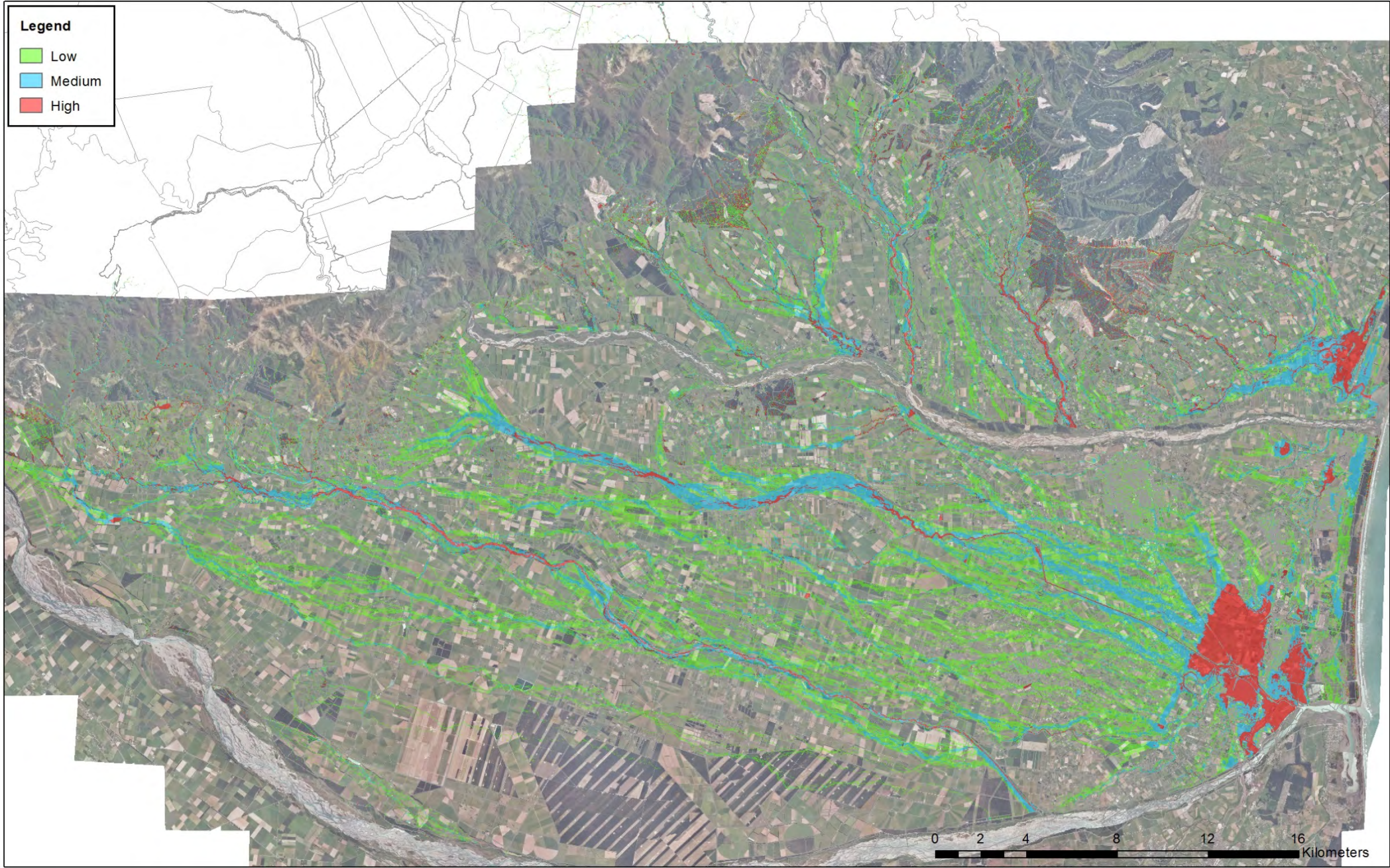
APPENDIX D MODEL RESULTS – FLOOD HAZARD RATING

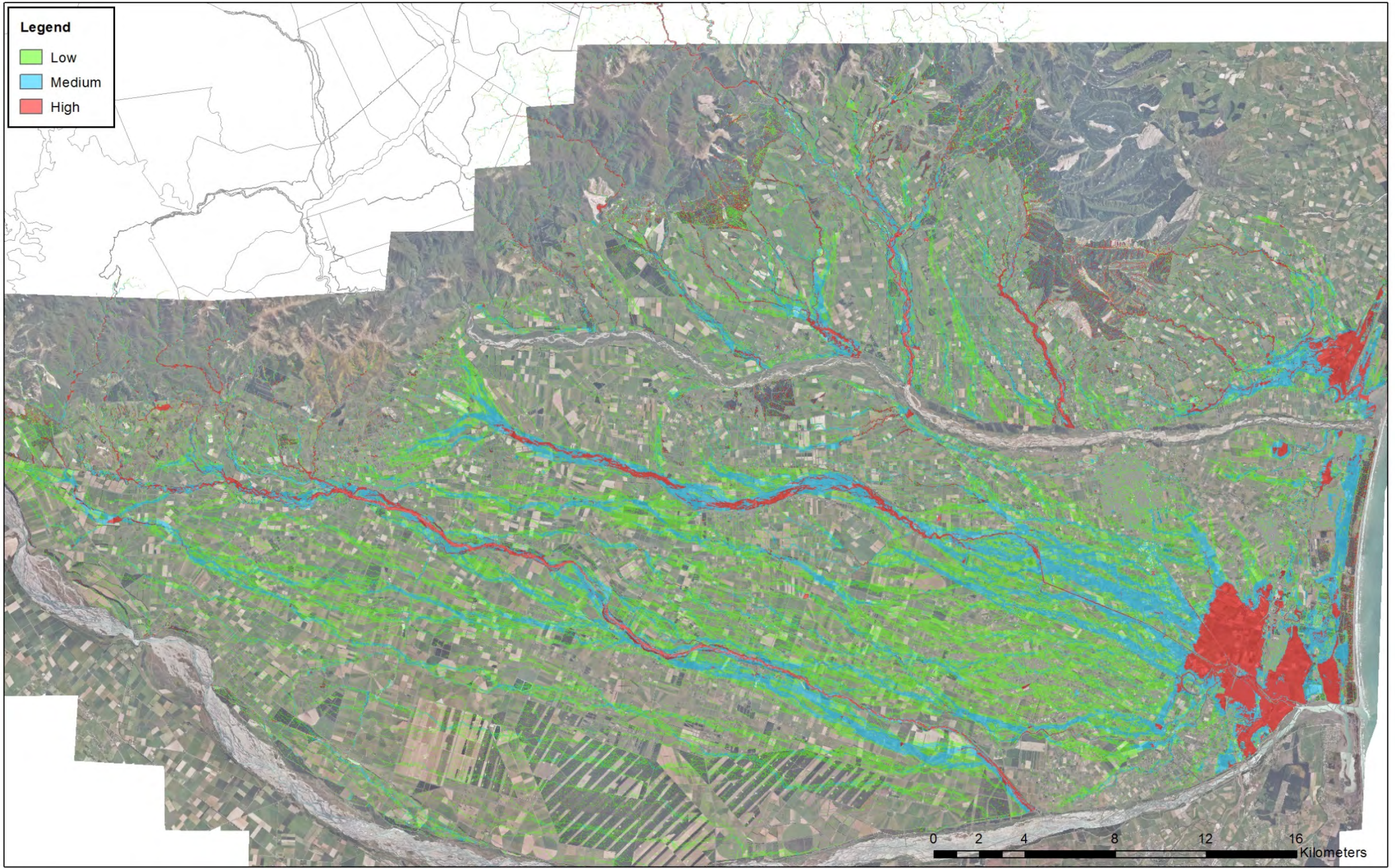


WAIMAKARIRI DISTRICT COUNCIL
 LOCALISED FLOOD HAZARD ASSESSMENT 2015
 Maximum Flood Hazard
 100 Year ARI Event

SCALE (A3)
 1:150,000
 DATE
 3/07/2015







APPENDIX E MODEL RESULTS – WATER DEPTH DIFFERENCES

