

# Managing Tree Change conference

## **Peri-urban conflict**

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# Peri-urban conflict

- Conflict is
  - the divergence of objectives, beliefs and values among individuals or groups of individuals
  - the exercise of power by two or more entities when one hinders the achievement of the aims of the other
- Disputes are the manifestation of conflict; usually does not involve violence
- Growing belief in the possibility of conflict over human induced depletion of natural resources.

# Definition of peri-urban

- The peri-urban zone: that area of land extending from the metropolitan edge to truly rural land
- What is truly rural? Large lots, low population density, distance from cities, agricultural uses
- What is truly agricultural? Much farming outside city influence is marginally financially viable; yet many peri-urban areas have high farming significance



# Reasons for peri-urban conflict

- Urban areas usually sited on locations with the best natural resources
- Competing interests over finite resources between
  - traditional landholder practices (mining, extractive industries, farming, water users) and intensive settlement
  - commercial (tourism/recreational) - and traditional/rural residential
- Competing values particularly between:
  - higher educated participants in knowledge economy, lower income groups and traditional land users
  - expectations of urban dwellers of rural land holders

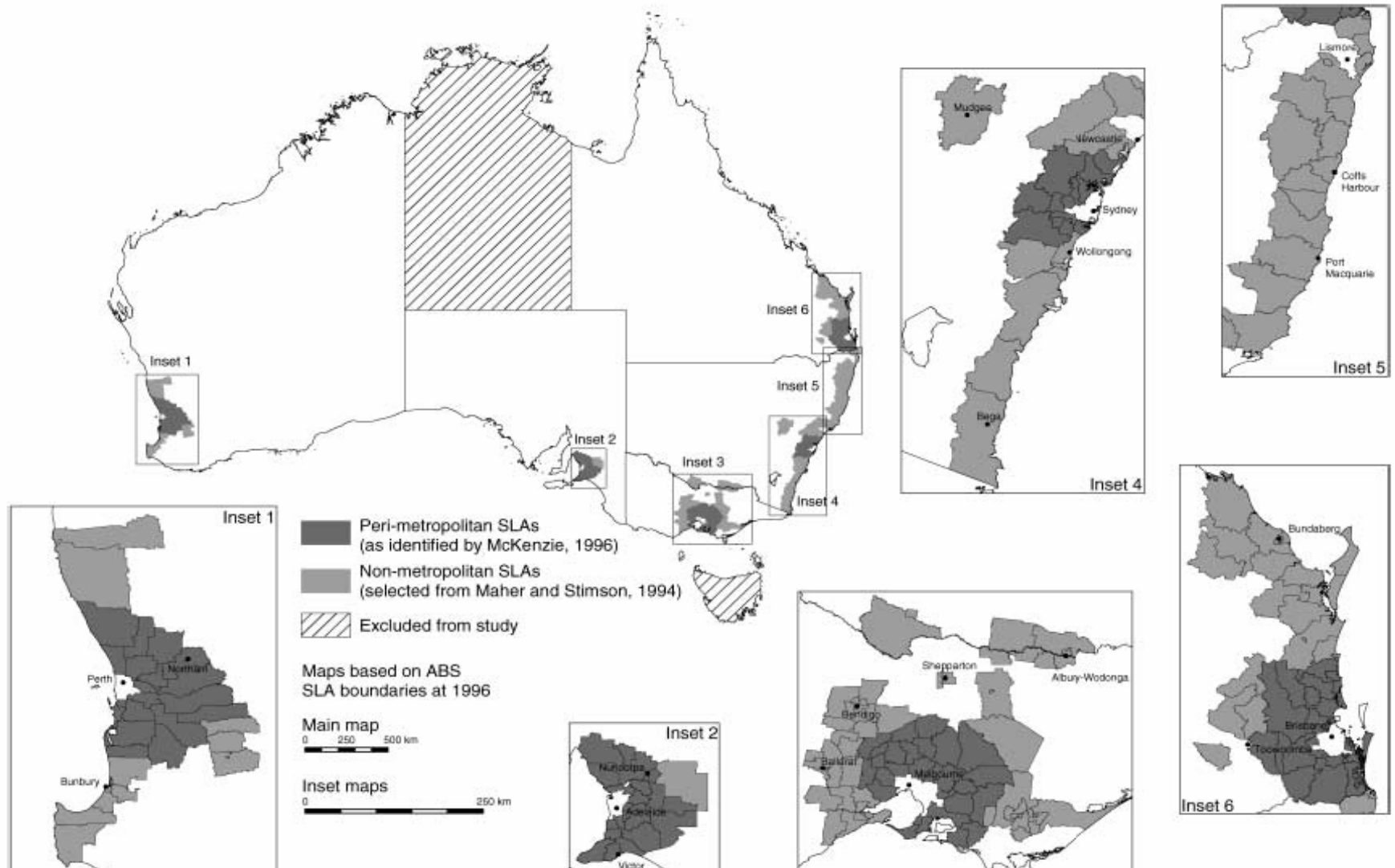
# Reasons for conflict

- Shifting alliances between interest groups: knowledge economy participants with environmental commitment may increase land fragmentation and detrimental environmental impacts.
- Mosaic of small lots, rural-residential and urban subdivision, commercial uses, agriculture, remnant biodiversity, infrastructure
- Rapid population growth: in-migration, forced relocators and free agents; counterurbanisation
- Type of responses: use of UGBs and greenbelts in Europe and US – regulation can cause conflict

# Peri-urban structural analysis

- Peri-urban areas are among the fastest growing regions in many countries and hold high strategic, spatial, economic and environmental significance
- In US, Peri-urban land comprises up to one third of total land area; 30% of new housing in peri-urban areas, moving to one third of total US population
- Europe, more 'hard edge' but increasing suburbanisation
- the most contested areas on earth.

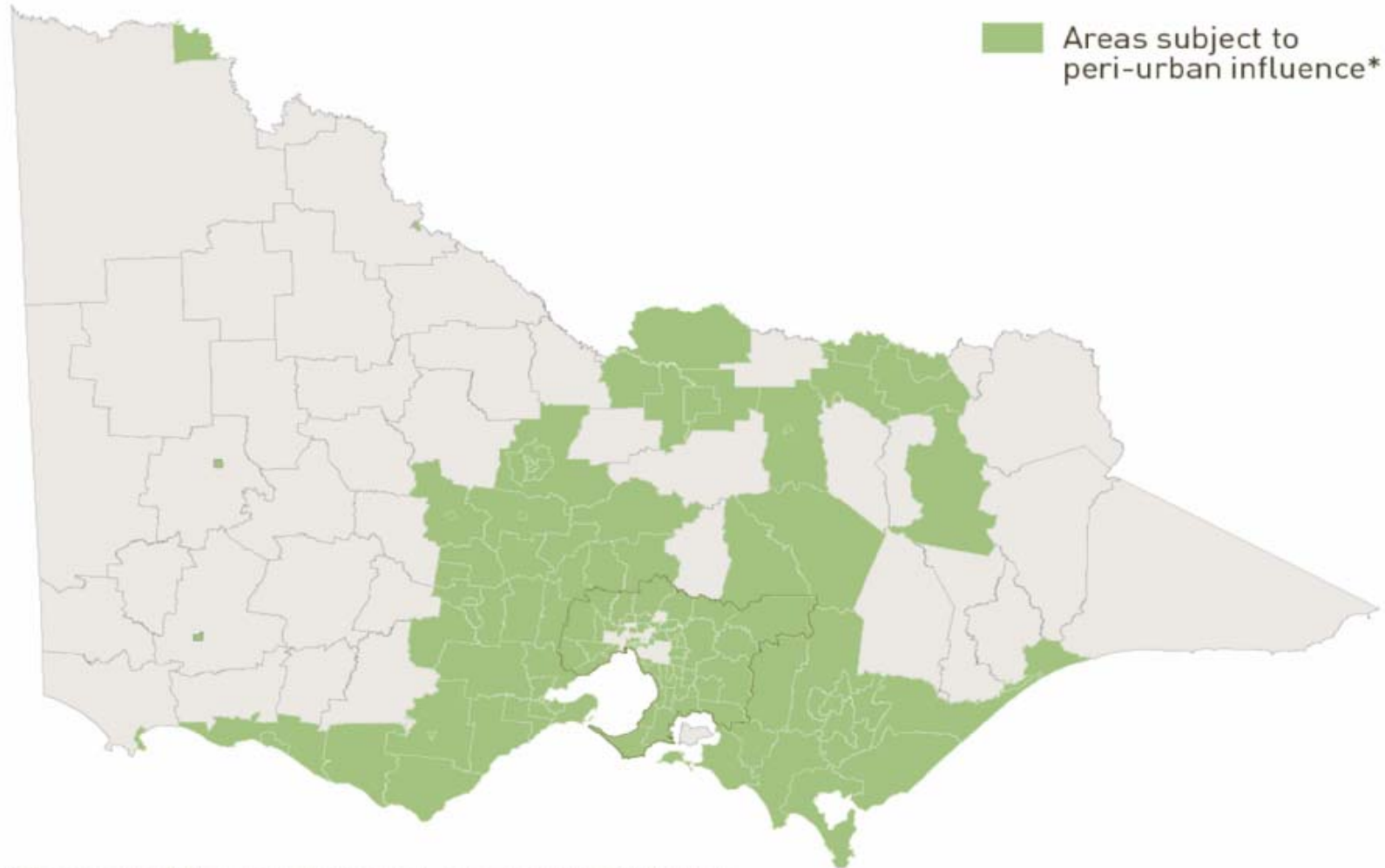
# Australian areas of peri-urban influence are extensive: Houston



# Peri-urban regions by density (McKenzie)

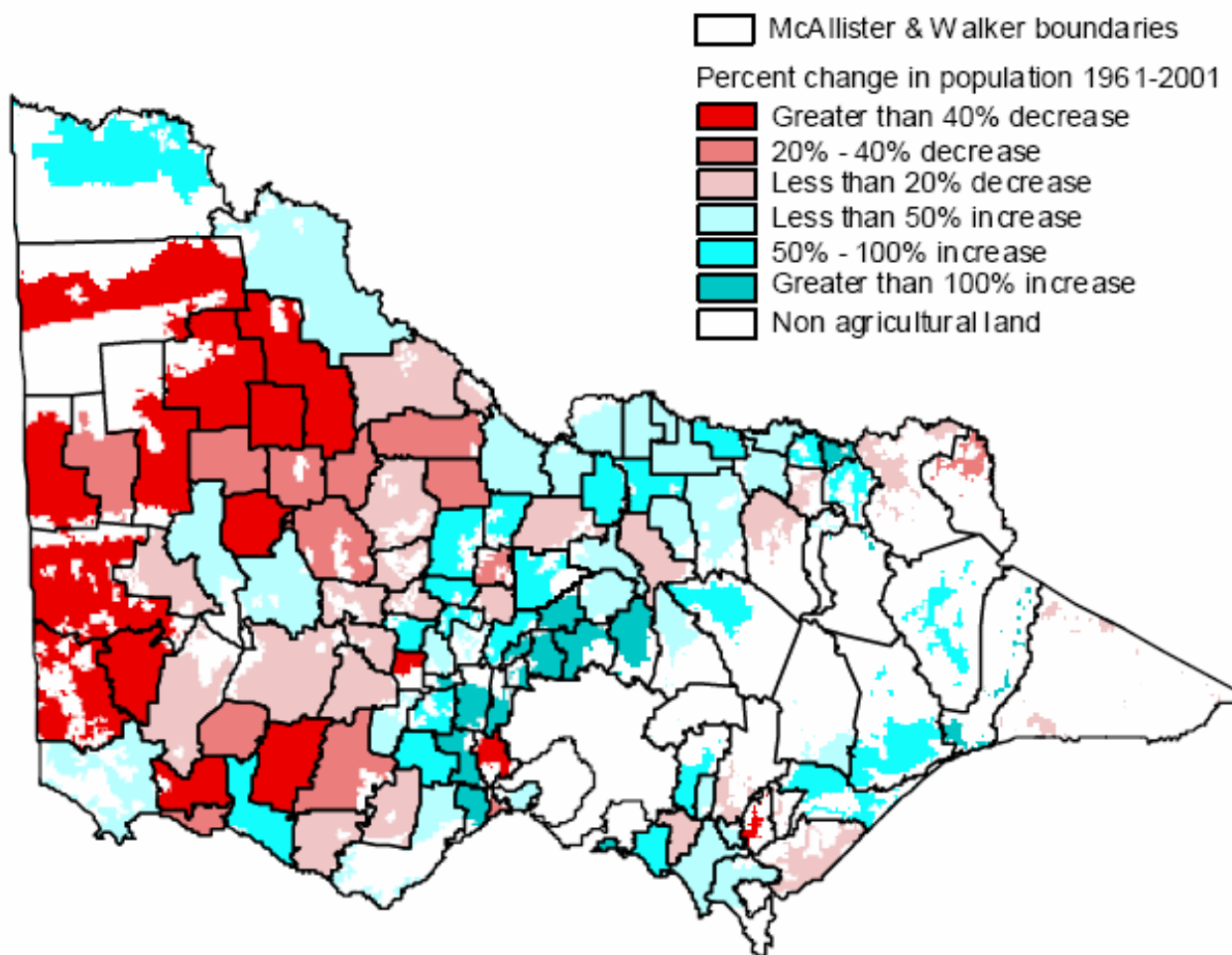
## Peri-urban regions

Statistical Local Areas, 2001



*\* In summary, the areas have been calculated for SLA where non-urban land has relatively high density (more than 1.6 persons per Ha of private land) and high % employed in non-agricultural industries (>60%)*

# Peri-urban by population change 1961-2001 (McKenzie)

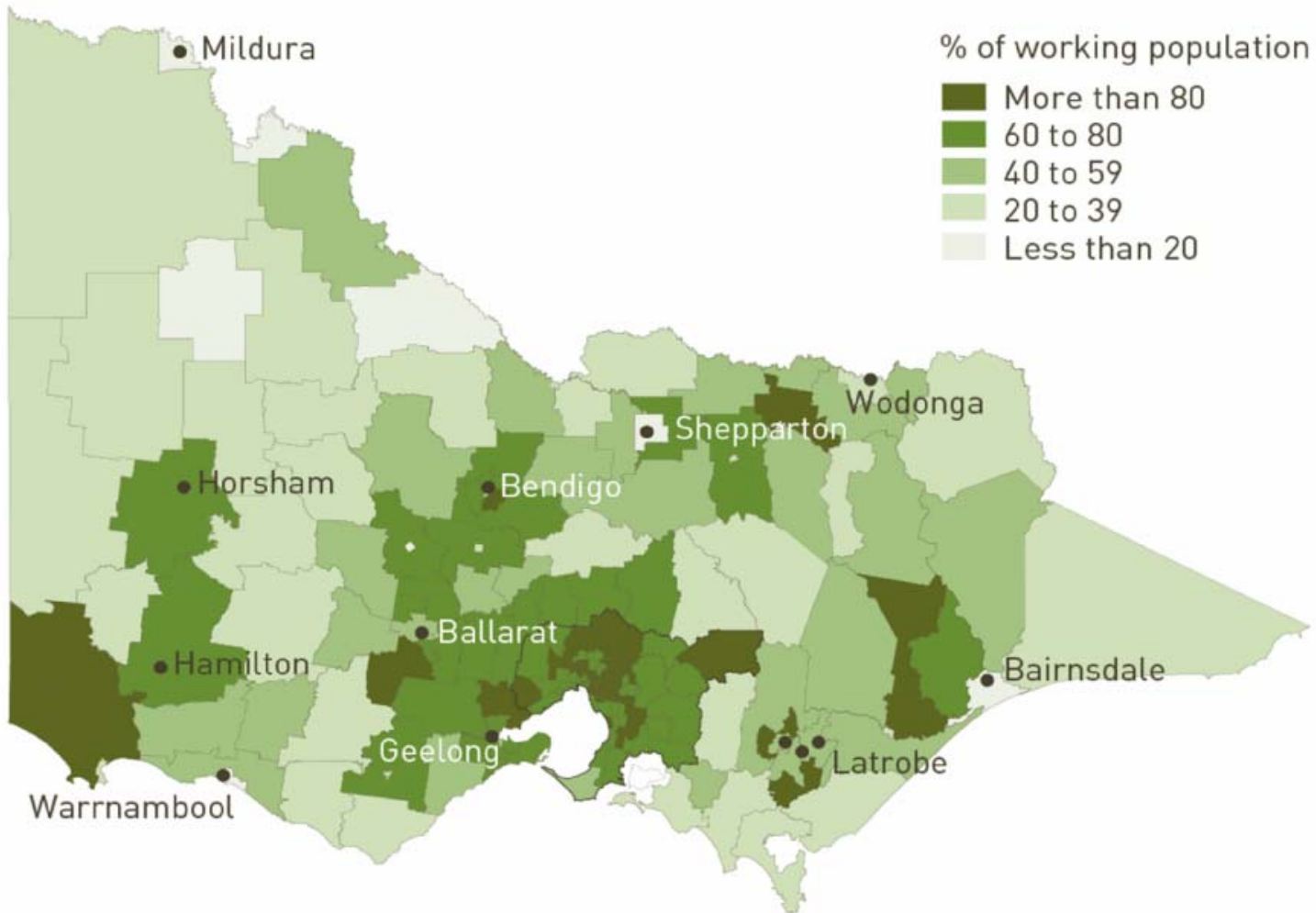


Change in population in rural Victorian SLAs 1961-2001 14

# Commuting distance

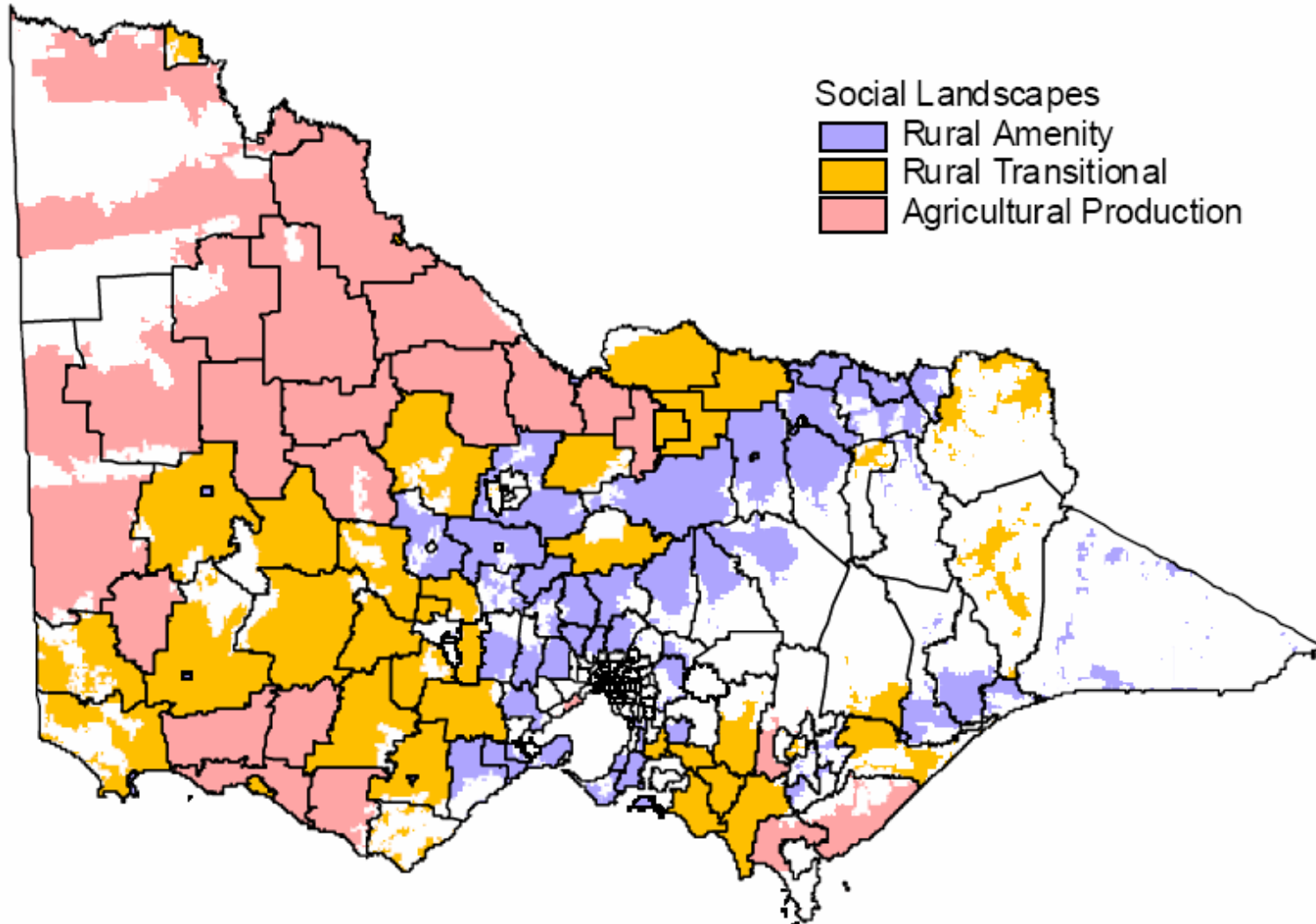
## Commuting populations

People travelling to work outside their own SLA



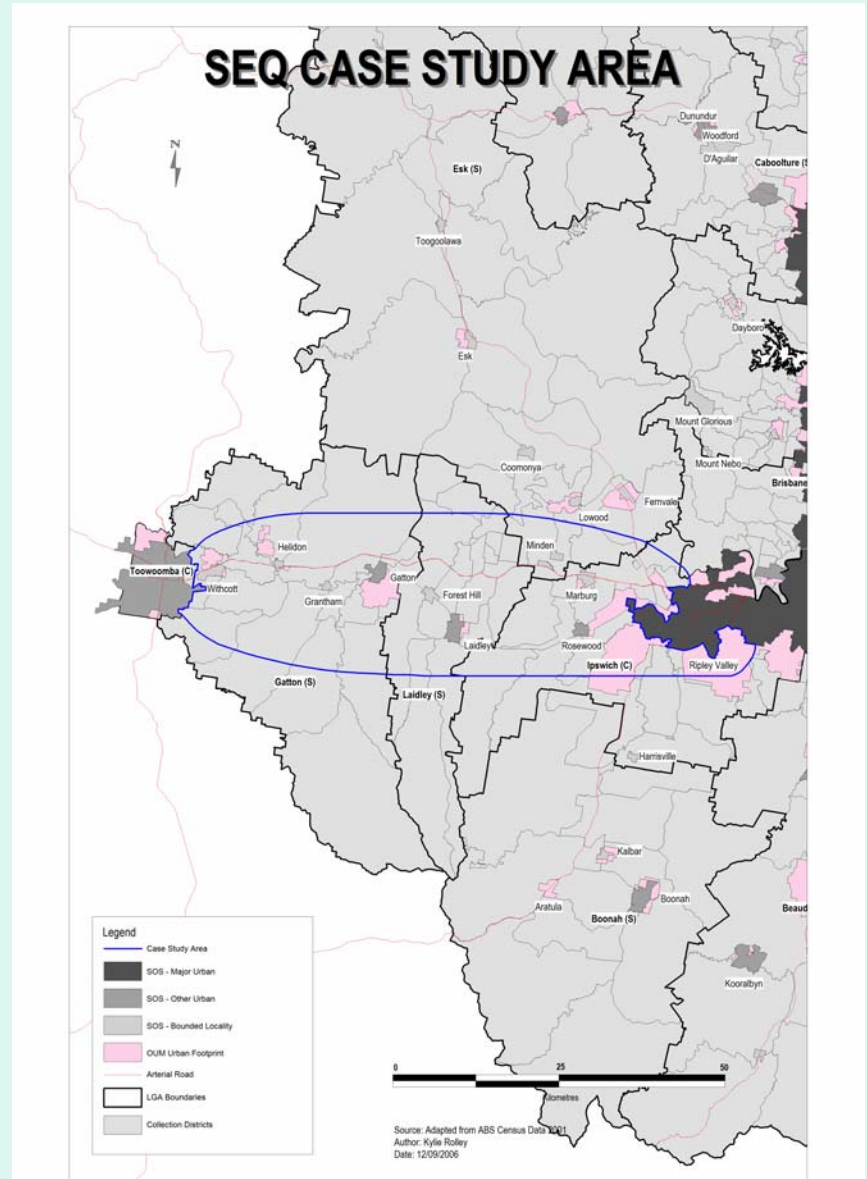
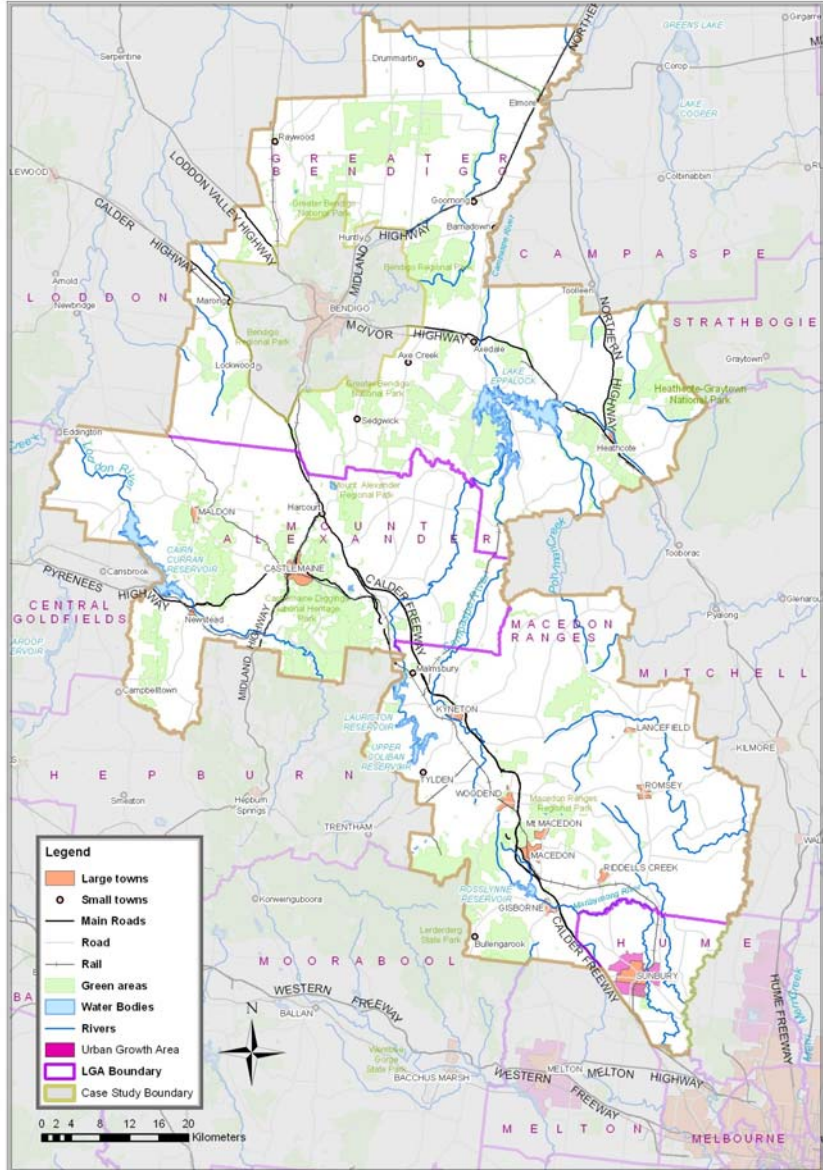
Source: DSE unpublished data based on ABS Census 2001

# Peri-urban areas - Barr



Social landscapes of rural Victoria<sup>1</sup>

# Monographs 2&3 study areas



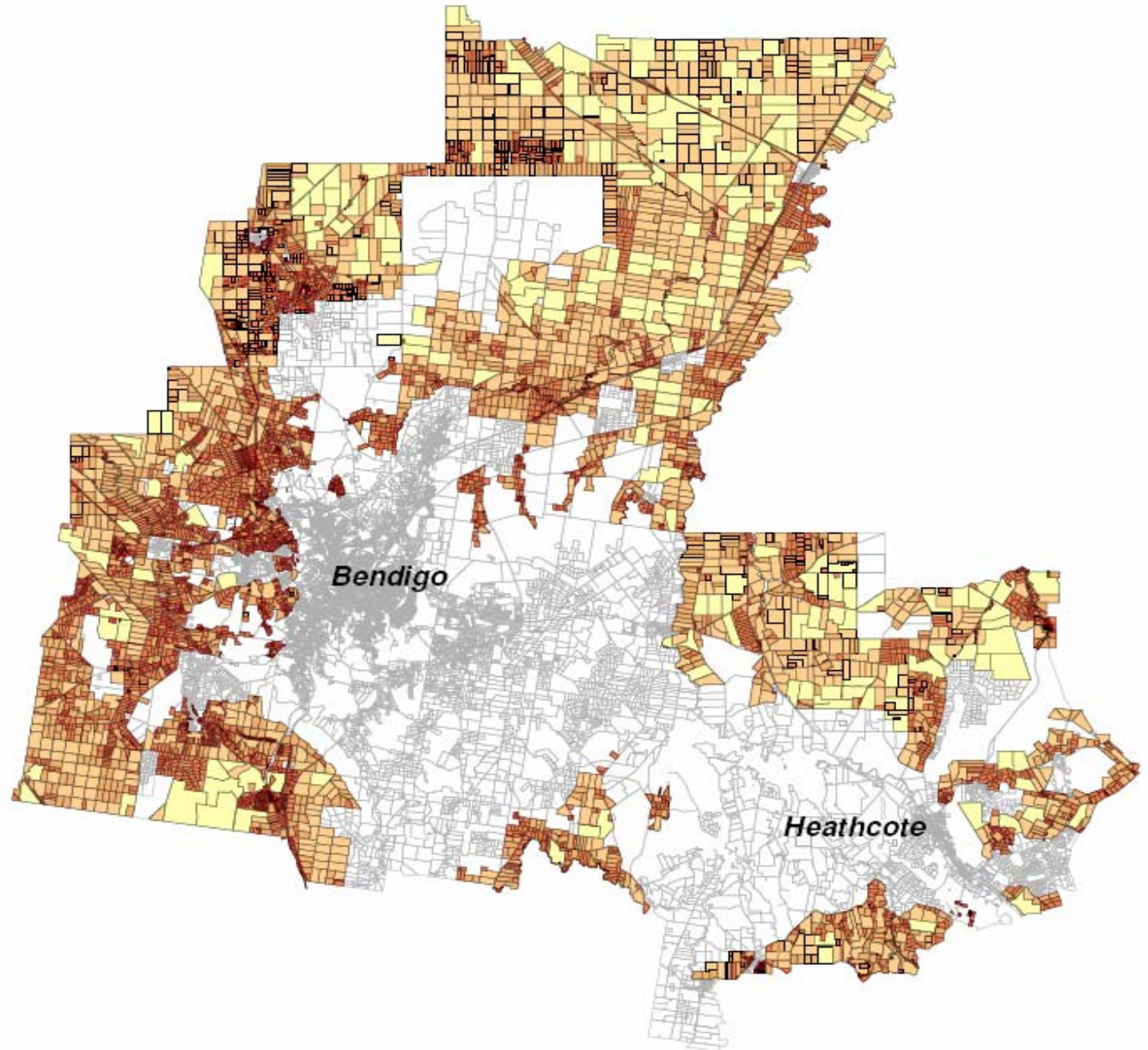
# Spatial fragmentation

- Lot pattern
  - existing lots
  - subdivision potential
  - excisions
- Inadequate planning tools
  - Melbourne's green belt zones
  - Rural zones
- Inadequate matching of planning tools to natural resource/environmental factors

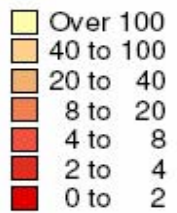
# Bendigo corridor findings

- 17,483 existing lots without houses, potential for 1,829 lots through subdivision, and extensive excisions - potential for multiple dwellings on each lot
- Lots over 40 ha cover 240,000 ha or almost 25% of private land
- Use of VPO varied from 0.56 – 5.6% of LGAs and applied inadequately to vegetation quality; RCZ covers only 16% of land
- Agricultural production significant (\$157m EVAO) and steady – growth in intensive/ high investment/ diversified innovative agriculture – high water use
- Substantial potential for conflict

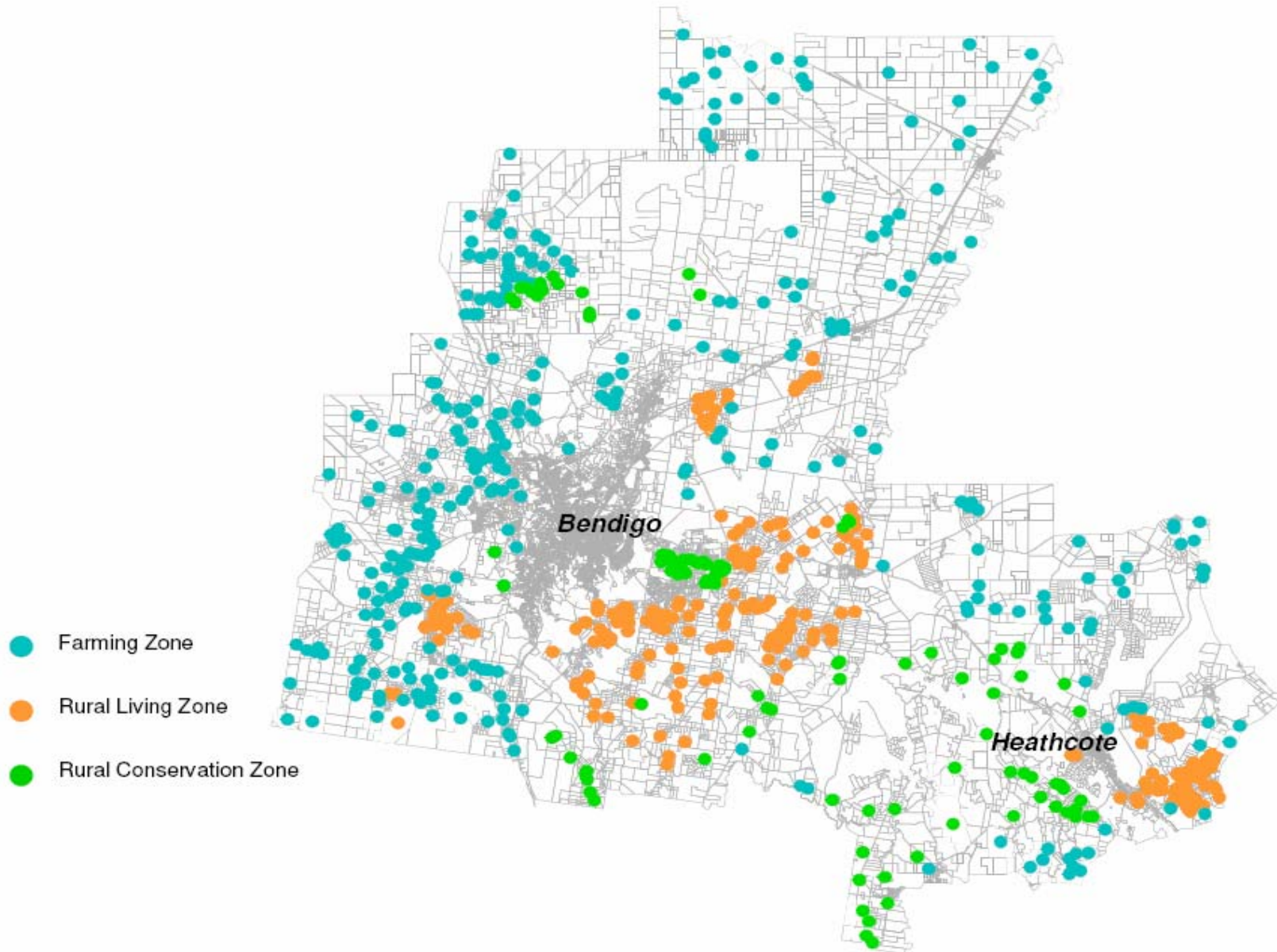
# Greater Bendigo: Farming Zone Parcels



## Area Range (ha)



# Greater Bendigo: Rural Housing Approvals 1996-2006



# Institutional fragmentation

- Fragmented governance prevents institutional integration
- Lack of cross-sectoral policy and decision making
  - within government agencies
  - between government agencies
  - between councils, CMAs and other regional bodies and government agencies

# Key issues: agriculture

- Significant agricultural producers in most countries
- In Australia comprise <3 per cent of land for agriculture but almost 25% GVAP (Houston)
- In US one third of all farms
- Most full-time farmers vacated peri-urban areas replaced by sub-commercial and hobby farmers with diverse income sources; land conversion to mass consumption of range of resources, services (Barr), and multi-functional land use pattern
- importance could increase through need for food security, climate change and impact of peak oil

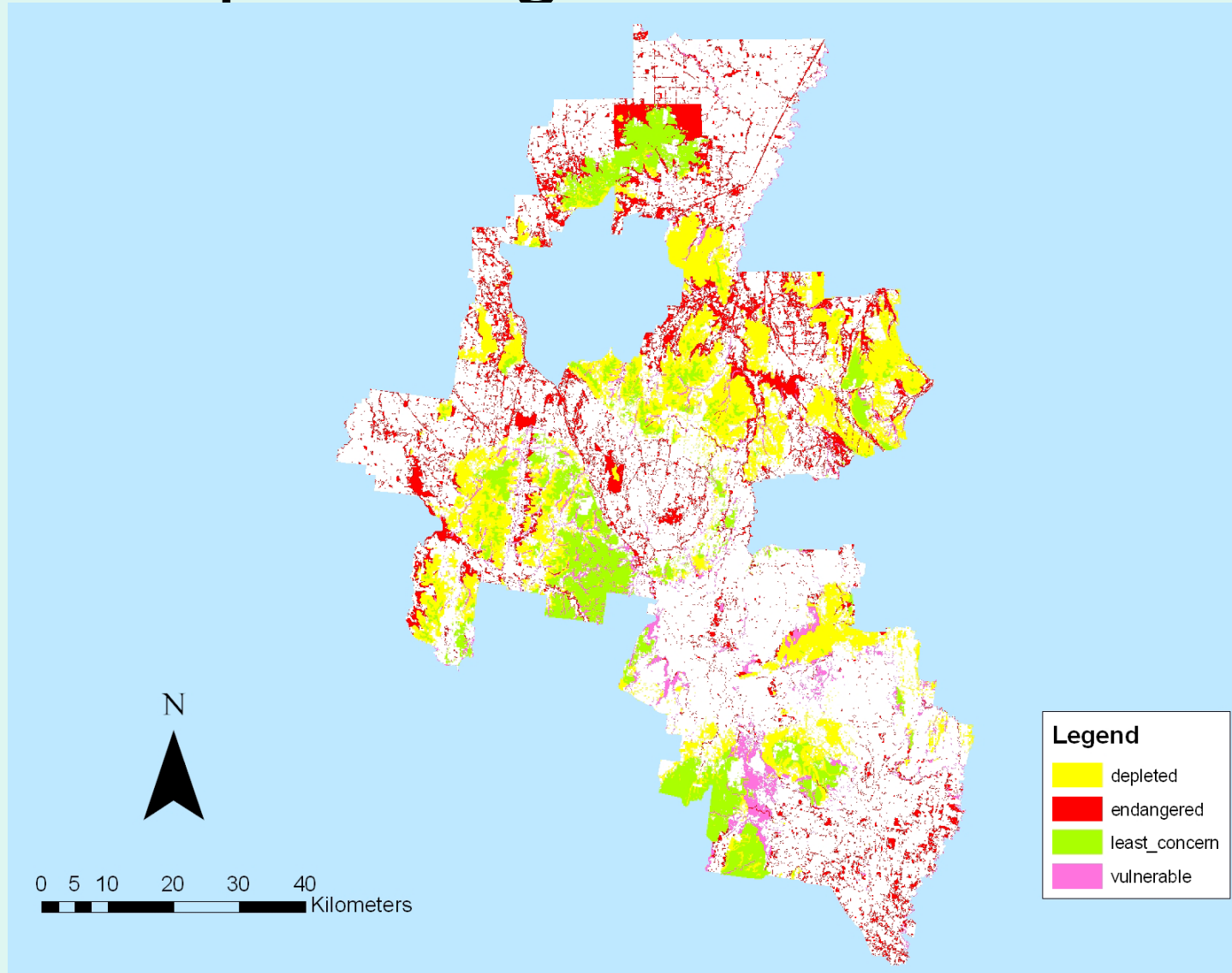
# Key Issues: Biodiversity

## Environmental impacts of peri-urban development

- Much remnant biodiversity in peri-urban areas – over 50 per cent of threatened or rare plants and animals
- Most vegetation and wetlands around and in cities lost
- Increasing risk to fresh water systems and estuarine areas

# Inadequate matching of planning tools

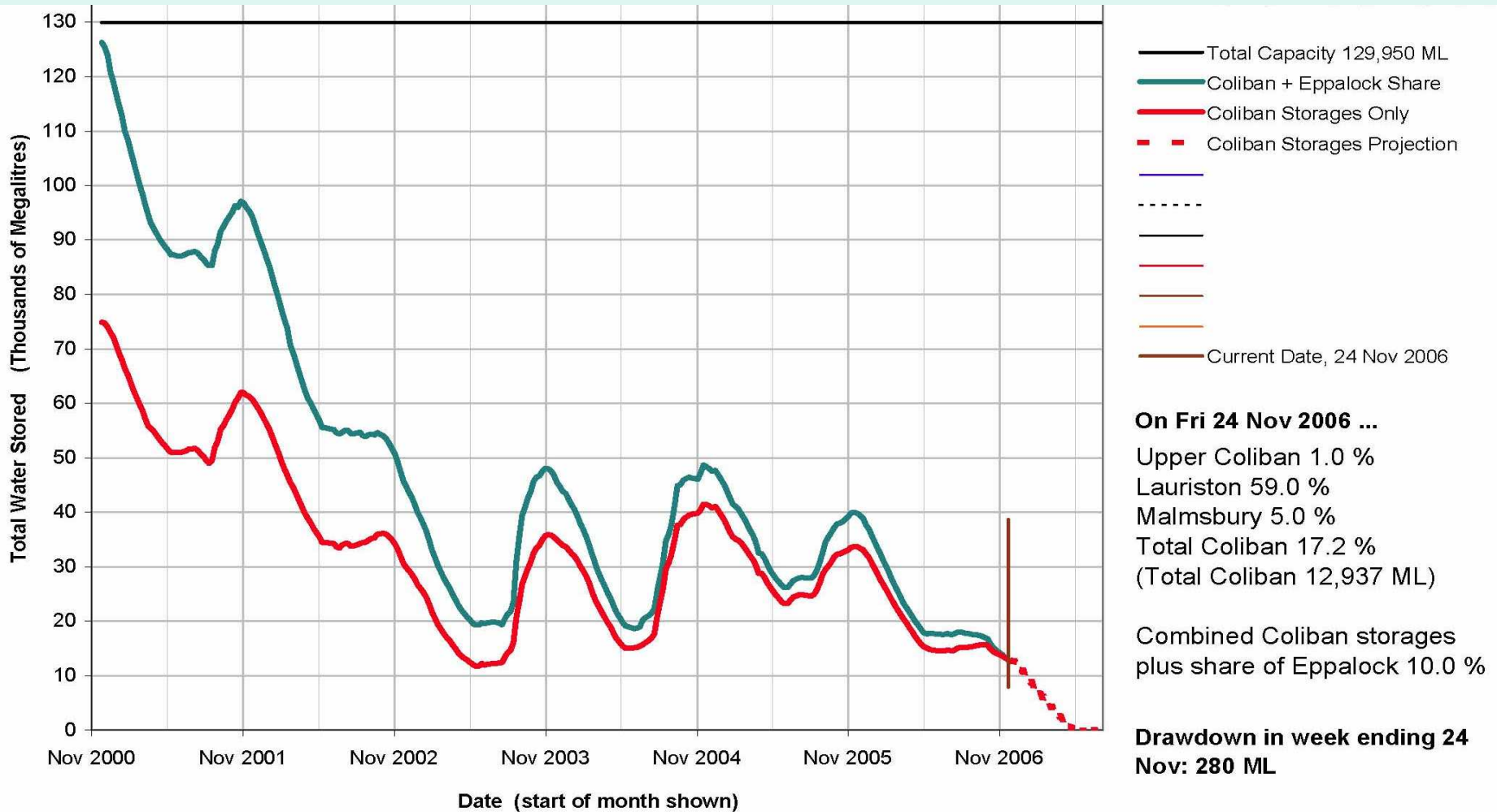
- Lack of integration between NRM and land use (ie. CMAs and local councils)



# Need for anticipatory responses - uncertainty

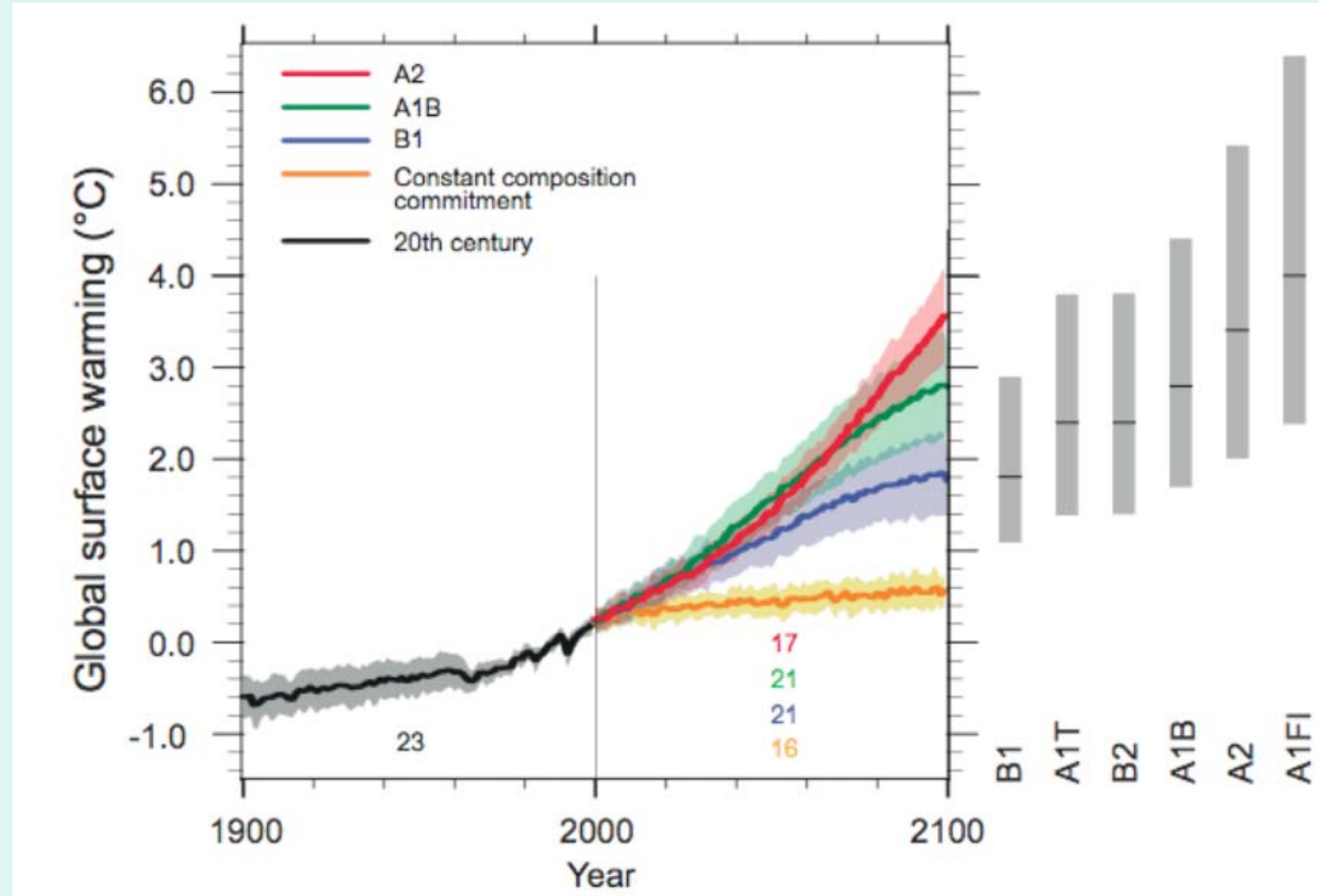
- Change will happen – can we anticipate and respond adequately to it in time?
  - climate change
  - oil depletion, fuel prices and peak oil demand
  - food security
  - water supply and demand in peri-urban areas
  - natural resource/environmental degradation
  - population increase and loss
- Non-linear trends
- Major implications for rural/regional/peri-urban areas – massive growth of mega-cities and loss of peri-urban regions

# Anticipatory responses - water



# Anticipatory responses – climate change

IPCC2007 scenarios of global temperatures  
Lines show different scenarios of emission and storage while grey bars show range of probabilities of different temperatures occurring. Overall range 1.1C to 6.4C by 2100. Extreme days may have up to double the temperature rise



# Precaution

- Uncertainty creates requirement for caution
  - is the opposite of business as usual
  - precautionary principle
  - implications for resilience

# Conclusions

- Responses to NRM/environmental problems traditionally are sectoral, incremental, reactive
- Unable to anticipate and respond to change
- Business-as-usual decisions or not acting may lead to catastrophic consequences and increase conflict
- Need long term vision of outcomes which determine integrated, focused responses and “truly radical solutions”
- Uncertainty and precaution requires maintenance of options – ie food security