

Biodiversity on the fringe:

the importance of local land use planning in achieving effective biodiversity conservation outcomes

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Scope - integration of biodiversity in land use planning in Tasmania

- Variation in approaches to biodiversity conservation in planning schemes
- Effectiveness of applying biodiversity provisions to urban and peri-urban development
- The role of biodiversity offsets
- Implications of the new mandated Tasmanian State Planning Provisions (SPPs) for urban and peri-urban biodiversity

Mixed-methods multiple case study

Statewide collective case study

- survey of local government
- semi-structured interviews key experts
- content analysis of planning schemes
- spatial data analysis of biodiversity values relative to planning scheme provisions.

Instrumental Kingborough case study

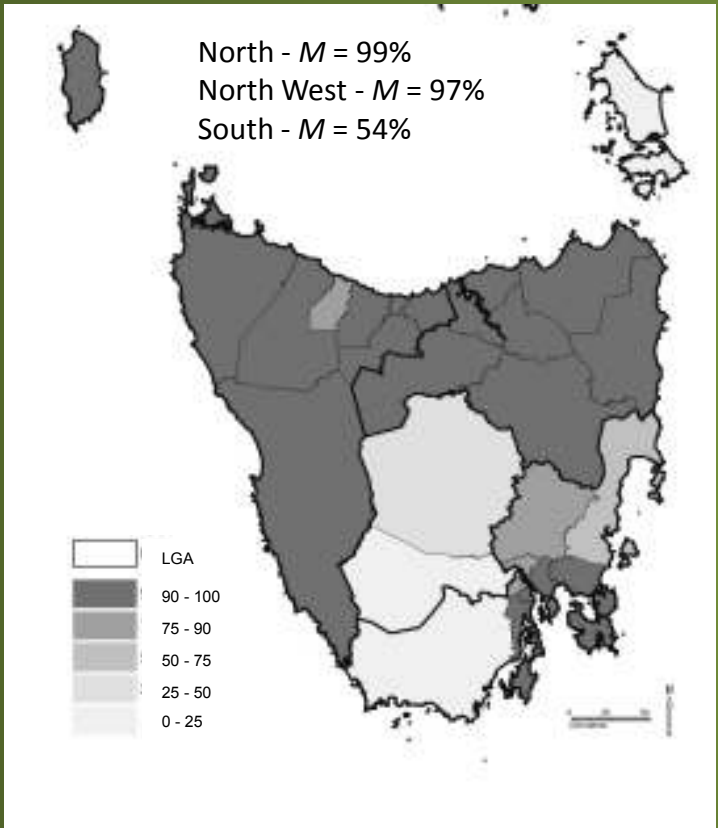
- audit of biodiversity loss & gains resulting from development approvals
- audit of offsets secured as a condition of development approval
- compliance & ecological monitoring of areas protected as a condition of approval.

Variation in planning schemes

- Interim planning schemes came into effect 2013-2015
- 93% include specific biodiversity-related provisions (Code)
- Variation:
  - categorisation of biodiversity
  - extent of code application
  - provisions

Code application

Percentage of total extent of threatened native vegetation communities subject to biodiversity-related code provisions under interim planning schemes by local government area



Statutory overlay

- Application of biodiversity regulations or development standards limited to mapped areas
- Legal certainty but perverse outcomes
- Based on desk-top data and modelling

Zone exclusions

- Urban-type zones
- Variable

Textual application

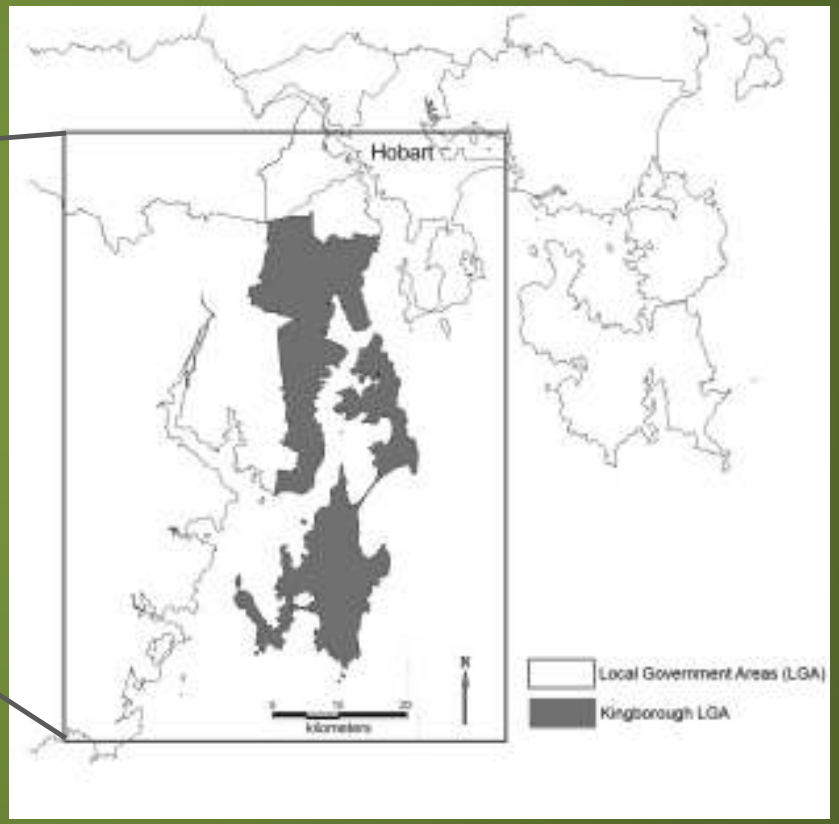
- The text (or ordinance) in the scheme and any associated definitions determine when the code applies
- Usually requires field verification to determine code application
- Safety net approach

- Approximately 280 hectares (43%) of threatened native vegetation communities

Interim schemes provisions

- Variable – 100% of Northern interim schemes, 58% of the South, 0% the North West provide for offsets
- Implementation restricted to South
- Substantive consideration in 83% of Southern interim schemes & North West interim schemes - decision-maker must be satisfied the development proposal achieves the specified biodiversity outcomes
- Northern interim schemes procedural consideration only
- Loss of urban biodiversity and offsets are contested

Kingborough case study



- Case study
  - Loss & gains
  - Effectiveness of offsets
  - Effectiveness of protection measures
  - 2000-2018
  - 6 regulation changes
- Area - 72,010 hectares
- Population - 36,263
- High growth & high biodiversity
- Early adopter of offsets

Kingborough case study – loss

- 2000-2018 - ~123.7 hectares of native vegetation cover cleared within the urban growth area (UGA) of Kingston/Blackmans Bay
- Patch size 0.06 to 15.27 hectares (M = 2.13 hectares)
- 95% (117 hectares) within an urban residential zones including General Residential, Low Density Residential and Inner Residential zones
- 38 hectares (45%) listed threatened native vegetation community
- 715 high conservation value trees
- 93% (666) in urban residential zones

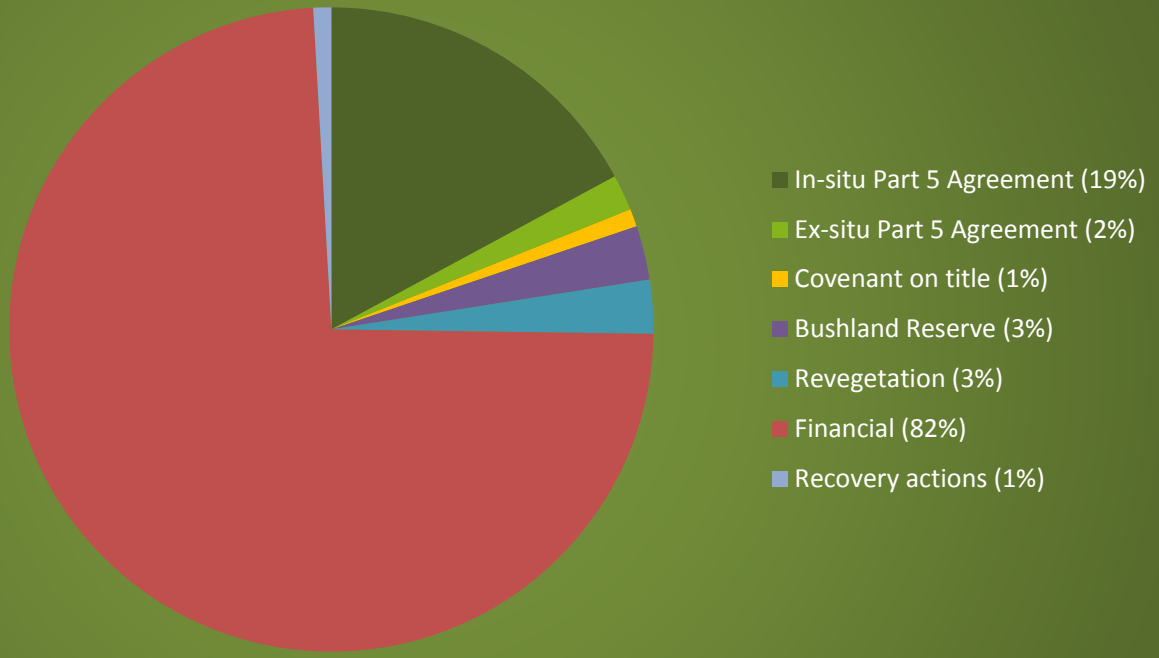
Kingborough case study – gains

- Kingston Blackmans Bay UGA:
  - offsets for the loss of 52.65 hectares of native vegetation and 715 individual trees
  - 42.7% of total loss in the UGA offset and 61.4% of all vegetation clearing offset
- 60 hectares protected within the UGA as direct offsets
- averted loss

Percentage of offsets by offset mechanism 2000-2018

23% direct offsets
(*n* = 43)

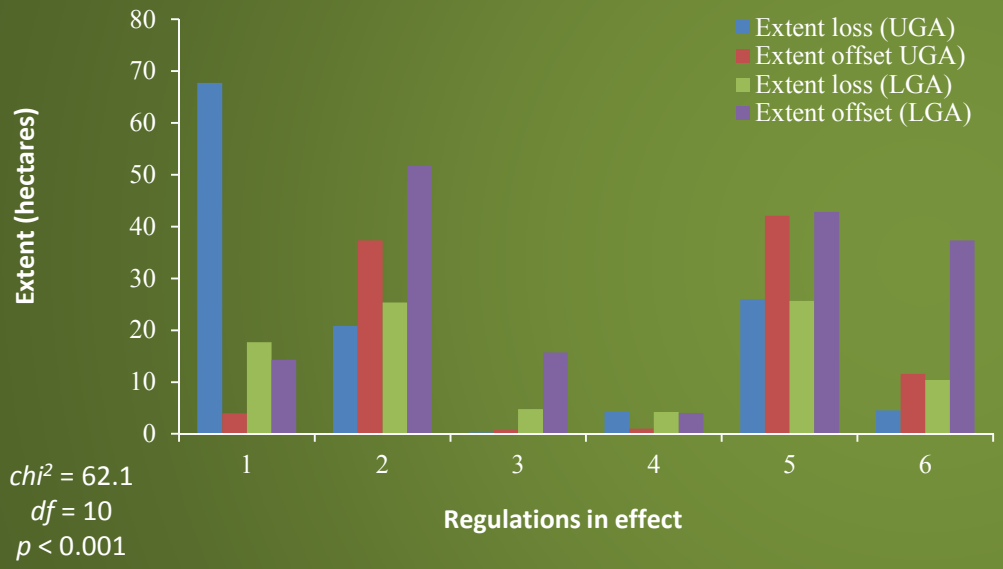
83% indirect offsets
(*n* = 157)



Financial contributions

- Small patches of vegetation or habitat (*M* = 0.325 hectares)
- Loss of individual trees (n = 128)

Extent of loss and extent of offset under different regulatory contexts from 2000-2018



chi^2 = 62.1
df = 10
$p < 0.001$

1 – Pre-KPS 2000 (pre-2004); 2 – KPS 2000 (2004-2009); 3 – KPS 2000 without FPA (2009-2010); 4 - KPS 2000 post van Beelan decision (2010-2012); 5 - KPS 2000 post schedule 10 amendment (2012-2015); and 6 - KIPS 2015 (2015-present).

- Decline in loss coinciding with an increase in offsets
- Offsets generally applies in accordance with offset principles of avoidance, additionality, equivalency, currency, location, timing and security
- Improvement with changes
- Preference for in situ averted loss offsets & financial offsets
- Financial offsets - time lag, risky and uncertain
- Alternative is often no offset at all given small scale of loss
- Averted loss offset approach has merit & results in conservation gains

Biodiversity under the SPPs

- Mandatory Natural Assets Code
- Consistent concept of priority vegetation
- Native vegetation that:
  - forms an integral part of a threatened native vegetation community as prescribed under Schedule 3A of the *Nature Conservation Act 2002* (NCA);
  - is a threatened flora species;
  - forms a significant habitat for a threatened fauna species; or,
  - has been identified as native vegetation of local importance.

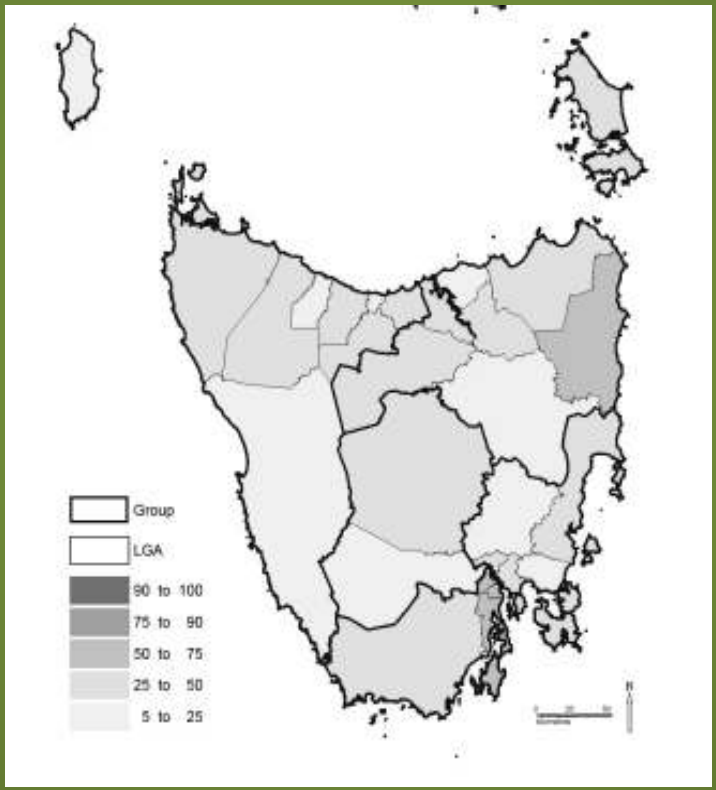
Percentage of the total extent of mapped threatened native vegetation subject to biodiversity-related code provisions by Local Government Area (LGA) under the State Planning Provisions

Statutory overlay

- Mandatory
- Limited to identified priority vegetation
- Applied based on Code Application Guidelines
- Using predominantly desk-top data and modelling

Zone exclusions

- Increase to ~ 650 hectares



Implications

- Reduction in mean percentage of each LGA subject to the Code for 76% of LGAs
- Largest decreases in the North West and North LGAs
- Biodiversity in urban-type zones excluded from consideration

Native vegetation loss, native vegetation gain and native vegetation at risk in the Kingston/Blackmans Bay Urban Growth Area (UGA)

SPP provisions

- Consistent integration of biodiversity conservation into the decision-making process
- Provides for in-situ offsets only
- Limited to procedural consideration
- Only apply to some developments in some zones
- All remaining native vegetation within urban-type zones at risk of loss with no conservation gain
- Kingston/Blackmans Bay UGA – further 123 hectares at risk

Case study:
Hawthorn Drive, Kingston

- Desk-top mapping - agricultural, urban and exotic vegetation
- Field verification - threatened vegetation community under the *Nature Conservation Act* and a high priority under planning scheme
- Known populations of endangered flora and fauna
- Averted loss offset with 79% protected as bushland reserve
- State Planning Provisions – no consideration of biodiversity resulting in total loss

Conclusion

- Variation in planning instruments
- Kingborough case study – land use planning can makes an important contribution to biodiversity conservation
- Offsets - when applied within the context of the mitigation hierarchy and designed and implemented properly, can reduce urban biodiversity loss
- The SPPs - represent a step backwards, focussing on procedural integration of biodiversity at the expense of substantive
- Comprehensive review & amendments required

Questions?