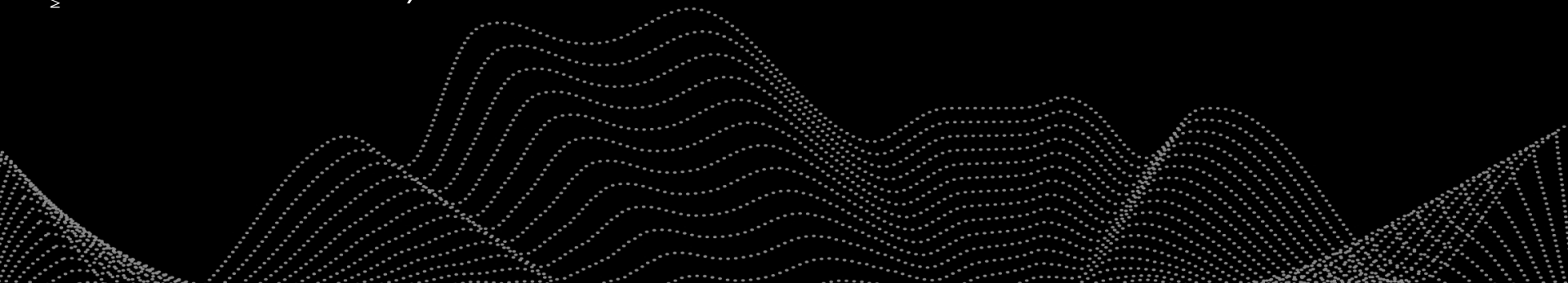




# **New Zealand's introduced flora: Data resource to support research & management**

Angela J. Brandt, Duane Peltzer, & Peter Bellingham  
*with support from Clayson Howell, Jason Fridley, Jon  
Sullivan, & Richard Duncan*





tradescantia yellow  
leaf spot fungus



Japanese honeysuckle  
white admiral caterpillar



Winning Against Wildings  
research programme



# Integration across different management landscapes



Hanmer Springs



Shrub fragments in eastern SI



Fiordland National Park

*Managing Landscape  
Risks & Threats*





# Aims in developing introduced flora data resource

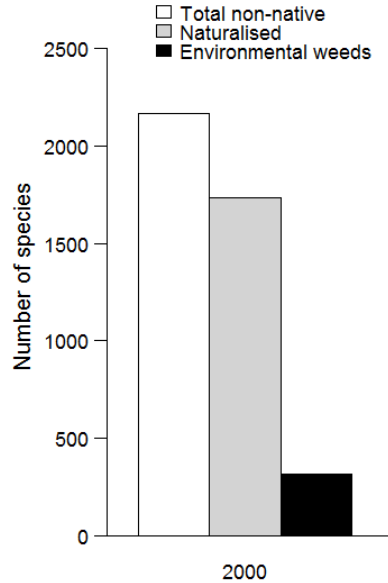
- Current state of knowledge
  - How many species
  - Identity, form, lifespan
  - Origin & occurrence in NZ
- Predict naturalisation risk & impact
  - Naturalisation rates
  - Regions & habitats at risk
  - Key attributes for spread & impact
    - Environmental weeds
    - Reproduction & dispersal
    - Ecosystem impacts: e.g., N-fixing, flammability



Wairepo Kettlehole

# Making data accessible

- Existing databases not yet published
- Updating species lists
  - PND Checklists 2017
- Incorporate species attributes
  - Priorities for end-users



# Identity

- 2808 species
  - 193 families
  - 1121 genera

Ferns and allies

Gymnosperms

Monocots

Dicots

Non-natives



Photos: Alex Fergus



# Identity

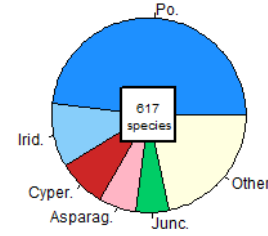
- 2808 species
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Ferns and allies

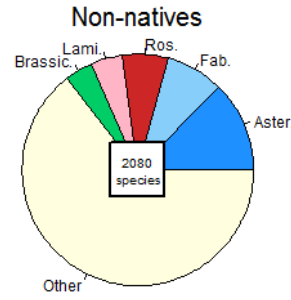


Gymnosperms

Monocots



Dicots



Photos: Alex Fergus



# Identity

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Ferns and allies

Gymnosperms

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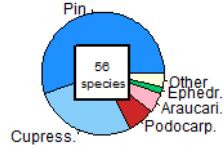
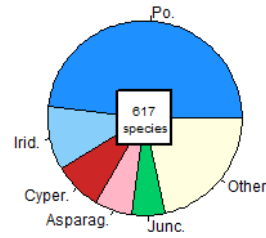
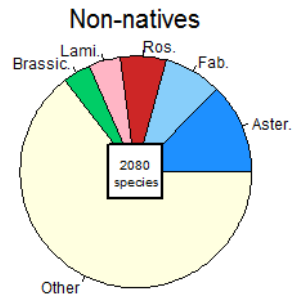


Photo: Brad White

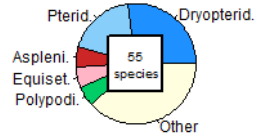




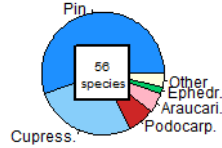
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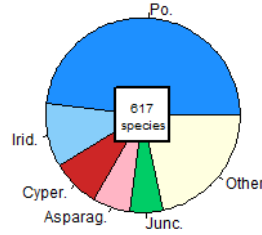
Ferns and allies



Gymnosperms



Monocots



Dicots

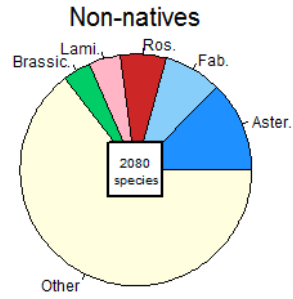


Photo: Peter Heenan



Photo: Alex Fergus



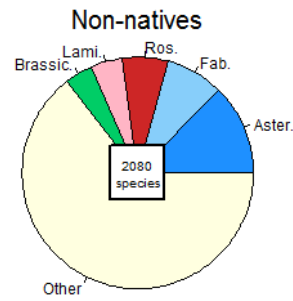
# Identity

- 2808 species
  - 193 families
  - 1121 genera
- 1794 naturalised
  - 151 families
  - 761 genera
- *2265 natives*
  - *145 families*
  - *424 genera*

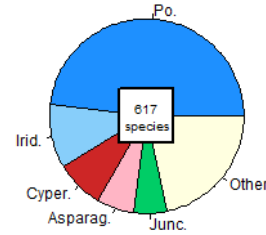
Naturalised



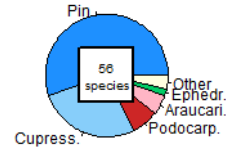
Dicots



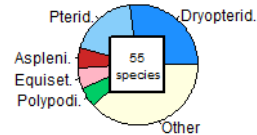
Monocots



Gymnosperms



Ferns and allies

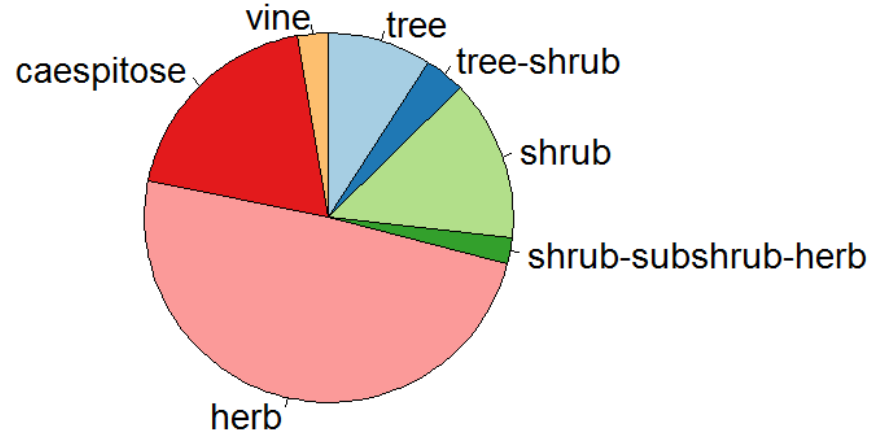


# Growth forms

- Flowering plants
  - Dicots + monocots
- High risk factors?
  - Vines
  - Climbing habit



## Growth forms of non-native flowering plants\*

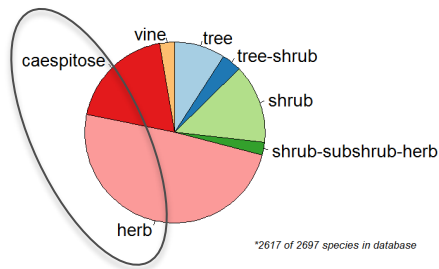


\*2617 of 2697 species in database

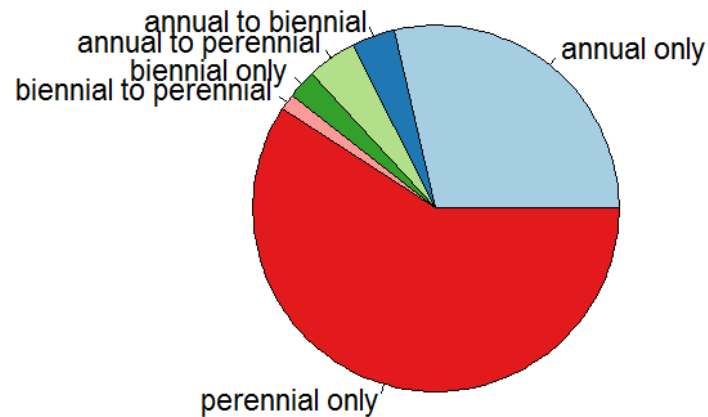
# Lifespan

- Herbaceous flowering plants
- High risk factors?
  - Annuals – fast-growing
  - Perennials – potential “sleeper weeds”

Growth forms of non-native flowering plants\*



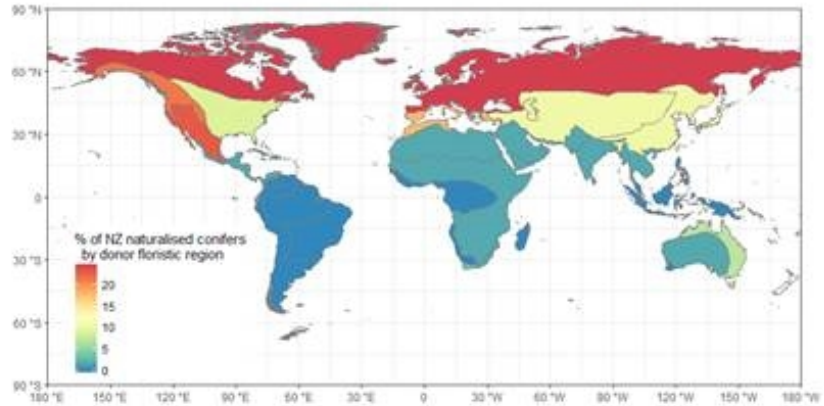
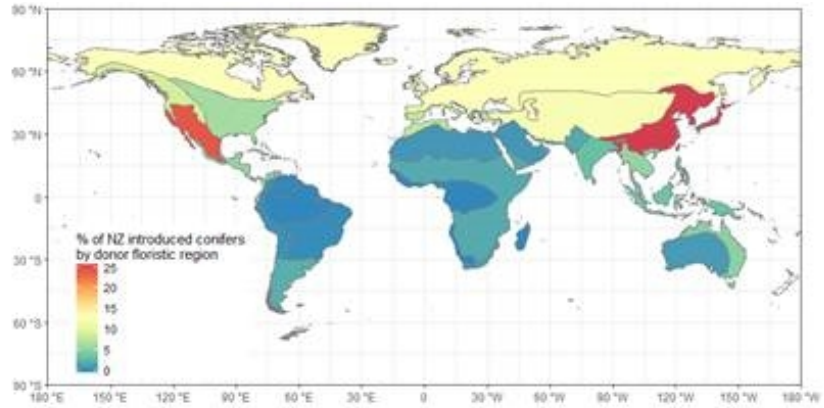
Life history of non-native herbaceous flowering plants\*





# Origin

- Continents, countries
- Floristic regions
- Data for ~83% of species



Howell, pers. comm.



# Occurrence in NZ

- Political regions
  - Occurrences by year 2000 (Gatehouse 2008)

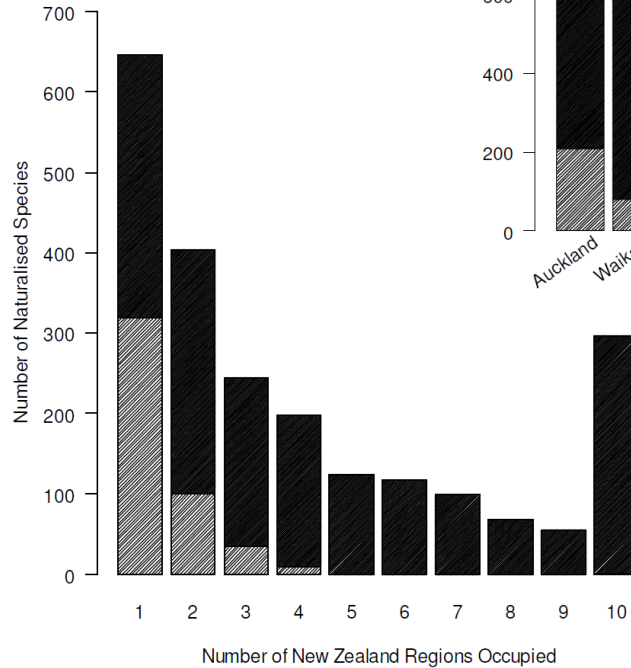


Fig. 8

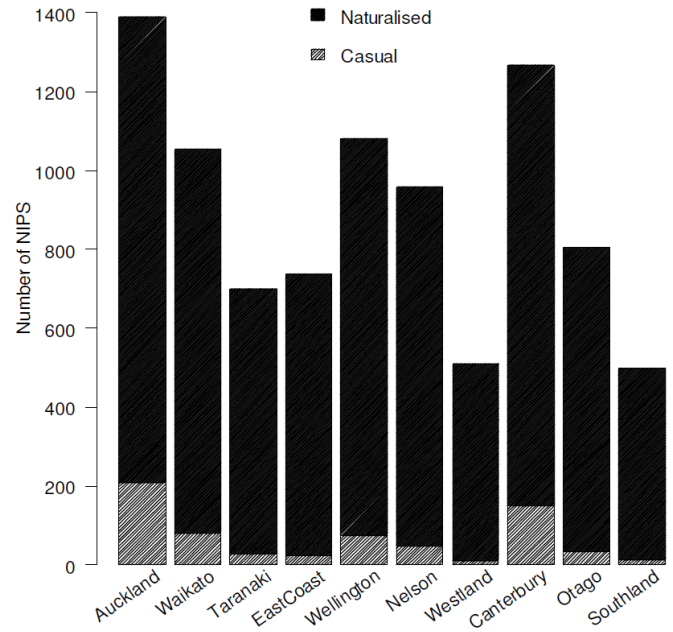
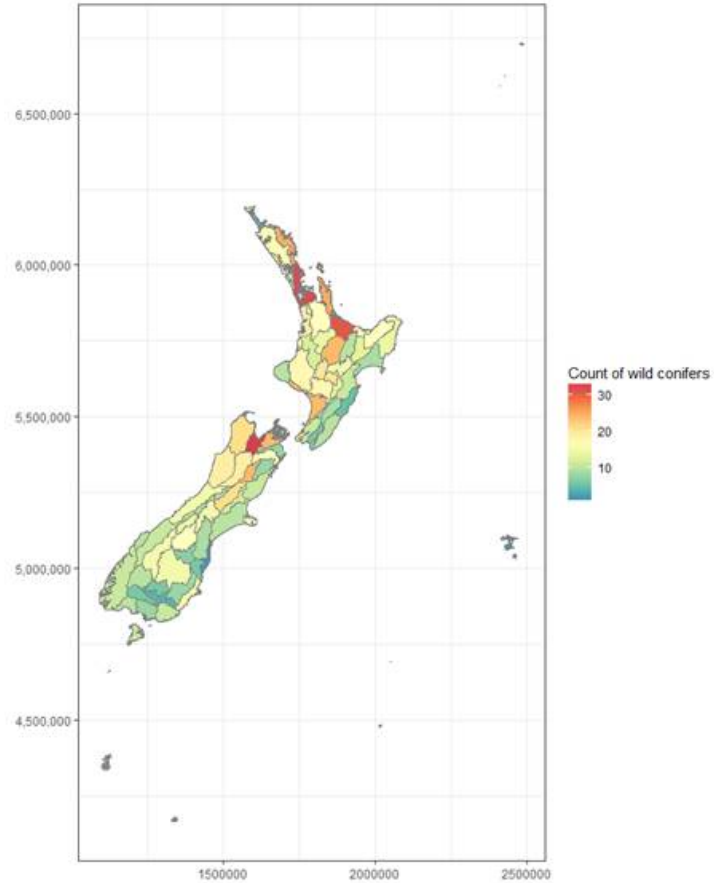


Fig. 13



# Occurrence in NZ

- Political regions
- Ecoregions
- Habitats



Howell, pers. comm.



## Next steps

- Review current state of knowledge
  - Provide information most readily available & most useful to end-users
- Publish current database online
  - Explore options for linking to other databases
- Supporting research & management
  - Current distributions, management priorities
  - Prioritise attributes to add to database
  - Your feedback is essential

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