

# **Relationships between exposure to nature and health and wellbeing benefits in New Zealand**

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# Nature and health: an old idea?

- **Biophilia hypothesis:** suggests there is an innate bond between human beings and other living systems
- Humans 'hard-wired' through evolution to need connection to nature?
- More recent research also suggests multiple health and wellbeing (**HWB**) benefits from contact with nature



# HWB Mechanisms

- Green space seems to influence health and wellbeing in three main ways:
  - by providing opportunities to undertake **physical activity**;
  - by facilitating the development of **social capital**;
  - **directly, through restorative effects** including, for example, recovery from stress, improved moods, ‘mental recharging’, (reduced blood sugar levels, immune system)

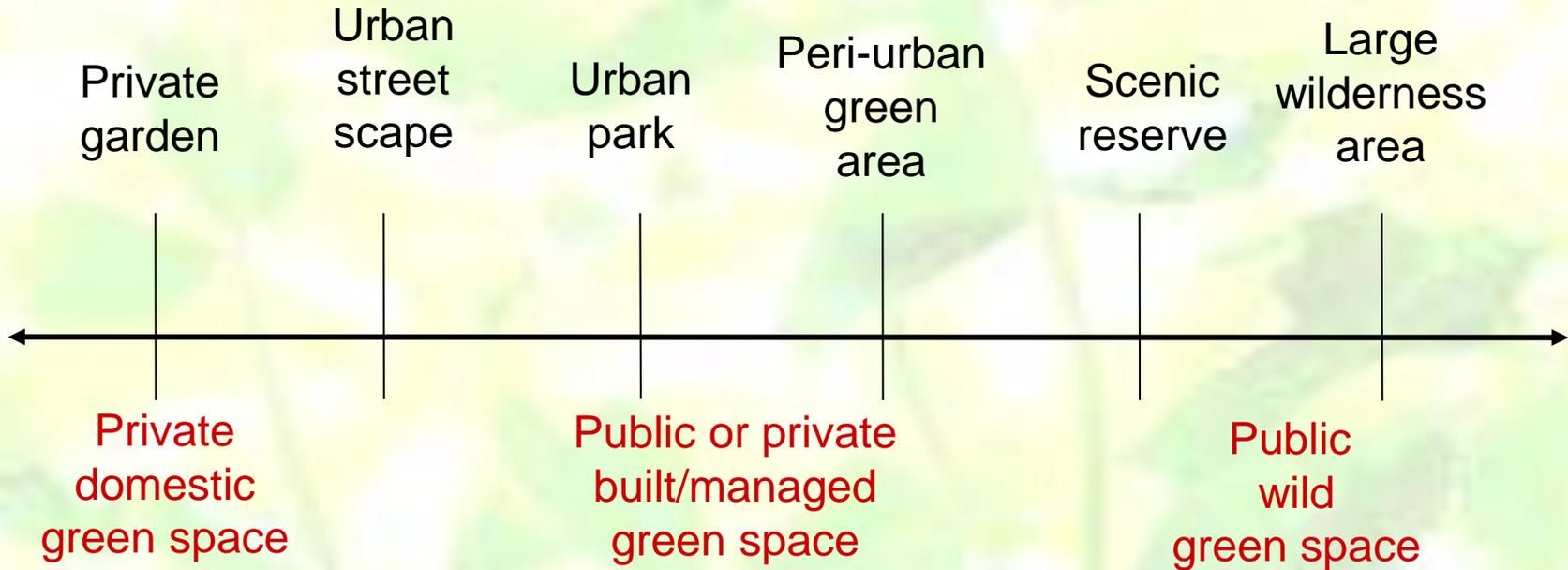
# Review of natural environment / HWB relationships

- Overall, a large body of recent research suggests that **exposure to natural environments** has **direct, positive effects on human health and wellbeing**
- Many effects appear to hold true when differences in income taken into account

## HOWEVER

- Much of the research is either anecdotal or descriptive
- Few studies rigorously test differences between green/blue and non-green/blue settings
- Many reported positive effects are not statistically significant or relate to very small sample groups

# Green (and blue) space at different scales



# Urban green spaces

- Some research suggests **relationship between increasing urbanisation, decreasing greenness** and resultant health effects

Mitchell R, Popham F 2007 *Journal of Epidemiology and Community Health*, 61(8), 681-683

Mitchell R, Popham F 2008. *Lancet*, 72(9650), 1655-1660

- **This conclusion may not hold true in New Zealand** and possibly not in some other parts of the world

Witten et al 2008 *Preventive Medicine* 47, 299-303

Richardson et al 2010 *BMC Public Health* 10, 240

- especially in areas where **much of the population enjoy good access to green areas** even when living in large urban centres or in deprived areas.



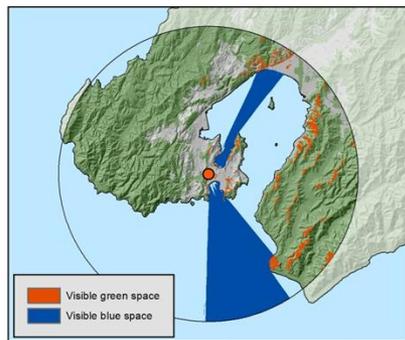
# New Zealand urban green and blue spaces

Two recent ecological studies in Auckland and Wellington:

- *Auckland*: nearness to 'useable' greenspace and also high proportions of greenspace in a neighbourhood was protective against anxiety/mood disorder
- *Wellington*: higher levels of blue space visibility were associated with lower psychological stress. Higher levels of distant green space visibility associated with lower psychological stress
- Results suggest the possibility that increased visibility and/or nearness of blue and green space could have a salutogenic effect to promote mental wellbeing and reduce stress.

(Nutsford et al:

<https://www.researchgate.net/publication/258827905> An ecological study investigating the association between access to urban green space and mental health; forthcoming)



# Large Conservation Areas

There is evidence that exposure to large “natural” green areas (national parks etc) provides direct **short term** HWB benefits, but it is not clear:

- if these effects last;
- If such areas are more beneficial than other types of green space;
- Which population groups might derive the most benefits; or
- What extent of exposure is required

Issues of accessibility to these areas



Shinrin-yoku (“Forest bathing”) -  
Recognised relaxation and stress  
management activity in Japan

Lee J et al, 2011. Public Health, 125(2),  
93-100

# Environmental volunteering

- Cohort study in Alameda County, CA
  - 6200 adults over 20 years
  - environmental volunteering more strongly associated with subsequent physical activity, better self-reported health, fewer symptoms of depression
  - No causal link can be inferred from study design
- Deakin University studies (Victoria)
  - Qualitative studies
  - participants generally believed that their involvement was beneficial physically, mentally, and socially
- Documented benefits from community gardening
- Potential for range of volunteer programmes?



# Conclusions and implications

- Positive nature/HWB associations have particular applicability in New Zealand because of its high accessibility of green and blue spaces
- Need for integrated approach to HWB between:
  - managers and stakeholders in the health and volunteering sectors, and
  - those involved in green/blue space management
- Next step?: more detailed investigation of activities undertaken in New Zealand green/blue spaces, and their HWB outcomes, would allow better understanding of nature / HWB relationships in New Zealand

# The Biophilic City

- Cities that contain abundant nature
- “cities that care about, seek to protect, restore and grow this nature, and that strive to foster deep connections and daily contact with the natural world”

<http://biophiliccities.org/>



[bluestemnursery.blogspot.com](http://bluestemnursery.blogspot.com)



<http://www.stuff.co.nz/dominion-post/news/>



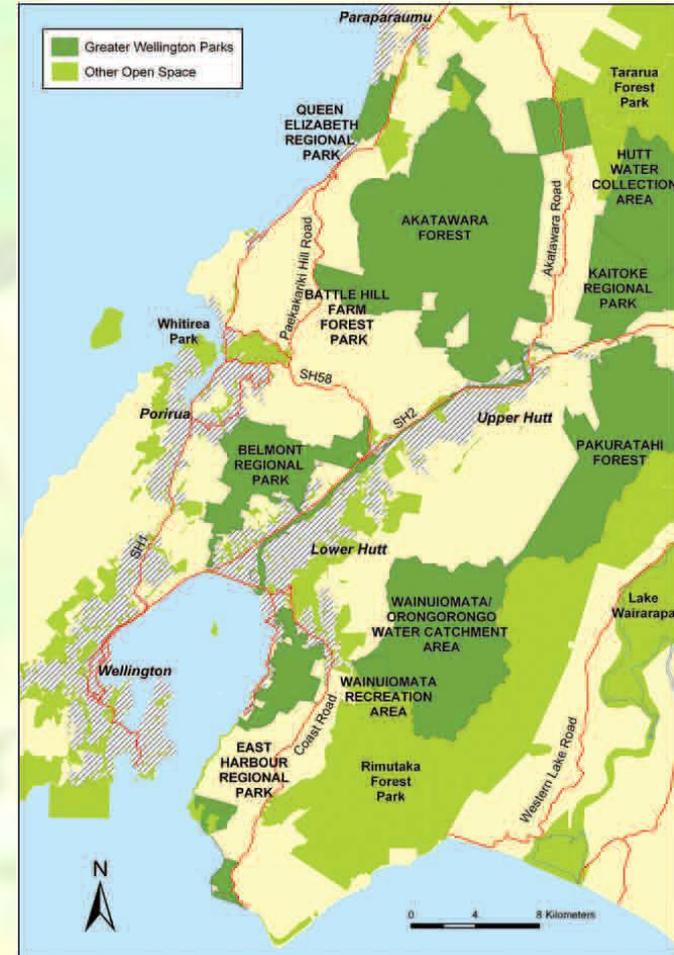
# Public conservation estate

***Risk to DOC:*** If HWB benefits are derived from all natural areas, could this be a threat to investment in natural areas administered by DOC?



# Wellington Regional Park network

- Reserves Act
- Managed by Greater Wellington Regional Council
- Peri-urban rather than urban
- Why parks seen as valuable:
  - conserve nature, cultural and scenic values
  - provide social and economic benefits and recreational opportunities
  - contribute to healthy lifestyles and wellbeing
- Tie in with other public and private protected areas



# How to bring HWB benefits of conservation areas to people?

- *Opportunity:* How could DOC maximise HWB benefits of its urban and historic areas?
  - Transfer or intensify management of urban areas
  - Manage historic heritage within green spaces
  - Manage urban areas in complementary way with other agencies



# How to bring all people to natural areas?

- *Opportunity:* How could DOC maximise access by all groups to all its natural areas?
  - programmes to bring disadvantaged people to national parks etc
  - collaborations between DOC, other agencies and sponsors



cite Source: Daniel Nutsford

y Acknowledge?

