Potential of city green space as OECMs

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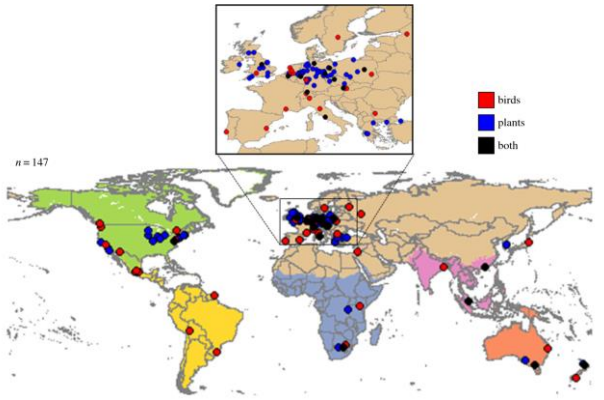
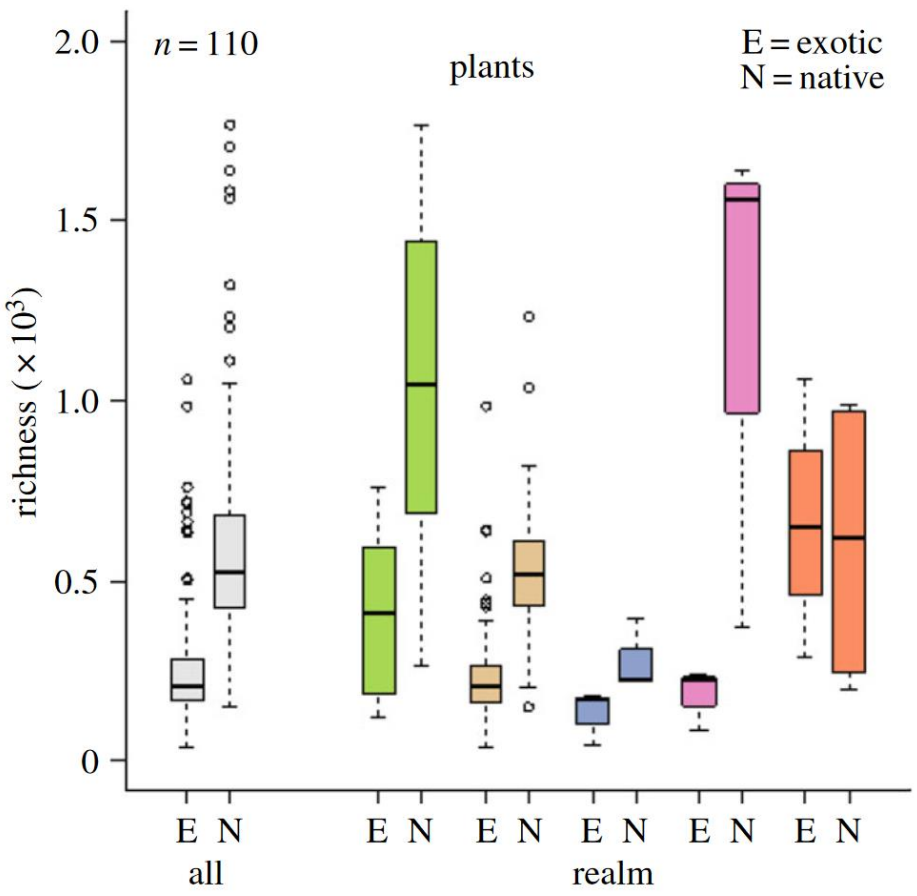
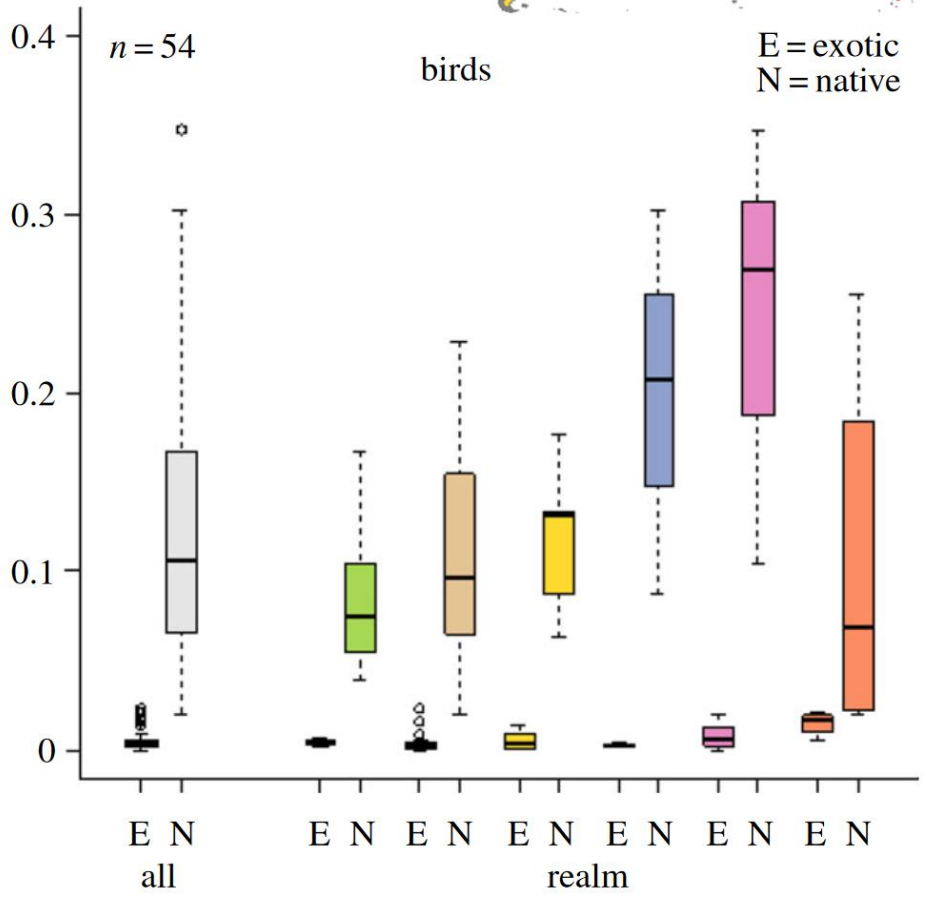
Biodiversity in cities

Meta-analysis on
species richness of plants and birds in 147 cities





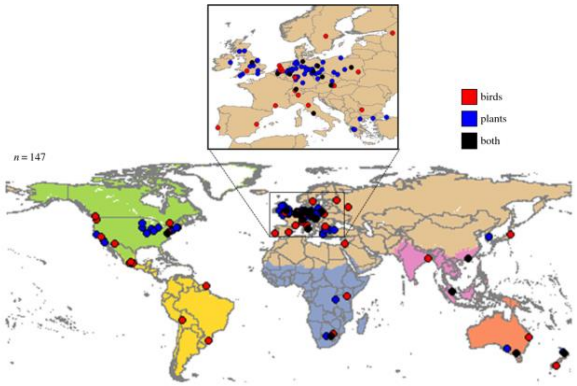


Aronson et al. 2014 Proc B

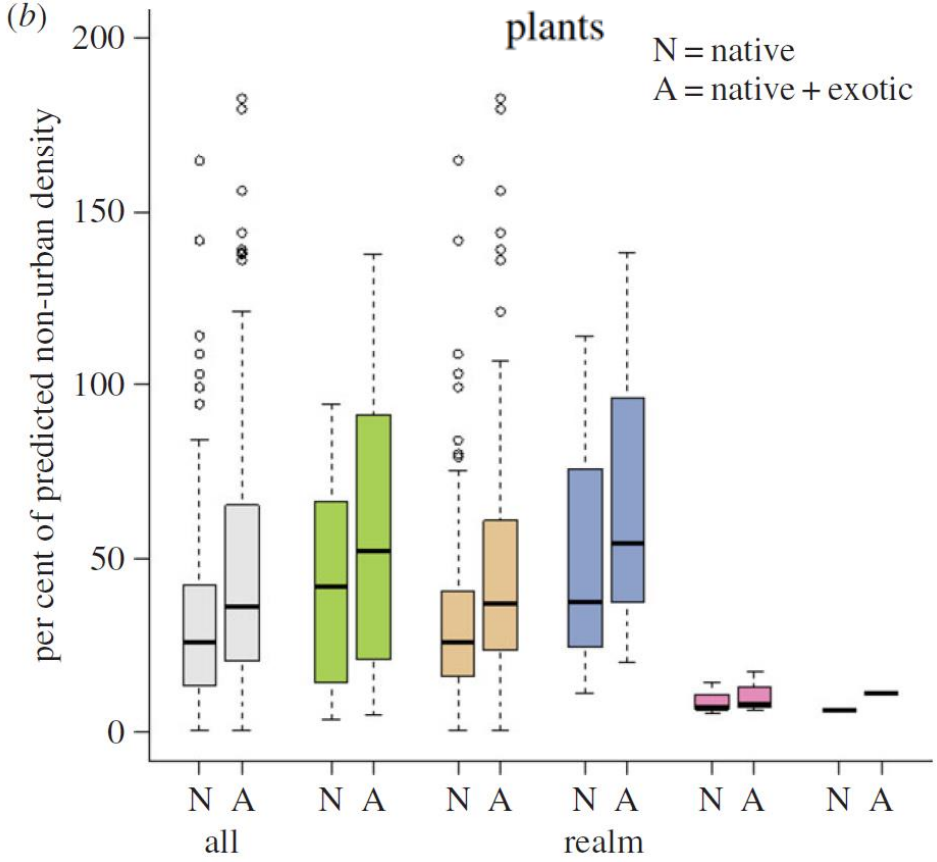
Native species assemblages in cities reflecting the regional flora/fauna

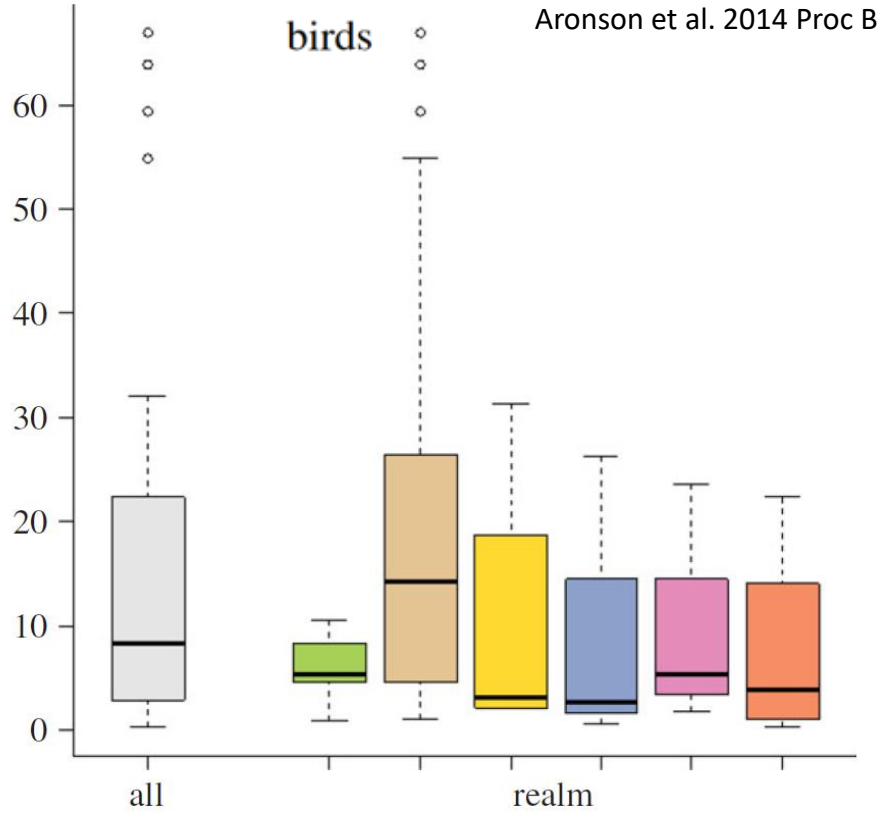
Biodiversity in cities

Lower richness than predicted non-urban richness density (native plants: 25%, birds 8%)



Aronson et al. 2014 Proc B





Cities with larger **green space** tend to have larger richness

City green space and OECMs

To identify a city green space as a candidate for OECMS, we need to

- **Test 1.** Ensure that the area is not already recognised and/or recorded as a protected area.
- **Test 2.** Ensure that the area has the essential characteristics as defined for OECMs.
- **Test 3.** Ensure that the conservation outcome will endure over the long-term.
- **Test 4.** Ensure that an *in-situ* area-based conservation target (e.g., Aichi Target 11), as opposed to a sustainable use target, is the right focus for reporting.

"Screening tool" in IUCN-WCPA Task Force on OECMs, 2019

Our approach

Listing city green space that has admin office

↓

Digitize on GIS

2159 green space
Total area: 45,000ha

↓

Spatial Analysis

Conservation priority areas
Existing PAs

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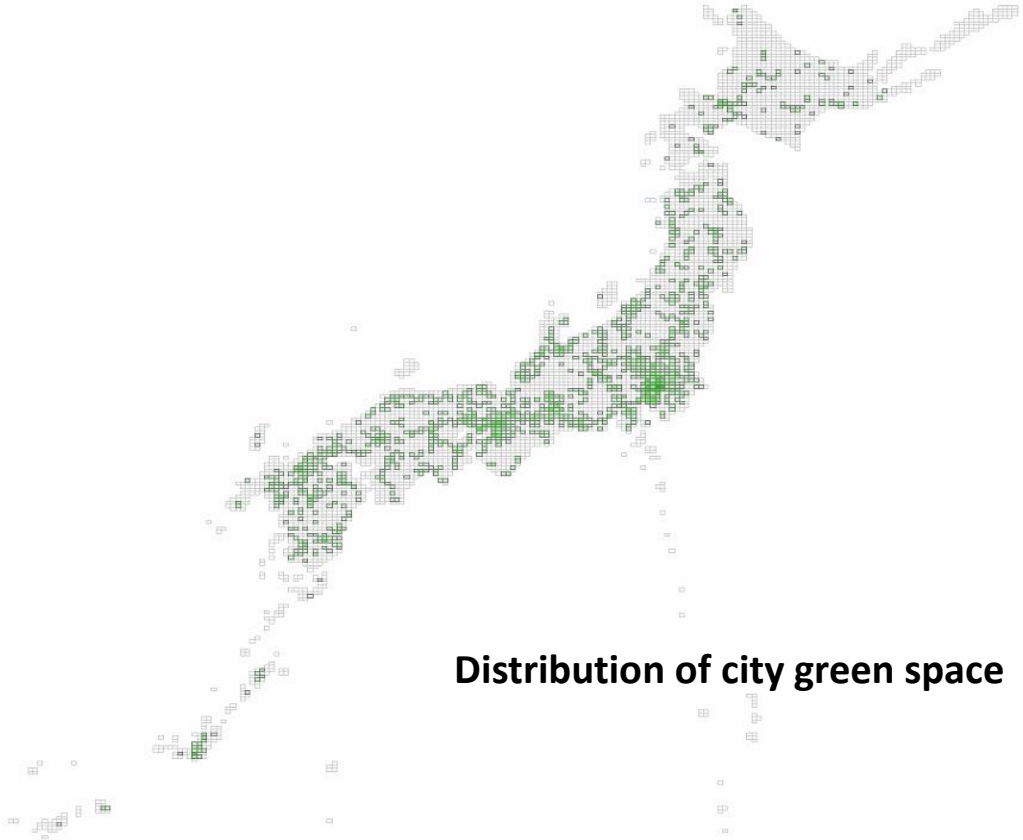
Questionary survey

Species with conservation concern
Management policy

Collaboration of NIES & NACS-J since 2018

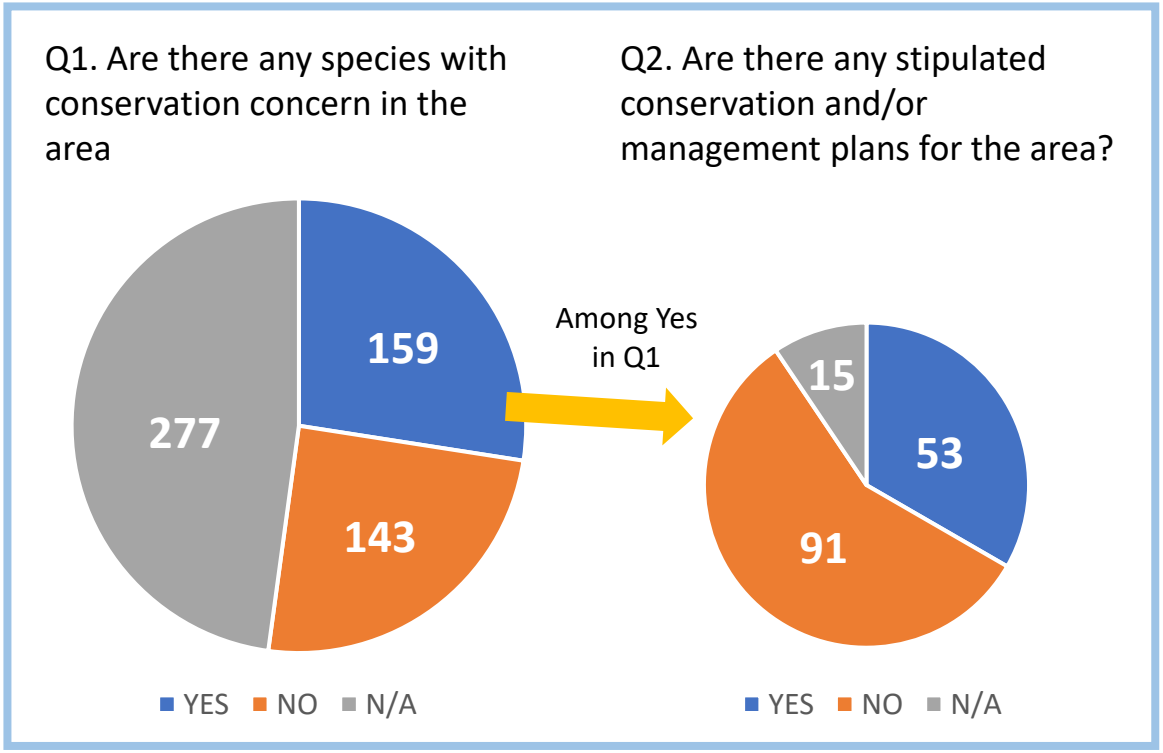
NIES

NACS-J
日本自然保護協会



Distribution of city green space

Results of questionaries

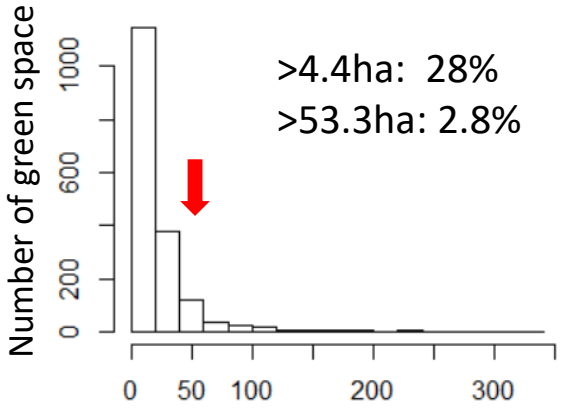


- **Test 3.** Ensure that the conservation outcome will endure over the long-term.
- **Test 4.** Ensure that an *in-situ* area-based conservation target (e.g., Aichi Target 11), as opposed to a sustainable use target, is the right focus for reporting.

Those city green spaces may deserve as candidates of OECMs

Challenges

Threshold green space area to maintain species richness



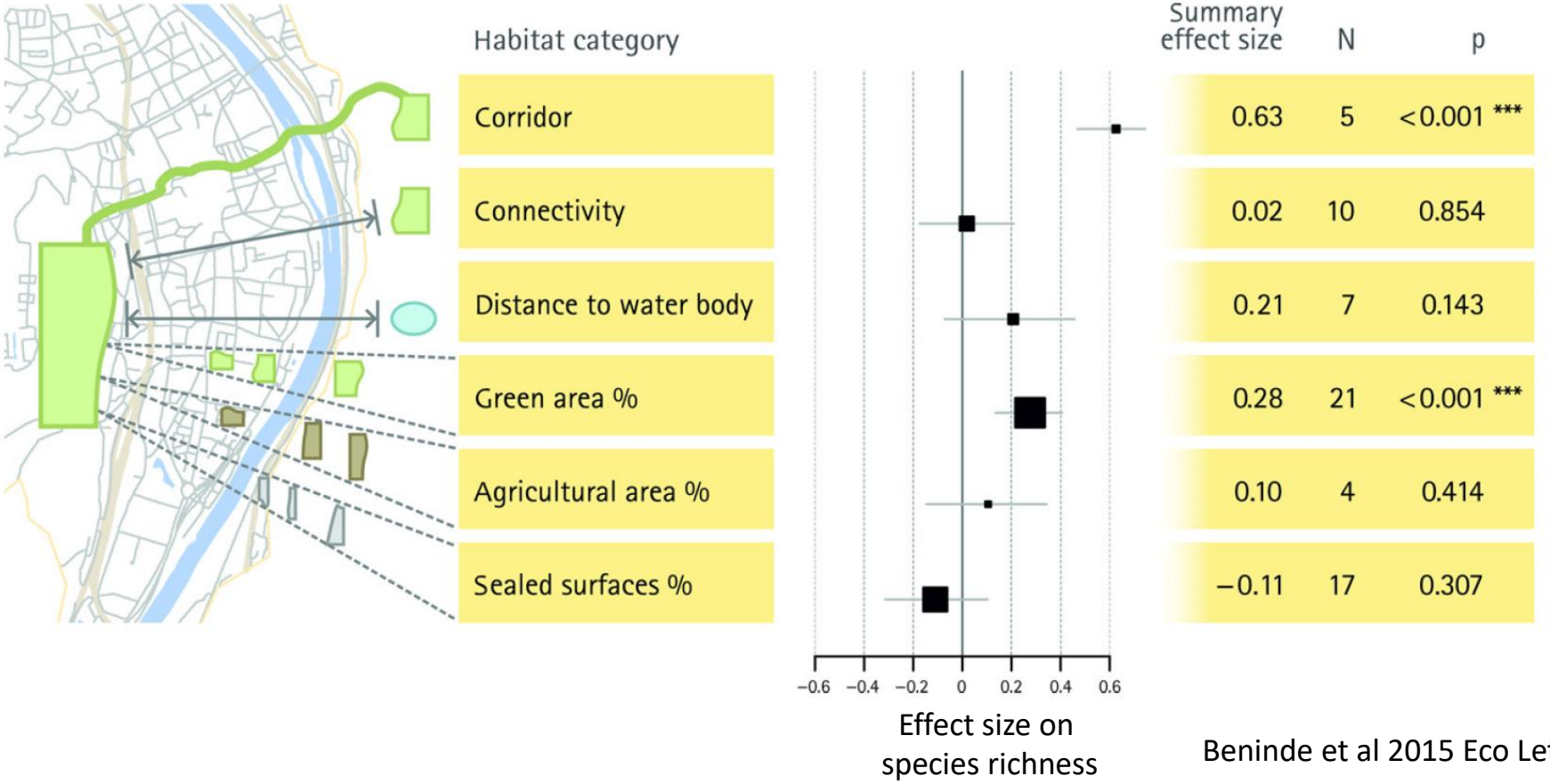
Most of the green spaces are smaller than 50ha

Beninde et al 2015 Eco Lett

	Threshold value (ha)	Goal	Author	Taxa level
Species adopted to urban environments	1	Low	Arca *et al.* (2012)	Birds
	4	Low	Drinnan (2005)	Birds
	3	Low	Drinnan (2005)	Frogs
	2	Low	Drinnan (2005)	Plants
	2	Low	Drinnan (2005)	Fungus
	1	Low	Germaine *et al.* (1998)	Birds
	8	Low	Hinners *et al.* (2012)	Pollinators
	1	Low	Loss *et al.* (2009)	Birds
	10	Low	Natuhara & Imai (1999)	Birds
	8	Low	Sadler *et al.* (2006)	Carabids
	5	Low	Sewell & Catterall (1998)	Birds
Ave. 4.4 ha	6.5	Low	Smith (2007)	Birds
	5	Low	Tilghman (1987)	Birds
Species sensitivity to habitat loss	140	High	Bickford *et al.* (2010)	Amphibians
	42.2	High	Donnelly & Marzluff (2004)	Birds
	50	High	Drinnan (2005)	Birds
	50	High	Drinnan (2005)	Frogs
	20	High	Hinners *et al.* (2012)	Pollinators
	20	High	Natuhara & Imai (1999)	Birds
	20	High	Smith (2007)	Birds
	25	High	Tilghman (1987)	Birds
	50	High	Vignoli *et al.* (2009)	Reptiles
	50	High	Vignoli *et al.* (2009)	Amphibians
Ave. 53.3 ha	118.9	High	Watson *et al.* (2005)	Birds

Problems

Meta-analysis of 87 studies on city green space



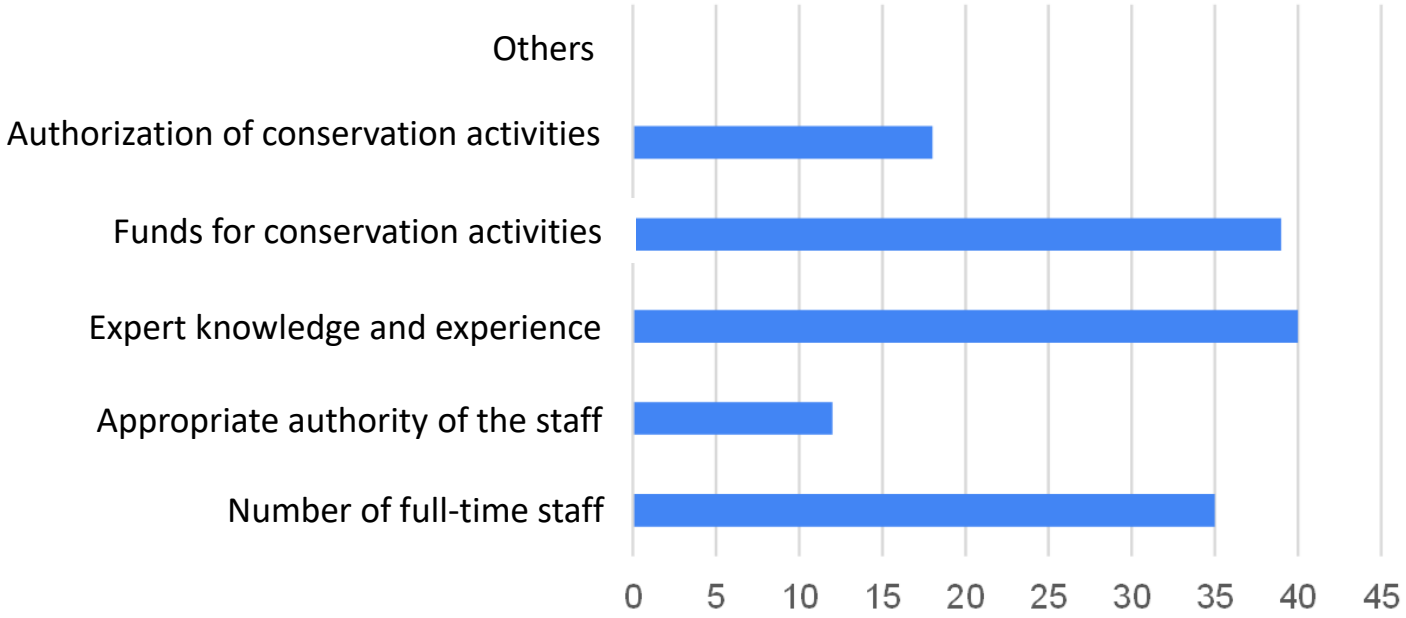
Beninde et al 2015 Eco Lett

Corridor may compensate the small area problem at least in part

Challenges

Results of the questionaries

Q3. What is limiting continuous conservation activities?



Capacity building, Funding, and authorization mechanisms…

Summaries

1. Biodiversity in cites

-City can carry native species assemblages
-Cities with larger green space tend to have larger richness

2. Potential of city green space as OECMs

-City green space covers specific prioritized areas

-City green space can cover more target species &
more irreplaceable areas than PAs

-Some of city green spaces deserve as candidates of OECMs

3. Challenges

-Most of the green spaces are smaller than threshold areas to maintain species richness

-Capacity building, Funding, and authorization mechanisms are required for continuous conservation activities

Acknowledgments

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