

Design and Management across urban woodland zones

26 year old, oak dominated stand in Bulltofta, Malmö

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Long tradition of urban forest design and management for recreation and other services...examples from the the Danish "Lystskove"



"In the late 19th century, Every larger Danish cities with respect for itself acquired forest. The forest was connected to the town by pathsystems, which often followed the beach or vantage points. In the forest were often placed a pavilion, a concert arena and a shooting range".

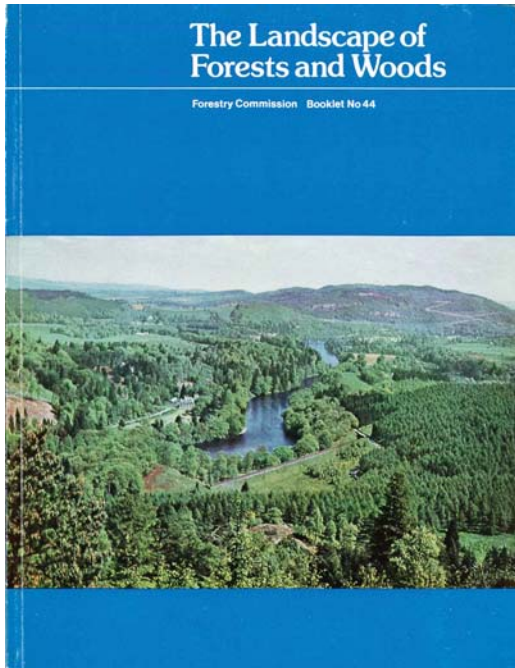
Translated from: Olsen, I.A. (1974) Skovplantninger i byområder. SBI-Byplanlægning 25. København

▲
Marselisborg skov
purchased by
Aarhus in 1896

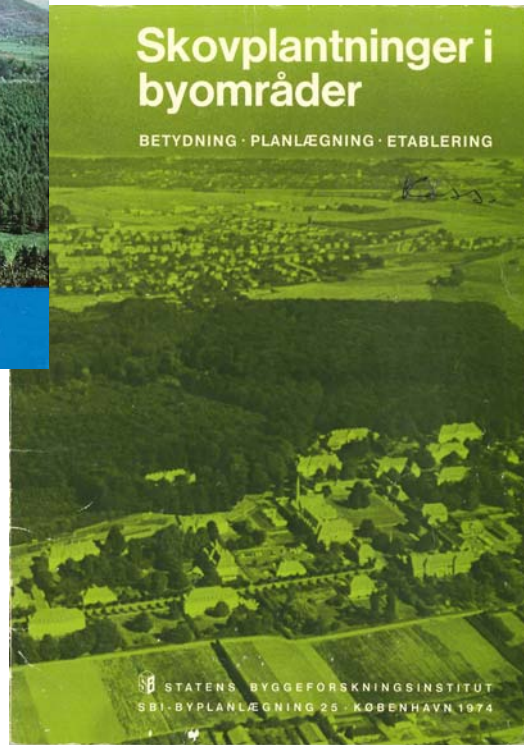
Dinning place in
Suserup Skov. ►
Picture, ca. 1920.



More than 30 years of research on forest design and management for recreation and other services



▲
UK: Forestry Commission (1978)



▲
DK: Olsen, I.B. (1974)

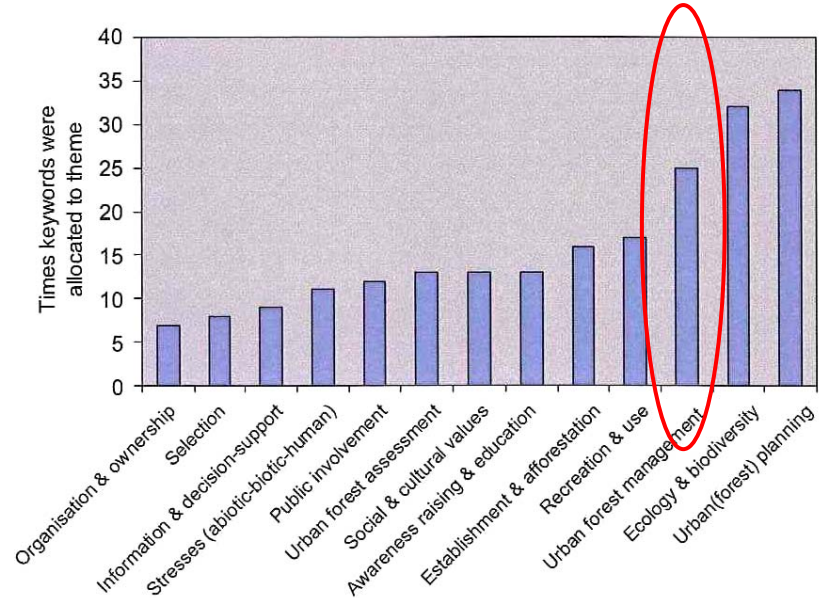


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SE: The most preferred and last preferred photo among 28 photos in a national preference study from 1983 in Sweden. Photos: Sven G. Hultman

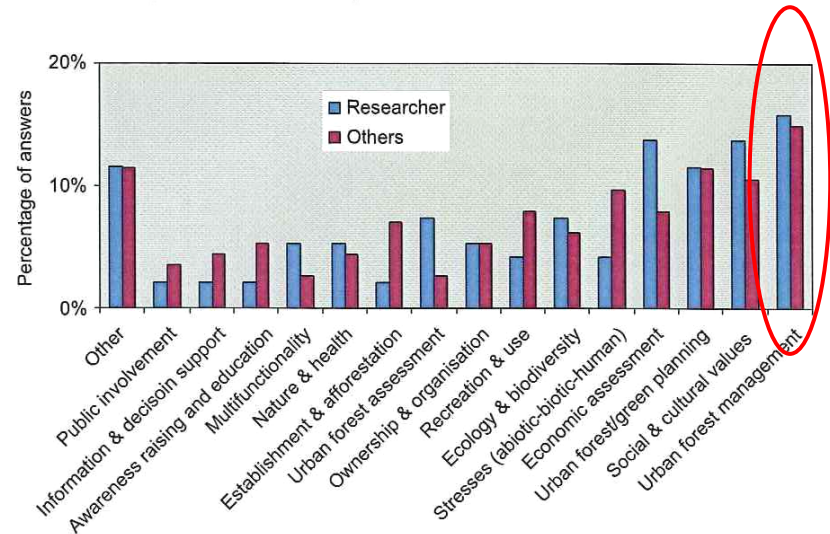
Urban forest Design and Management research and research needs

- In the Nordic and Baltic countries










Frequency of Urban forestry research themes anno 2005.....



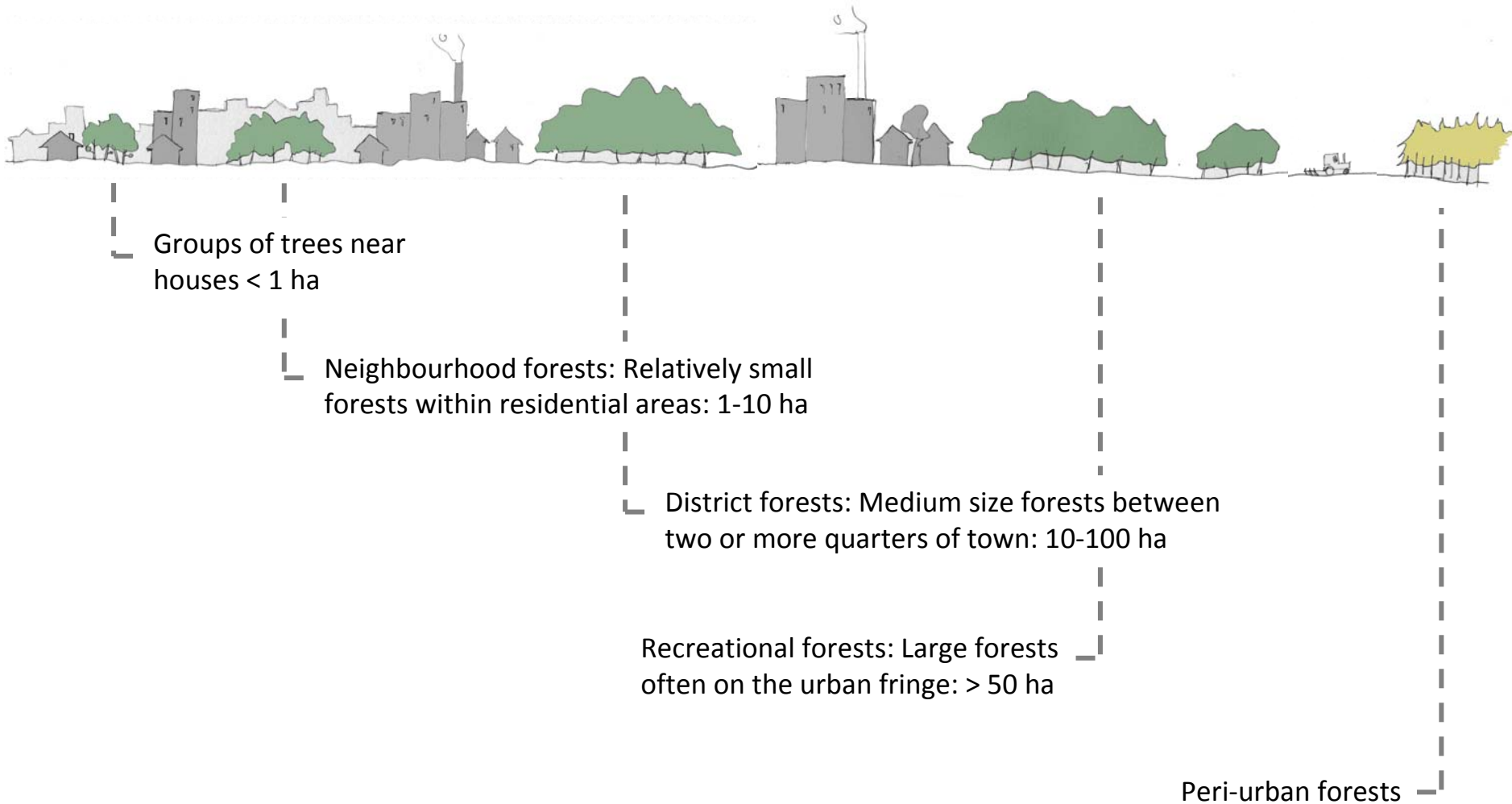
Priorities for future urban forestry research.....



Forests along the urban-rural gradient...

Forest type	Spatial characteristics	Social function	Number of functions	Increase of are
Urban woodlands	In build up areas or between built-up areas and open land			
Peri-urban woodlands	Part of the cultural landscape close to urban areas			
Non-urban woodlands	Part of the open (near-natural) landscape far from urban areas			

Urban woodlands in relation to their location and size...



Forest and other wooded land cover across the European North Atlantic region

Country	Forest and other wooded land cover	
Finland	75 %	Urban development in forest dominated landscapes
Sweden	74 %	
Norway	39 %	
Estonia	48 %	
Latvia	45 %	
Lithuania	30 %	
<hr style="border-top: 1px dashed black;"/>		
Denmark	14 %	Urban development in forest poor landscapes
Iceland	1 %	
The Netherlands	11 %	
Ireland	10 %	
United Kingdom <i>(incl. Wales and Scotland)</i>	12 %	

Groups of trees near houses and small neighbourhood forests...

Sweden

Rich patchwork

Mostly remnants of the cultural landscape integrated into housing during the 1930s-50 and again during the 1980s and onwards

Natural/wild appearance with uncultivated ground vegetation

Denmark

Sporadic occurrence

Mostly landscape architectural planning during the 1930-60s. (e.g. Romerhusene in Helsingør by Jørgen Utzon)

Treated as “parks” with open canopy structures and cultivated ground vegetation



Groups of trees near houses and small neighbourhood forests

- Integration of forest and housing in a new city district (and landscape laboratory): Holstebro, DK



District forests: forests of medium size between two quarters of town

Sweden

Common

Forest of medium size were often saved to separate two or more quarters of town in the building boom of the 1960s and -70s

Production forests converted to urban uses

Denmark

Common

Forests of medium size were often established in the 1960s and -70s in order to realise the desired spread out city structure

Designed for urban uses

Large recreation forests

Denmark

Common at the fringe of larger cities

Old forest landscapes with a long history of public ownership and recreational use

Sweden

Common at the fringe of larger cities

Old forest landscapes with a long history of public ownership and recreational use

Often has a nature reserve status



Large recreation forests...new generation in Denmark

Public afforestation efforts during the last part of the 20th century have created a new generation of large recreation forests close to all larger (mostly > 200 ha) cities in Denmark



Peri-urban forests...

An aerial photograph showing a peri-urban landscape. The foreground and middle ground are dominated by a patchwork of agricultural fields in various shades of green and yellow. Interspersed among these fields are several large, dark green forest patches. The background shows a more densely forested area, possibly a peri-urban forest. The overall scene is a mosaic of agricultural and forested land.

Sweden

Dominating the peri-urban landscape

Long forest continuity

Often intensive commercial management

Denmark

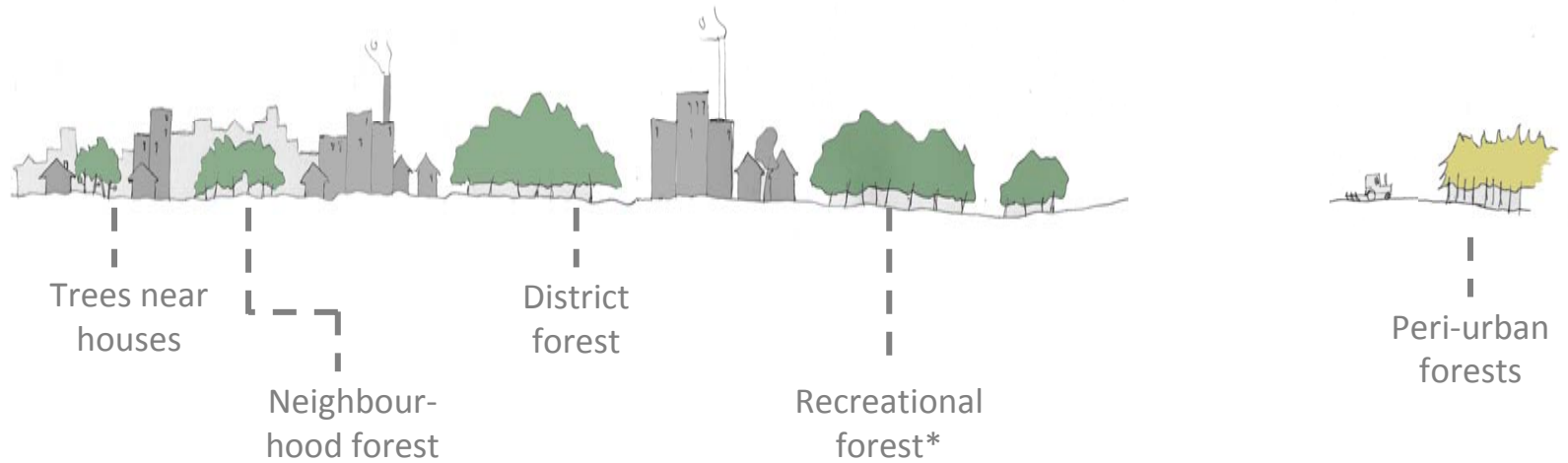
Sporadic occurrence in the agricultural hinterland

Long forest continuity

Often on poor soils and sites with local topography that have complicated cultivation of the land

The small forests often have a low degree of management

Summary...



	Trees near houses	Neighbourhood forest	District forest	Recreational forest*	Porportion forest of total city area	Peri-urban forests
Forest dominated regions (SE)	++++	++++	+++	+++	Ca. 20 %**	+++
Forest poor regions (DK)	(+)	+	++	++	< 10 %	+

*Including forests with special character such as arboretums, deergardens etc

** Hedblom and Söderström: Landscape and Urban Planning 84 (2000): 62-73.

Dominating patterns of use in relation to forest size and location...

For whom are we managing and what are their expectations ?



Use	Local appeal	Local/city appeal	regional appeal	Local appeal
Most Frequent users	Children	Teenagers Adults	Senior citizens Groups	Groups
Most Frequent activity	Play	Commuting exercise	Experience nature exercise	Experience wildlife
	Unorganised	Short visits	Long visits Travel to visit	Long visits

To what extent research meets practice...



The average size of woodlands inside Swedish towns are 4 ha*

Many published research and guidelines on forest design and management of large urban woodlands

Scientific recommendations:

- Understory
- Coppice systems
- Half open forest types

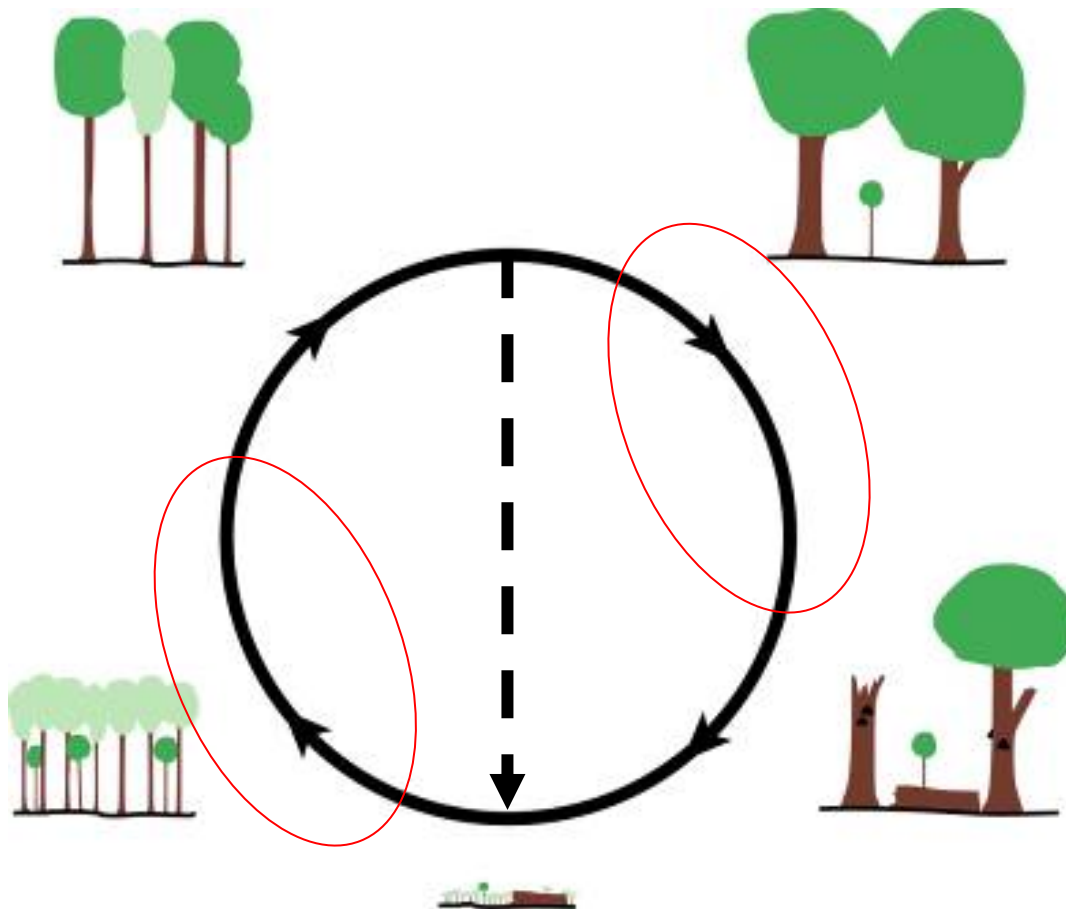
General guidelines for design and management for recreation and other services

Few experiences and studies of historical/new forest design and management systems in urban settings.

Based on adaptation of "contemporary" even-aged forest management systems

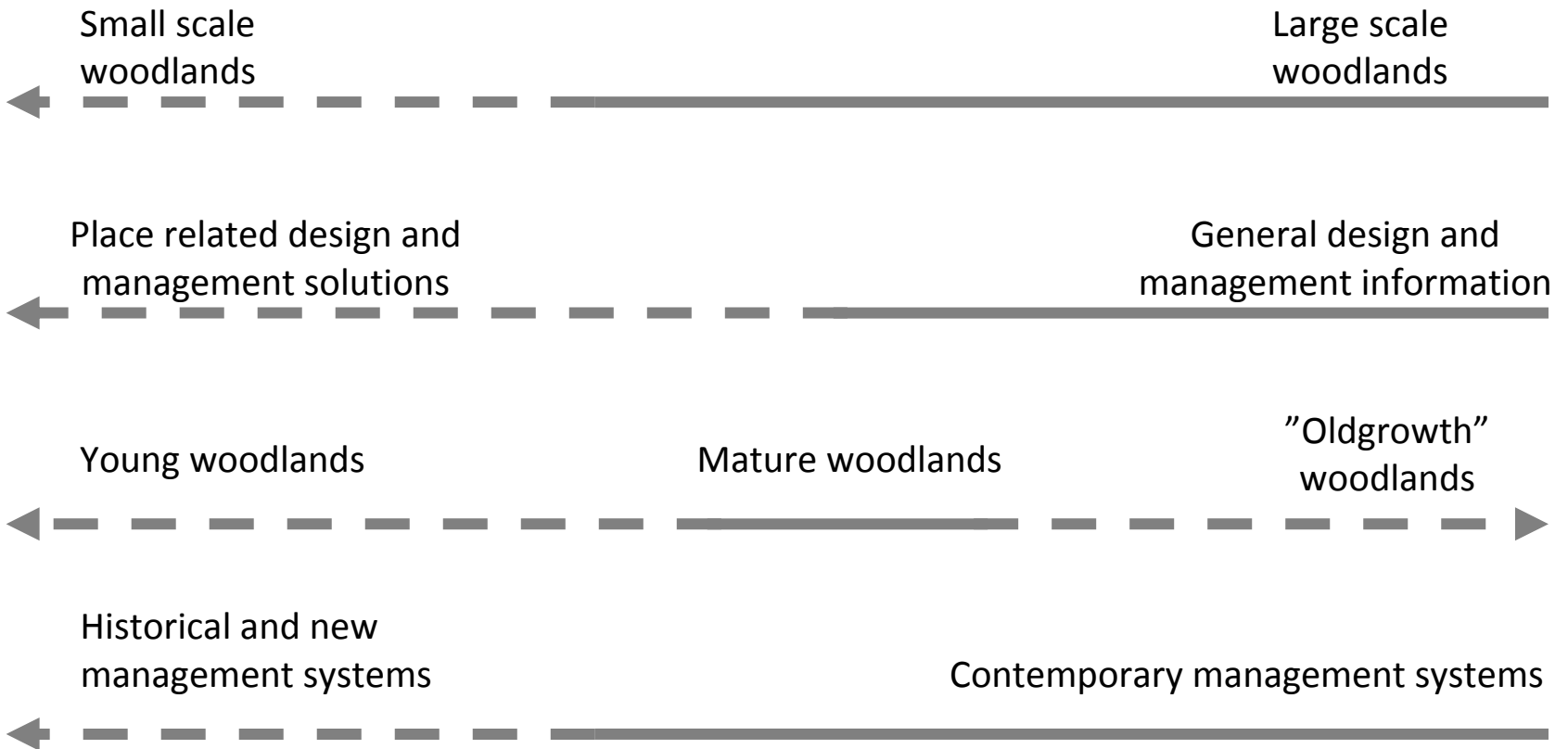
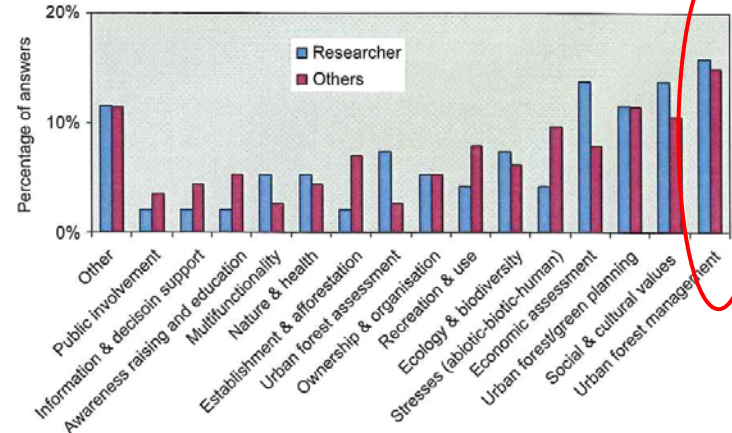
*Hedblom and Söderström: Landscape and Urban Planning 84 (2008): pp. 62-73.

To what extent do management produce continuous qualities?



Perspectives for urban forest design and management...

Priorities for future urban forestry research.....



Thanks...

