

# Ecosystems services in design and planning

Is there (academic) interchange?

11 June 2014, Martina J.H.M. van Lierop



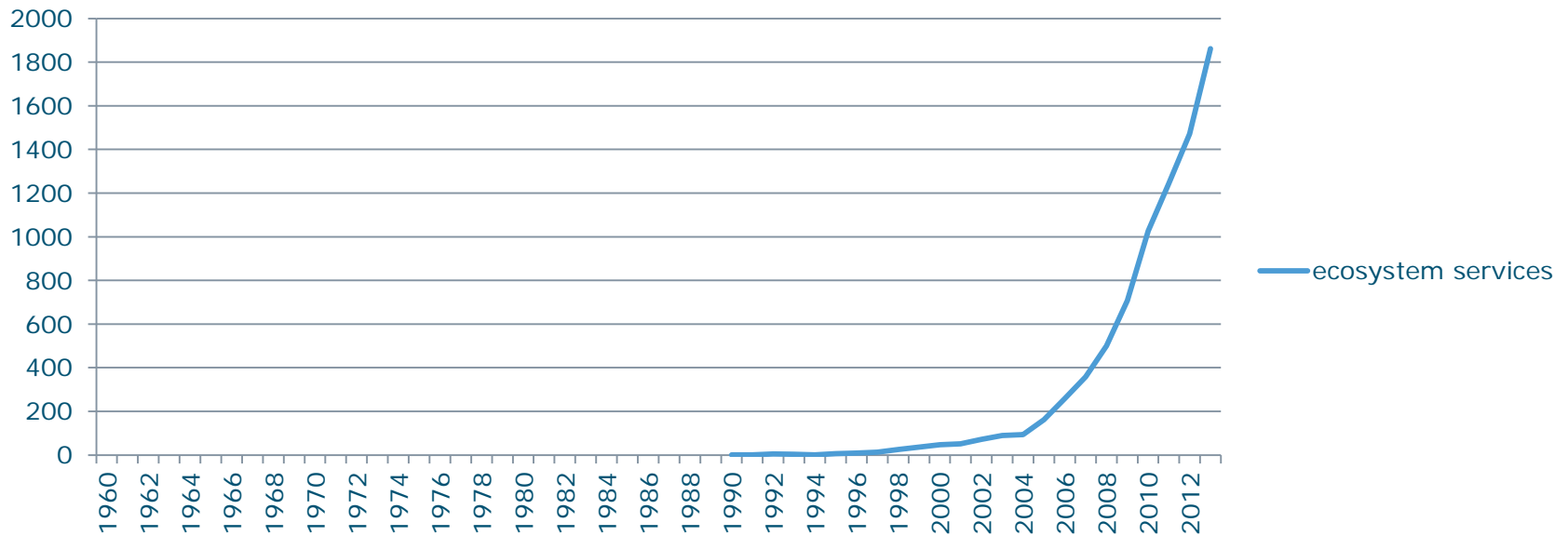
**WAGENINGENUR**  
*For quality of life*

# Ecosystem services

The goods and services that natural environments provide to people and contribute to human well-being

- Growing body of knowledge

**Amount of publications on ecosystem services**



# Ecosystem services in design and planning

## Benefits

- Base designs on knowledge
- Make design decisions more transparent and measurable
- Determine the values of landscapes for stakeholders
- Identify and assess ecosystem services in designs and plans
- Identify the supporting landscape structure for people's values

# Landscape architecture

- Landscape design
  - Site level & specific end state
- Landscape planning
  - Strategic level & over long time scales
- Landscape management
  - At level of one or many sites & ongoing process

# Landscape architecture

- **Landscape design**

- Site level & specific end state

- Landscape planning

- Strategic level & over long time scales

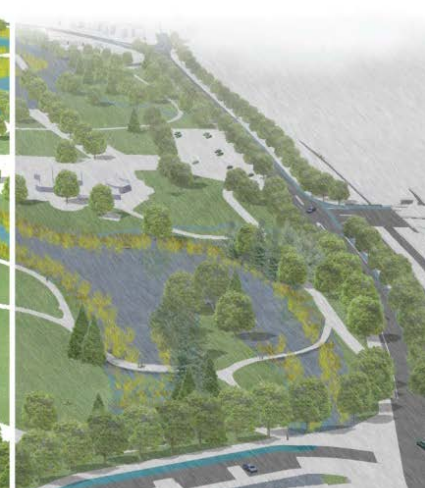
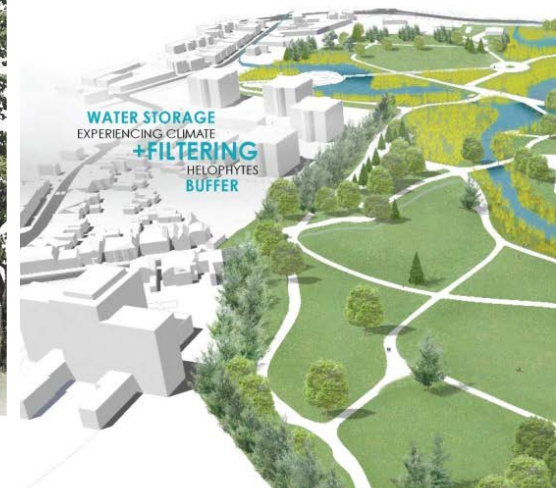
- Landscape management

- At level of one or many sites & ongoing process

Related to urban planning and design



# Landscape architecture



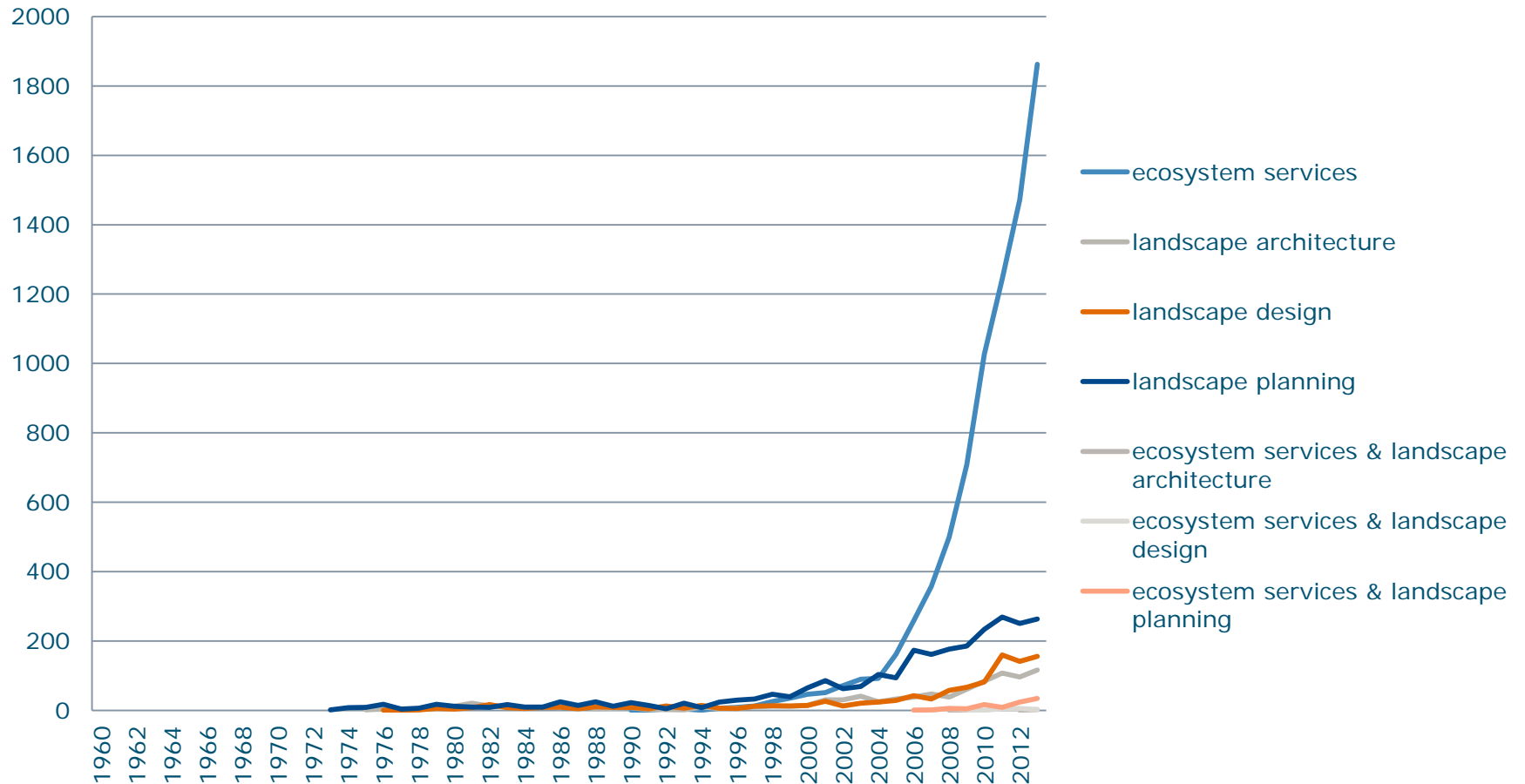
# Landscape architecture

“For the conservation and enhancement of **landscape resources** for the benefit of current and future generations” (Thompson, 2000)

Already Frederick Law Olmsted took **the functions of the landscape** in consideration in his designs (Meyer, 2008)

# ESS and landscape architecture in academic publications

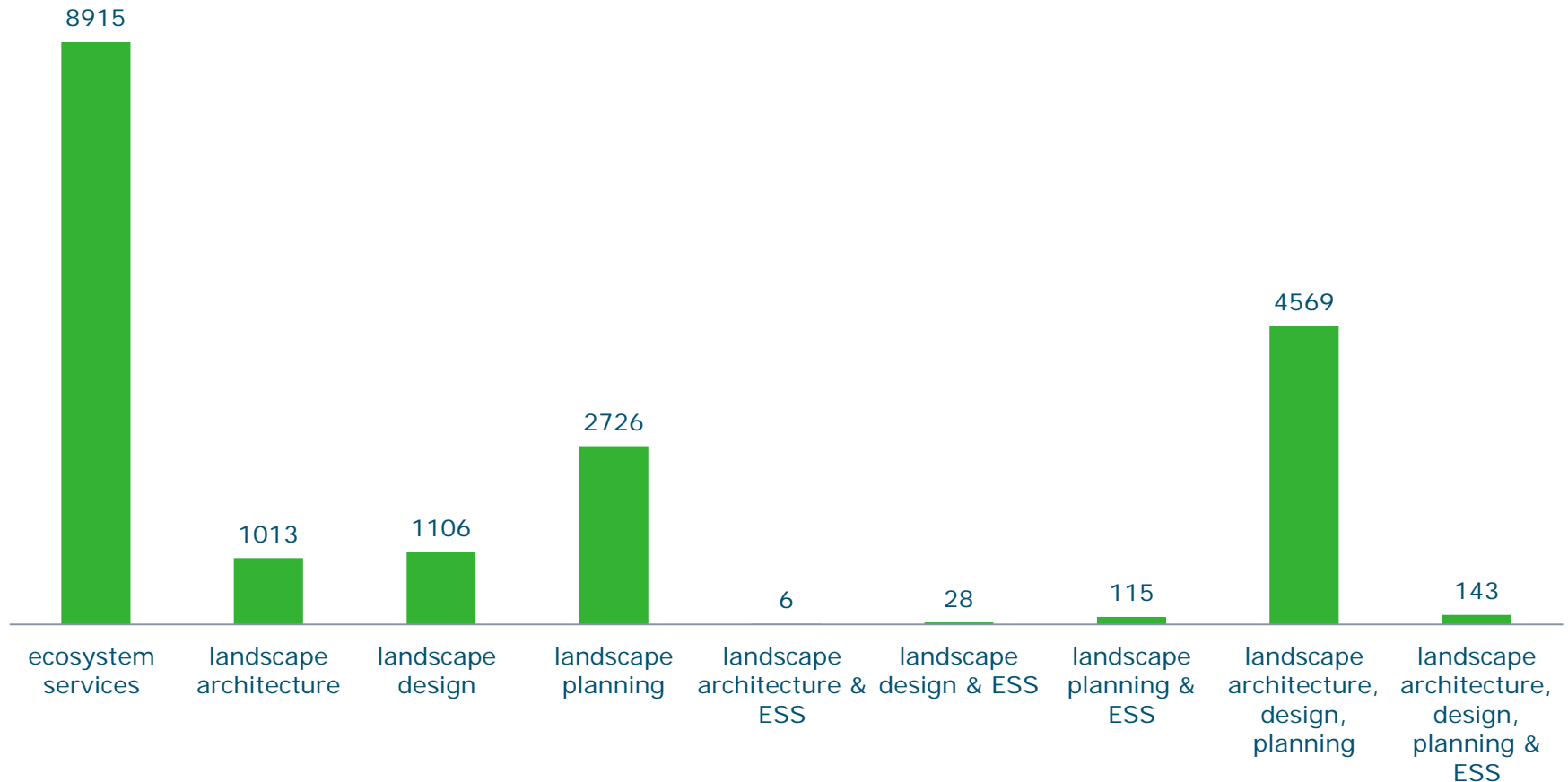
Number of publications per year





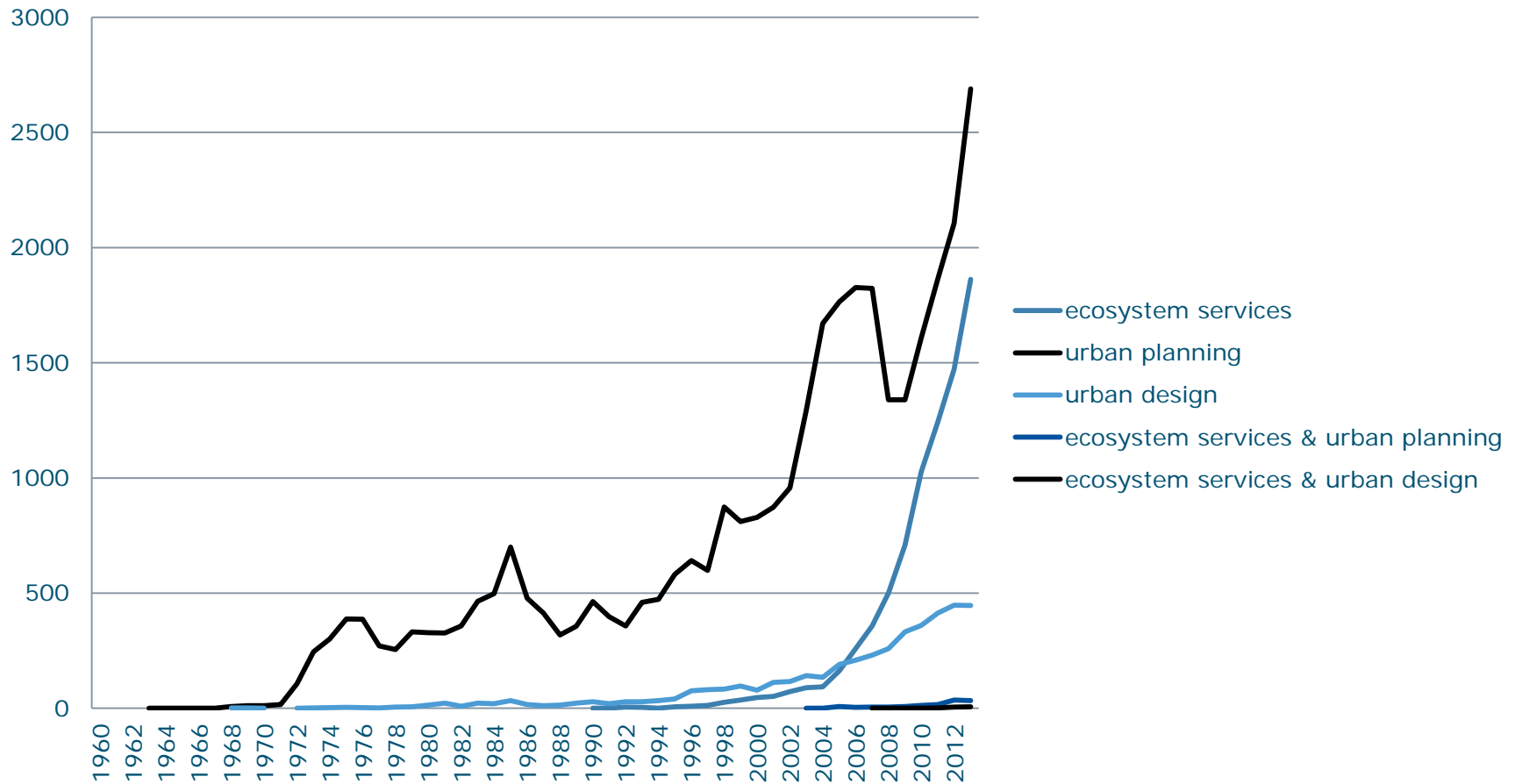
# ESS and landscape architecture in academic publications

## Total number of publications



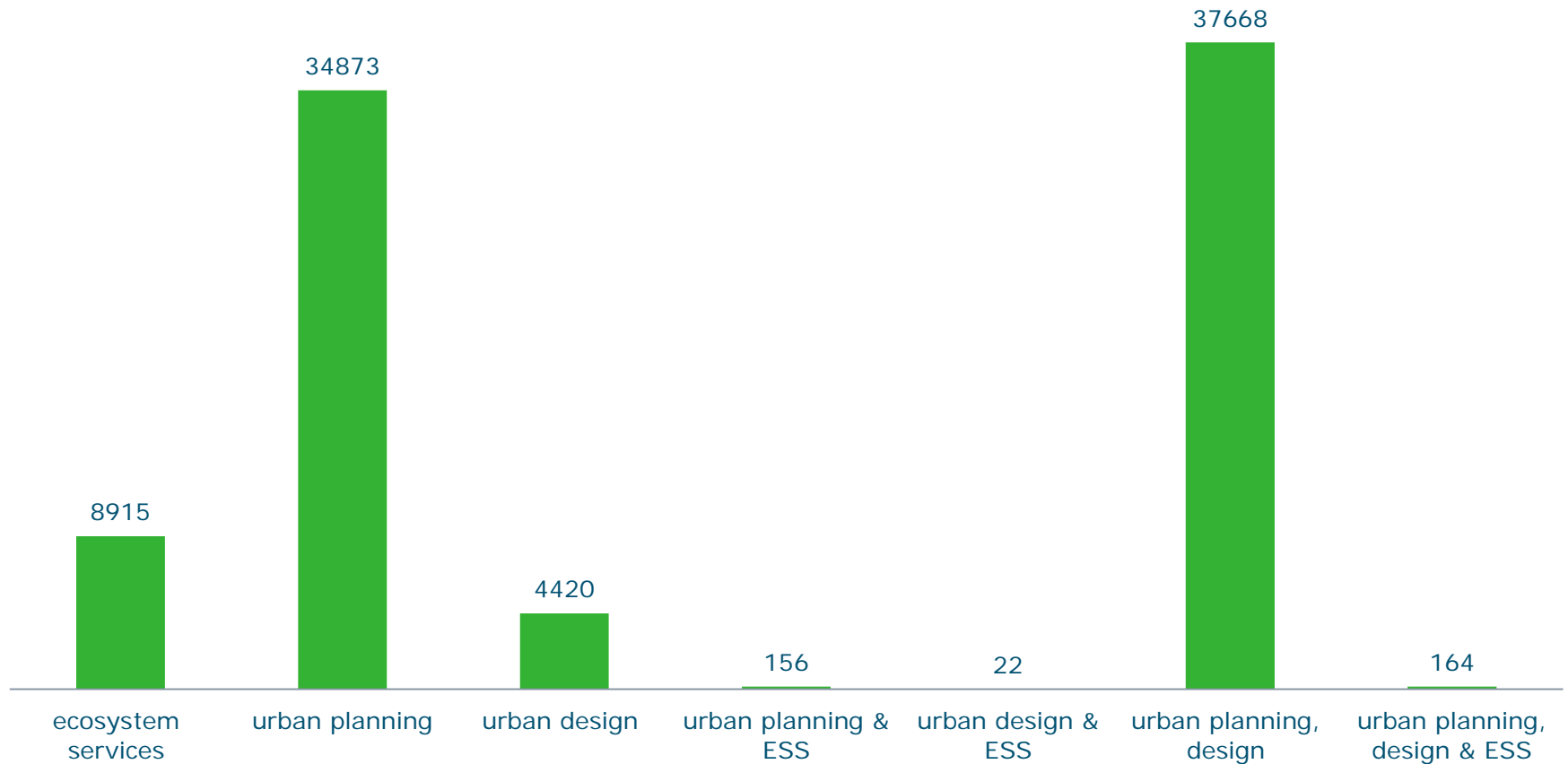
# ESS and urban planning & design in academic publications

Number of publications per year



# ESS and urban planning and design in academic publications

## Total number of publications



# ESS and design and planning in academic publications

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**3.1%** of the publications on ecosystem services relates to design and planning

**3.2%** of the publications on landscape architecture, landscape design or landscape planning relates to ecosystem services

**0.4%** of the publications on urban planning or urban design relates to ecosystem services

# ESS and LAR: do they work together?

## Ecosystem services

### rank affiliation

- 1 Wageningen University and Research Centre
- 2 Stanford University
- 3 Chinese Academy of Sciences
- 4 Centre for Ecology & Hydrology
- 5 Research Center for Eco-Environmental Sciences Chinese Academy of Sciences
- 6 Stockholms universitet
- 7 Sveriges lantbruksuniversitet
- 8 University of Wisconsin Madison
- 9 Michigan State University
- 10 University of East Anglia

## Landscape architecture, design, planning

### rank affiliation

- 1 Wageningen University and Research Centre
- 2 Sveriges lantbruksuniversitet
- 3 University of Sheffield
- 4 University of Melbourne
- 5 Arizona State University
- 6 Texas A and M University
- 7 Eidgenössische Technische Hochschule Zurich
- 8 University of Queensland
- 9 Technische Universität Berlin
- 10 University of Guelph

## Landscape architecture & landscape design & landscape planning & ecosystem services

### rank affiliation

- 1 Wageningen University and Research Centre
- 2 Humboldt-Universität zu Berlin
- 3 Sveriges lantbruksuniversitet
- 4 Research Center for Eco-Environmental Sciences Chinese Academy of Sciences
- 5 Technische Universität Dresden
- 6 Universität Hannover
- 7 Vrije Universiteit Amsterdam
- 8 The Council for Scientific and Industrial Research
- 9 Helmholtz Zentrum für Umweltforschung
- 10 East China Normal University



# ESS and UPD: do they work together?

## Ecosystem services

### rank affiliation

- 1 Wageningen University and Research Centre
- 2 Stanford University
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- 6 Stockholms universitet
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- 8 University of Wisconsin Madison
- 9 Michigan State University
- 10 University of East Anglia

## Urban planning, design

### rank affiliation

- 1 UCL
- 2 Delft University of Technology
- 3 UC Berkeley
- 4 The University of Hong Kong
- 5 University of Toronto
- 6 Wuhan University
- 7 Chinese Academy of Sciences
- 8 Tongji University
- 9 University of Sheffield
- 10 Massachusetts Institute of Technology

## Urban planning, design & ecosystem services

### rank affiliation

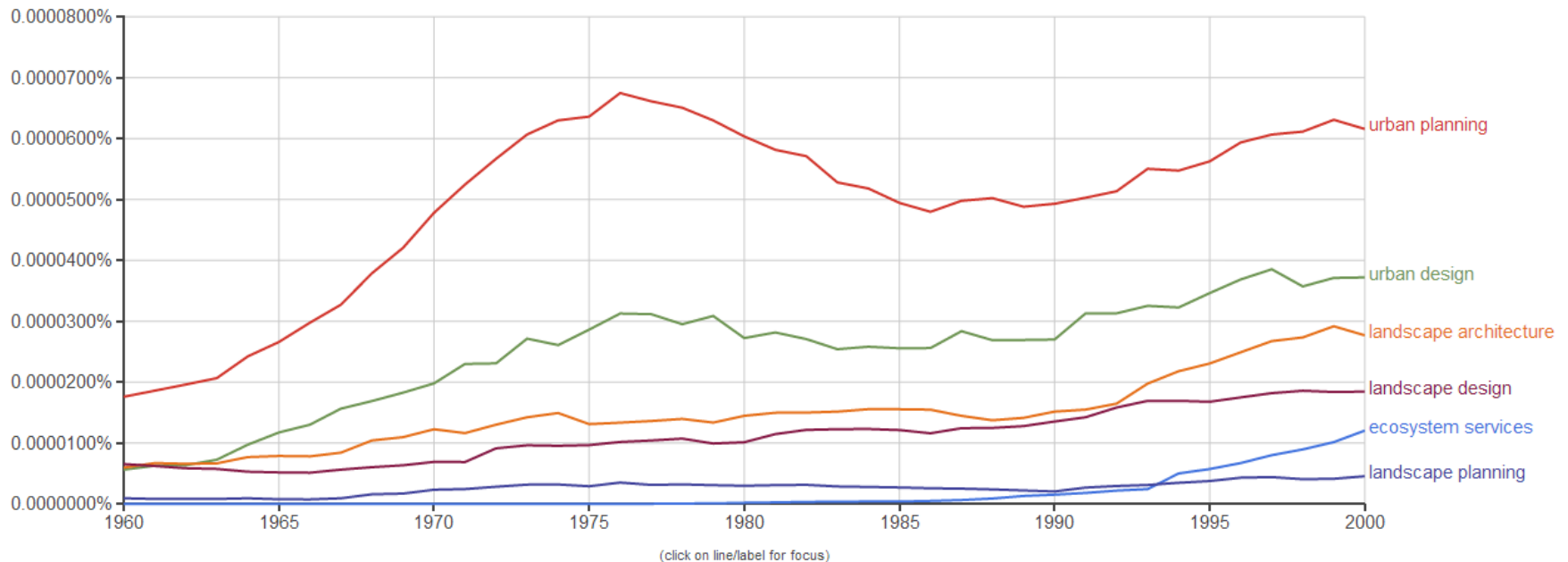
- 1 Research Center for Eco-Environmental Sciences Chinese Academy of Sciences
- 2 University of Sheffield
- 3 Peking University
- 4 Humboldt-Universität zu Berlin
- 5 Beijing Normal University
- 6 Arizona State University
- 7 Fudan University
- 8 Universiteit Stellenbosch
- 9 Kungl. Vetenskapsakademien
- 10 Helsingin Yliopisto

# ESS and design and planning in book publications

Google books Ngram Viewer

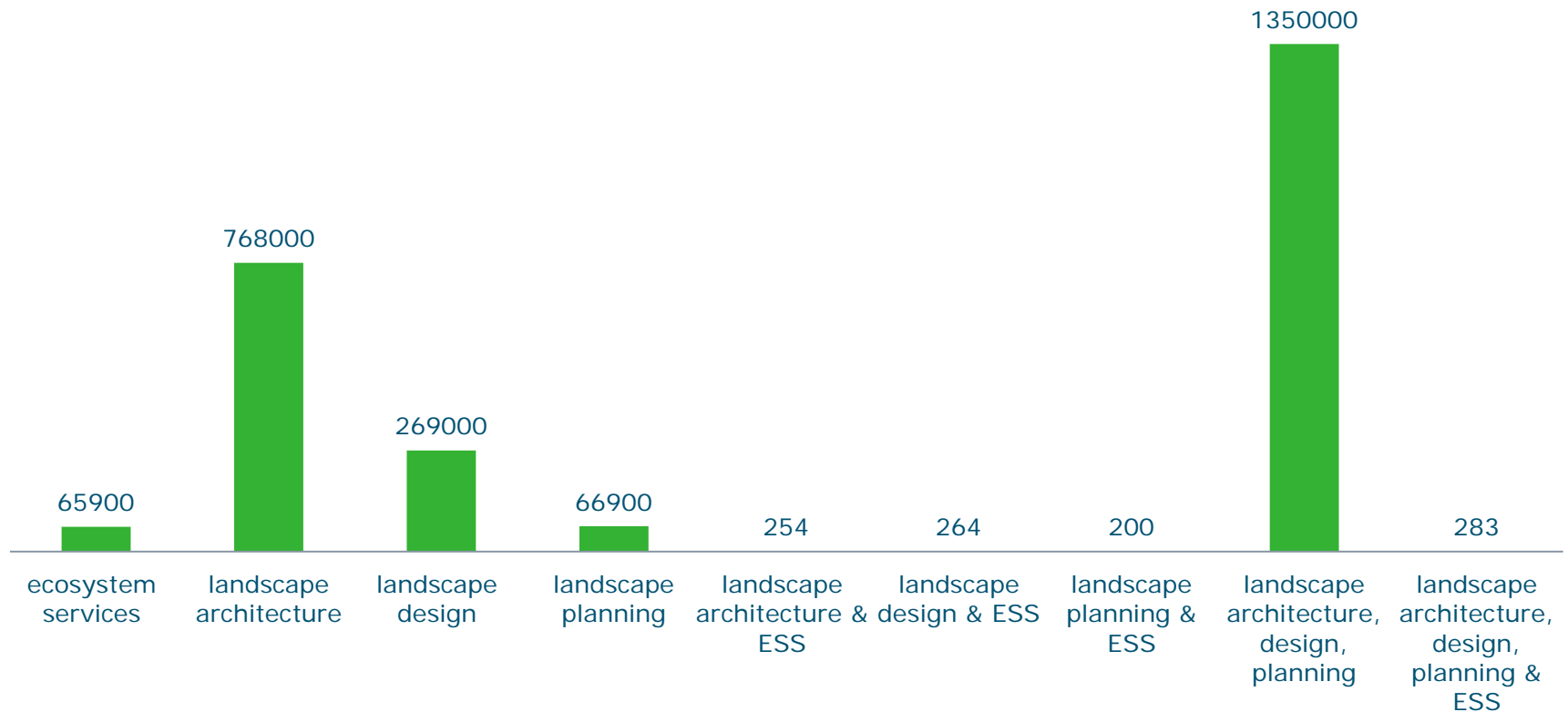
Graph these comma-separated phrases: ecosystem services,urban planning,urban design,landscape architect ☐ case-insensitive

between 1960 and 2000 from the corpus English with smoothing of 3 [Search lots of books](#)



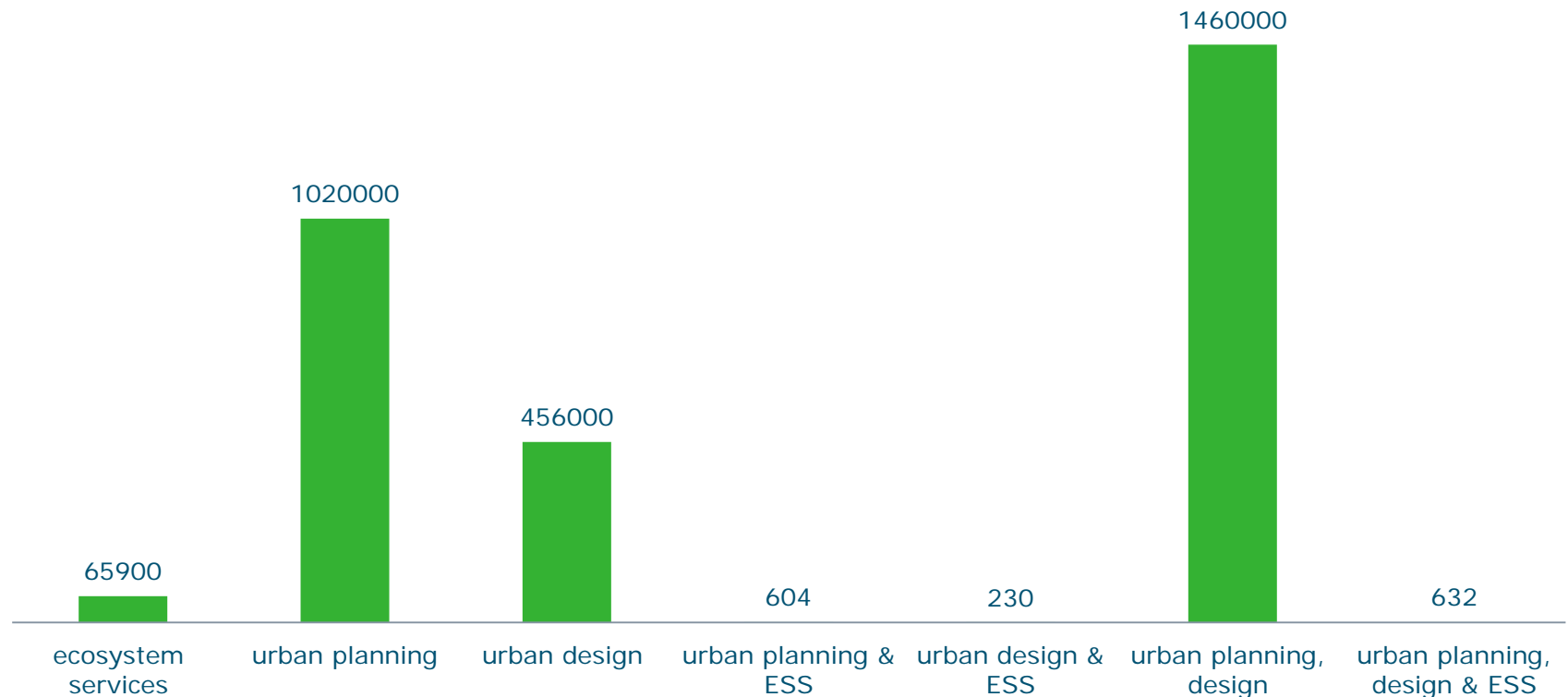
# ESS and landscape architecture in book publications

## Number of books



# ESS and urban planning and design in book publications

## Number of books



# ESS and design and planning in book publications

**0.63%** of the books publications on ecosystem services relates to design and planning

**0.02%** of the books on landscape architecture, landscape design or landscape planning relates to ecosystem services

**0.04%** of the publications on urban planning or urban design relates to ecosystem services



# ESS and design & planning: do we work together?

At first sight, it seems collaboration is starting between research on ecosystem services and landscape architecture, design and planning.

- Collaboration more on affiliations with agricultural / landscape background
- Urban planning and design
- Local scale: design
- Articles vs. books

# ESS and design & planning: recommendations

- More collaboration with designers
- More attention for the local and urban context
- Work with affiliations of different backgrounds
- Think about your way of publishing
- We need to work and write more together

# Design & planning for ecosystem services

- Operationalise the concept for physical implementation
- Translating and visualising ESS to stakeholders
- Thinking through scales



resíduos e ciclagem de nutrientes  
Waste and nutrient cycling



Proteção contra desastres  
Disaster protection

# Let's work together

Thank you for  
your attention!

Danke schön!

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Ar fresco / clima Fresh air / climate regulation



Regulação da água Water regulation

