

From Lawn to Biodiversity Producing Ecosystem Services in Suburban Areas

Suburban areas → Urban ecosystem services

Background

inefficient, costly

The potential of suburbs to produce local and global benefits in cities has been overlooked in the academic and policy literature because its focus has been on the negative aspects of suburban developments.

morphological characteristics, green open space (lawn culture)

→ potential →

Nature based solutions
Ecosystem services providers

→ Benefits to residents and society

Research question

How suburban front yards can become ecosystem service producers by transforming the lawns into native-pollinator front yard gardens?

Despite the increasing attention to urban ecosystem services (ES) in the academic and policy realm, implementing markets for urban ES still require a better understanding of the forces behind their supply and demand.

environmental services and health services

runoff and temperature control, air quality cleaning, pollination, water savings, and urban wildlife restoration and preservation.

physical (i.e., increased walkability), social (i.e., increased interaction among neighbours), and mental health (i.e., stress relief and mental fatigue reduction).

gardens that grow native species, provide refuge and corridors to urban wildlife, host pollinators, include edible fruits and herbs, provide aesthetic services, and are climate-resilient.

Research objectives

1. Identify and quantify the ecosystem services that suburban residential areas can provide and their contributions to wellbeing (i.e., mapping of ecosystem services potentially produced).
2. Determine the challenges homeowners face to become ecosystem services providers, including monetary and nonmonetary factors.
3. Identify willingness to pay (WTP) for the benefits associated with ecosystem services of native-pollinator gardens.
4. In a second research stage (i.e., second year), assess the policy elements that will make a market for suburban ecosystem services feasible in Canadian Prairies cities.

Our approach looks at both sides of suburban markets for ecosystem services

Methodology, experiments

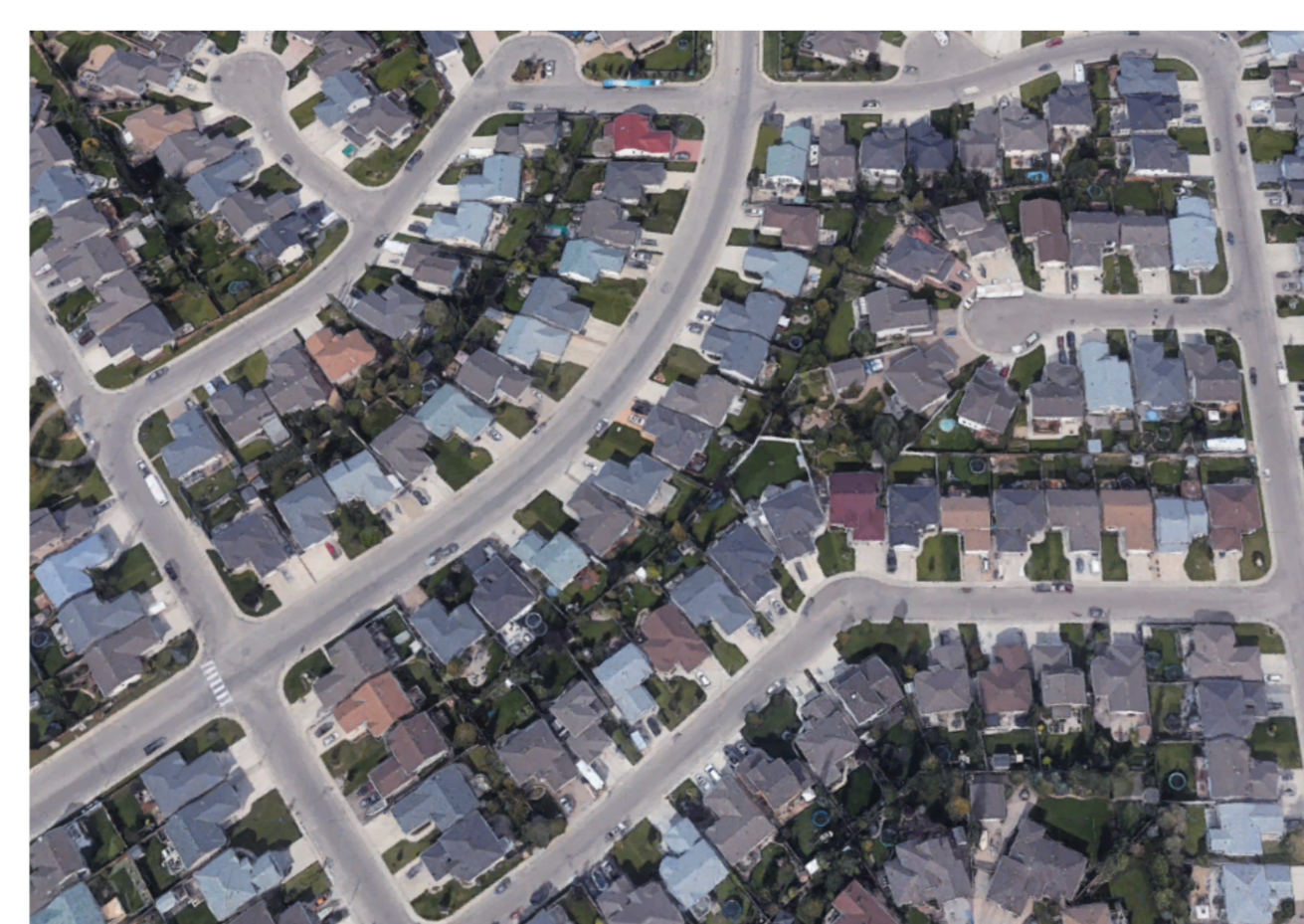
a. Analysis of secondary data to identify neighbourhoods' health status and suburbia's ES production potential.

b. Creating maps to illustrate the areas of the cities where ES can be produced and their spatial range of influence.

c. Creating alternative scenarios of native-pollinator gardens using visual aids.

d. Choice experiments to identify the challenges for producers of suburban ES, using alternative scenarios that differ in benefits and costs of pollinator gardens to establish the values for their attributes.

e. Experimental design to elicit preferences and WTP for attributes of native-pollinator gardens. Demand side: comparing individual WTP for native-pollinator gardens under different scenarios and ES benefits information.



CHOICE TASK 1	A	B	C
1. Up-front costs	\$\$\$	\$	\$\$
2. Maintenance cost	\$\$	\$	\$
3. Homeowners' ecosystem service consumption	***	**	*
4. Global ecosystem services	****	*	***
VOTE:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Team and funding

Oscar Zapata, Ph.D.

Assistant Professor

Centennial Chair in Community Energy Development
School of Environment and Sustainability
University of Saskatchewan

Ana Karinna Hidalgo, Ph.D.

Assistant Professor

Department of Geography and Planning
University of Saskatchewan

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