

An integrative review about human risks and benefits related to contact with freshwater wetlands in cities and communities in Europe. A One Health perspective  
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### Review question

The aim is to synthesize the risks and benefits with nature areas, i.e., freshwater wetlands when these areas are reduced to facilitate new buildings or increased such as adding new parks or biological wastewater treatment areas, in sustainable cities and communities in northern Europe.

### Searches

Systematic literature searches related to the aim will be conducted using the databases Academic Search Complete, PubMed, and Web of Science during April and May 2019. In addition, manual searches in reference lists of included articles/identified reviews will be performed.

The following keywords will be used in different combinations: Freshwater, wetland\*, urban\*, residential\*, city, cities, town\*, pathogen\*, disease\*, zoono\*, value\*, risk\*, "nature's contribution to people", NCP, "Ecosystem service", and "Ecosystem disservice".

### Types of study to be included

Empirical studies (original quantitative, qualitative and mixed methods research studies as well as multiple case studies) will be included.

### Condition or domain being studied

This review will study risks and benefits with nature areas, i.e. freshwater wetlands, in sustainable cities and communities when these areas are reduced to facilitate new buildings or increased such as adding new parks or biological wastewater treatment plants. The latter, often to improve health and well-being. The review addresses the following Sustainable Development Goals; sustainable cities and communities (SDG11) will be the framework and the goals good health and well-being (SDG3), clean water and sanitation (SDG6), and life on land (SDG15) will be weighed against each other.

### Participants/population

Only articles concerning human risks/benefits with freshwater wetlands in cities and communities in northern Europe will be included.

Peer reviewed original articles, published in English between 2000 to 2019 will be included.

### Intervention(s), exposure(s)

This research project is novel that it interdisciplinary combines two strands of research, studies of nature as beneficial for humans and studies of disease transmission due to contact with nature (especially wildlife). It will therefore be helpful in city planning, ecological management analysis, public health discussions and as a basis of further research into human perception of threats in relation to biodiversity and wildlife. The current trend where urban citizens partly enjoy nature and wildlife, for recreational purposes during dedicated visits to specific nature areas, while not necessarily perceiving nature as part of their daily life and not being aware of the inevitable link between human activities and effects on our environment, poses a challenge to researchers, policymakers and urban planners. This project can contribute to a deeper understanding of how nature-related resources, such as wetlands, that are useful for human happiness, health and sustainability can be incorporated also into city life.

### Comparator(s)/control

NA

### Context

#### Main outcome(s)

Improved possibilities for the prevention of spreading infections, with well-motivated and science based recommendations for activities aimed at minimizing the risk of disease transmission related to wildlife and vector presence at urban wetlands, without unnecessarily hampering or limiting the positive aspects of human access to wetlands for recreational and other purposes.

#### Timing and effect measures

Not applicable.

#### Additional outcome(s)

None

#### Timing and effect measures

Not applicable.

#### Data extraction (selection and coding)

One reviewer (EM) will together with an experienced liberian search the databases. In next step, two members of the research group (HL, EM) will independently screen titles, abstracts and full texts to ensure inclusion of relevant studies. If disagreements occur, consensus will be used or a third member of the research team will arbitrate. Selected full texts will be allocated to the two members from the research team for extraction and coding of data. To ensure methodological rigour the selection process will be carried out in accordance with the PRISMA guidelines (Moher et al. 2009).

#### Risk of bias (quality) assessment

Instrument for quality will be used; Critical Appraisal Skills Programme (CASP 2017) quality appraisal tools: <http://www.casp-uk.net/casp-tools-checklists> Scottish Intercollegiate Guidelines Network (SIGN 2017).

#### Strategy for data synthesis

An integrative analysis consisting of meta-analysis (where possible), empirical synthesis and qualitative thematic synthesis will be performed to group findings addressing the same phenomenon rather than reporting by method (Whittermore & Knafel 2005).

#### Analysis of subgroups or subsets

None.

#### Contact details for further information

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#### Type and method of review

Systematic review

**Anticipated or actual start date**

12 May 2019

**Anticipated completion date**

31 December 2019

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Formas, Sweden (D-nr 2018-00289)

**Conflicts of interest**

**Language**

English

**Country**

Sweden

**Stage of review**

Review Ongoing

**Subject index terms status**

Subject indexing assigned by CRD

**Subject index terms**

Cities; Europe; Fresh Water; Humans; One Health; Risk Assessment; Wetlands

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26 September 2019

**Details of any existing review of the same topic by the same authors**

**Stage of review at time of this submission**

<b>Stage</b>	<b>Started</b>	<b>Completed</b>
Preliminary searches	No	No
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

**Versions**

26 September 2019

**PROSPERO**

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