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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Citation

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

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 & Knaff 2005).

Analysis of subgroups or subsets
None.

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Type and method of review
Systematic review

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Formas, Sweden (D-nr 2018-00289)

**Conflicts of interest**

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English

**Country**
Sweden

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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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**Date of publication of this version**
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**Details of any existing review of the same topic by the same authors**

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

<table>
<thead>
<tr>
<th>Stage</th>
<th>Started</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary searches</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Piloting of the study selection process</td>
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<td>No</td>
</tr>
<tr>
<td>Formal screening of search results against eligibility criteria</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Data extraction</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Risk of bias (quality) assessment</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data analysis</td>
<td>No</td>
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</tr>
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</table>

**Versions**
26 September 2019

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