| Opportunities for participatory data collection | Surveying habitats represents an excellent opportunity for widening participation. Alternatively, participatory GIS portals can be used to ground-truth satellite imagery. | | |
|---|--|--|--|
| Additional information | | | |
| References | Ruf, K., Gregor, M., Davis, M., Naumann, S. and McFarland, K., 2018. The European Urban Biodiversity Index (EUBI): a composite indicator for biodiversity in cities. ETC/BD report to the EEA. Urban Atlas (2012), Art. 17, WISE WFD reference spatial data sets Surface Water Body (2016), Linkages of species and habitat types to MAES ecosystems. | | |

10.18 Number of native bird species within a defied urban area

Project Name: UNaLab (Grant Agreement no. 730052)

Author/s and affiliations: Laura Wendling¹, Ville Rinta-Hiiro¹, Maria Dubovik¹, Arto Laikari¹, Johannes Jermakka¹, Zarrin Fatima¹, Malin zu-Castell Rüdenhausen¹, Peter Roebeling², Ricardo Martins², Rita Mendonça²

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| Number of native bird species within an urban area | | Biodiversity |
|--|--|--------------|
| Description and justification | Biodiversity is the measure of biological variety in the environment and it has an important role in functioning ecosystems services and health of environment and society. Biodiversity is an aspect of natural environment that is most directly affected by anthropogenic influence. City biodiversity is seen as an important aspect of sustainable and resilient urban development. Bird species numbers act as an indicator about changes in the diversity of the urban environment. | |
| Definition | Number of different native species of birds within a defined urban area (number/ha) | |
| Strengths and weaknesses | + Birds are relatively easy to detect and monitor - While considered a universally good indicator of biodiversity change, the data can be difficult to obtain, it has high variability and requires long timescales to show significant trends | |
| Measurement procedure and tool | Total native bird species detected in built areas are counted. The number of species acts as the indicator value. | |

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| Scale of measurement | District to region scale | |
|---|---|--|
| Data source | | |
| Required data | Total native bird species detected in built areas. The count census numbers can be obtained from city council archives or bird watch organizations. | |
| Data input type | Quantitative or semi-quantitative | |
| Data collection frequency | Annually | |
| Level of expertise required | Low to Moderate – for the identification of the taxonomic groups | |
| Synergies with other indicators | Related to Reclamation of contaminated land and Ratio of open spaces to built form indicators | |
| Connection with SDGs | SDG 11 Sustainable cities and communities, SDG 13 Climate action, SDG 15 Life on land | |
| Opportunities for participatory data collection | Participatory data collection is feasible via citizen science with appropriate training of the volunteers | |
| Additional information | | |
| References | Chan, L., Hillel, O., Elmqvist, T., Werner, P., Holman, N., Mader, A., & Calcaterra, E. (2014). User's Manual on the Singapore Index on Cities' Biodiversity (also known as the City Biodiversity Index). Singapore: National Parks Board, Singapore. | |

10.19 Species diversity - general

Project Name: CONNECTING Nature (Grant Agreement no. 730222) and RECONECT (Grant Agreement no. 776866)

Author/s and affiliations: S. Connop¹, D. Dushkova², D. Haase², C. Nash¹, C. and M. Rasmussen³

³ Amphi Consult, Odense, Denmark

| Species diversi | ity - general | Biodiversity |
|-------------------------------|--|---|
| Description and justification | It is important to foster research and rebiodiversity to determine the best assess achieve the most efficient NBS, including multiple economic, ecological and society exploration of trade-offs created by NB | emblages of species to ng the optimization of al benefits and |

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² Geography Department, Humboldt University of Berlin, Berlin, Germany