



## Briefing Note

### Financial and Economic Values Database

**Marija Bockarjova, W.J. Wouter Botzen (UU); Mark Koetse (IVM)**

***Deliverable 1.2***

***May 2017***



This project has been funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730243



**Utrecht University**



## Financial and Economic Values Database

The database of Financial and Economic values (FEVD) includes values of nature-based solutions (NBS) together with respective sources and methods by which these values were obtained. Version 1.0 of the FEVD is available on the NATURVATION website ([www.naturvation.eu](http://www.naturvation.eu)).

Essentially, NBS is an overarching concept that builds on, and supports, other closely related concepts, such as the ecosystem approach, ecosystem services, ecosystem-based adaptation and mitigation, green engineering and green and blue infrastructure. All of these concepts recognise the importance of nature and imply that a systematic approach is needed to environmental management that considers human actions and their consequences. A key feature of NBS is through its focus on intervention tackling a societal problem, together with the impact such an intervention brings along. By building upon these existing concepts, a common transdisciplinary framework has been established within the NATURVATION project to categorise NBS in various domains (e.g. ecological and landscape domains), and in accordance with an ecosystem service classification (see Appendix A). This framework is also used to compile the FEVD, which aims to link monetary values to these classifications and service indicators as much as possible.

The sources include academic papers published on economic valuation of NBS in the last 40 years. The database will support learning and collaboration across different knowledge communities involved in the project and beyond, to develop a new analytical perspective on urban NBS. The FEVD includes 205 value entries for NBS originating from 105 studies. It covers both revealed preference (RP) and stated preference (SP) methods, and include values elicited by means of contingent valuation and choice modelling (SP), as well as hedonic pricing and benefit transfer methods (RP).



## Appendix A: Categories for Analysing Urban NBS

Table1: Ecological Domain classification following NATURVATION project definition (version May 2017)

CATEGORY	SUB-CATEGORIES	DESCRIPTION
(External) building greens	Green roofs	Roof vegetation on thin substrate either with varying degrees of irrigation and management; vegetation established either artificially or by seeding or planning or naturally; can include perennials, grasses, small trees, rooftop farming, mosses, succulents, few herbs and grasses
	Green walls or facades	Including e.g. ground-based climbing plants intended for ornamental purposes or plants growing in façade-bound substrate (e.g. containers or textile-systems)
	Balcony green	Plants on balconies and terraces which are planted mostly in pots
Urban green areas connected to grey infrastructure	Alley and street trees/hedges/greens	Trees planted in alleys or along roads and paths, either solitary or in rows. Hedges along roads or paths. Non-tree, mostly shrubby or grassy verges along roads.
	Railroad bank and tracks	Green space along railroads
	House gardens	Areas in the immediate vicinity of private houses cultivated mainly for ornamental purposes and/or non-commercial food production
	Green playground/ school grounds	Green areas intended for playing or outdoor learning
	Institutional green space	Green spaces surrounding public and private institutions and corporation buildings
	Green parking lots	Parking lots which are surrounded by or interspersed with trees, grass patches, flower beds, bushes, or other vegetation
	Riverbank greens	Green space sideways the rivers, streams and canals, usually with foot or bike paths



Parks and (semi)natural urban green areas	Large urban park or forest	Larger green (forested) area within a city intended for recreational use by urban population; can include different features such as trees, grassy areas, playgrounds, water bodies, ornamental beds, etc.
	Pocket parks / neighbourhood green spaces	Small green areas around and between buildings which are vegetated by ornamental trees, shrubs, grass; often in residential areas, but also between other building types
	Botanical garden	Educational and ornamental areas planted with large diversity of plant species.
	Green corridor	Networks of linked landscape elements that provide ecological, recreational, and cultural benefits to the community
Allotments and community gardens	Allotments	Small garden parcels cultivated by different people, intended for non-commercial food production
	Community gardens	Areas which are collectively gardened by a community for food and recreation
	Horticulture	Land devoted to growing vegetables, flowers, berries, etc.
Green indoor areas	Indoor vertical greeneries (walls and ceilings)	Including e.g. ground-based climbing plants intended for ornamental purposes or plants growing in façade-bound substrate (e.g. containers or textile-systems) inside of a building
	Atrium	Green area surround/enclosed in a building, planted mostly with ornamental plants
Blue areas	Lake/pond	Natural and artificial standing water bodies containing freshwater with (semi)natural aquatic communities; banks are artificial/managed or natural
	River/stream/canal/estuary	Natural and artificial running water bodies containing freshwater (or in the case of estuaries, mixed fresh and saltwater) with (semi)natural aquatic communities; banks are artificial/managed or natural



	Delta	Landform at the mouth of a river formed by sediment deposits
	Sea coast	Contact areas between the sea and the land of different characteristics (e.g. sand beaches, cliffs, coastal dunes)
	Wetland/bog/fen/marsh	Areas with soil permanently or periodically saturated with water and characteristic flora and fauna
Green areas for water management	Rain gardens	Shallow, vegetated basins that collect and temporarily store rainwater runoff from rooftops, sidewalks, and streets or allow for its infiltration
	Swales / filter strips	Vegetated and gently sloped pit or shallow drainage channels for filtering surface runoff
	Sustainable urban drainage systems	Systemic approach to manage drainage in and around properties, often combining green and grey components; can include e.g. green roofs, permeable surfaces, infiltration trenches, swales, detention basins, etc.
Derelict areas	Abandoned and derelict spaces with growth of wilderness or green features	Recently abandoned areas, construction sites, former industrial areas, etc. with spontaneously occurring pioneer or ruderal vegetation



Table 2: Categorisation of Urban Sustainability Goals for NBS

NBS GOAL	DESCRIPTION
1	Climate action for adaptation, resilience and mitigation
2	Water management
3	Coastal resilience and marine protection
4	Green space, habitats and biodiversity
5	Environmental quality, including air quality and waste management
6	Regeneration, land-use and urban development
7	Inclusive and effective governance
8	Social justice, inequality and social cohesion
9	Health and well-being
10	Economic development and decent employment
11	Cultural heritage and cultural diversity
12	Sustainable consumption and production