

BlueHealth

Linking environment, climate & health



BlueHealth Environmental Assessment Tool (BEAT):

Development and validation of a direct-observation audit tool for planning, design, management and post-occupancy evaluation of urban blue spaces.

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Describing “ BlueHealth”

- Bluehealth takes an international and innovative, multi-disciplinary and cross sectoral approach to health promotion and disease prevention.
- Blue Infrastructure is key to EU’s Health in all policy agenda.
- Involves detailed and systematic consideration of the blue infrastructure interventions.
- Using several **case study** sites across Europe, to explore the varying geographical, climatic, cultural and environmental conditions and also challenges at individual level through community to population level.
- Integration urban blue infrastructure into spatial planning design and local policies
- Crucial to understand “**bluespace environmental types and quality**”

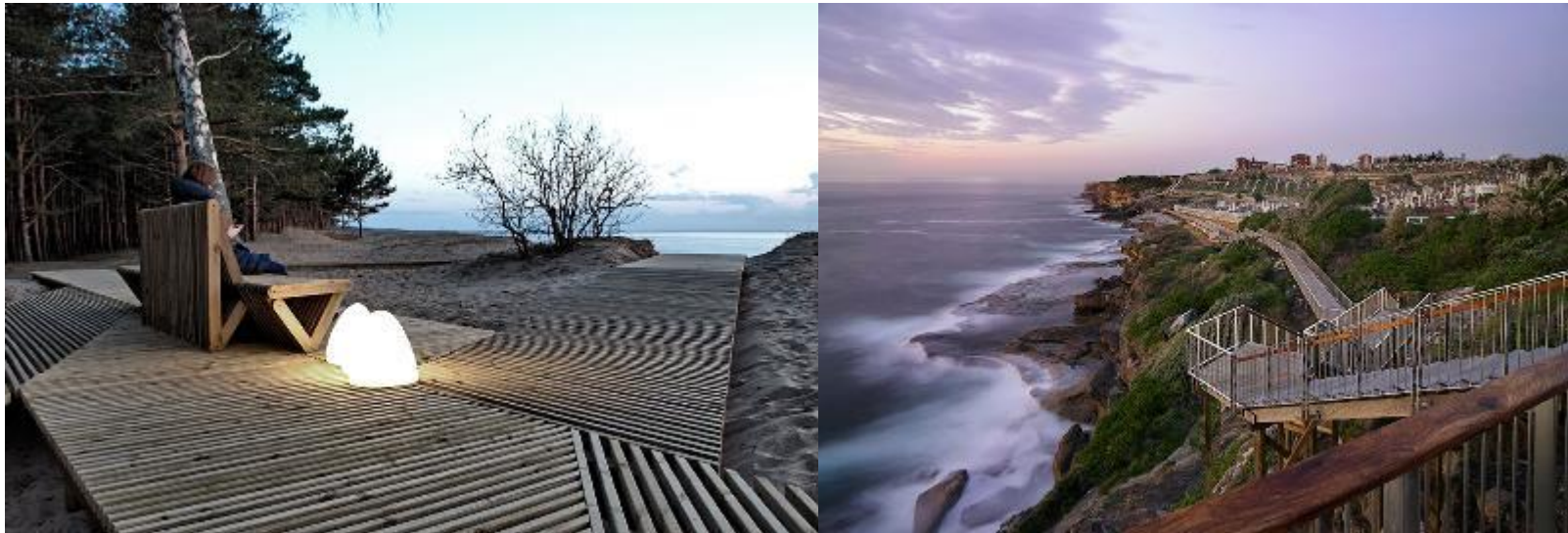
Two out of **many other specific objectives** of BlueHealth relevant to BEAT Part of WP5- BlueHealth

- Develop innovative methodologies (including quantitative and qualitative indicators) for assessing the **opportunities and challenges of health from blue infrastructure**, while also considering their economic, **environmental** and equity related implications.
- **Assess and evaluate specific blue infrastructure case study interventions in a range of setting** (e.g. coastal environment or care homes), cultural, climatic context, and incorporating innovative technologies where appropriate such as virtual reality

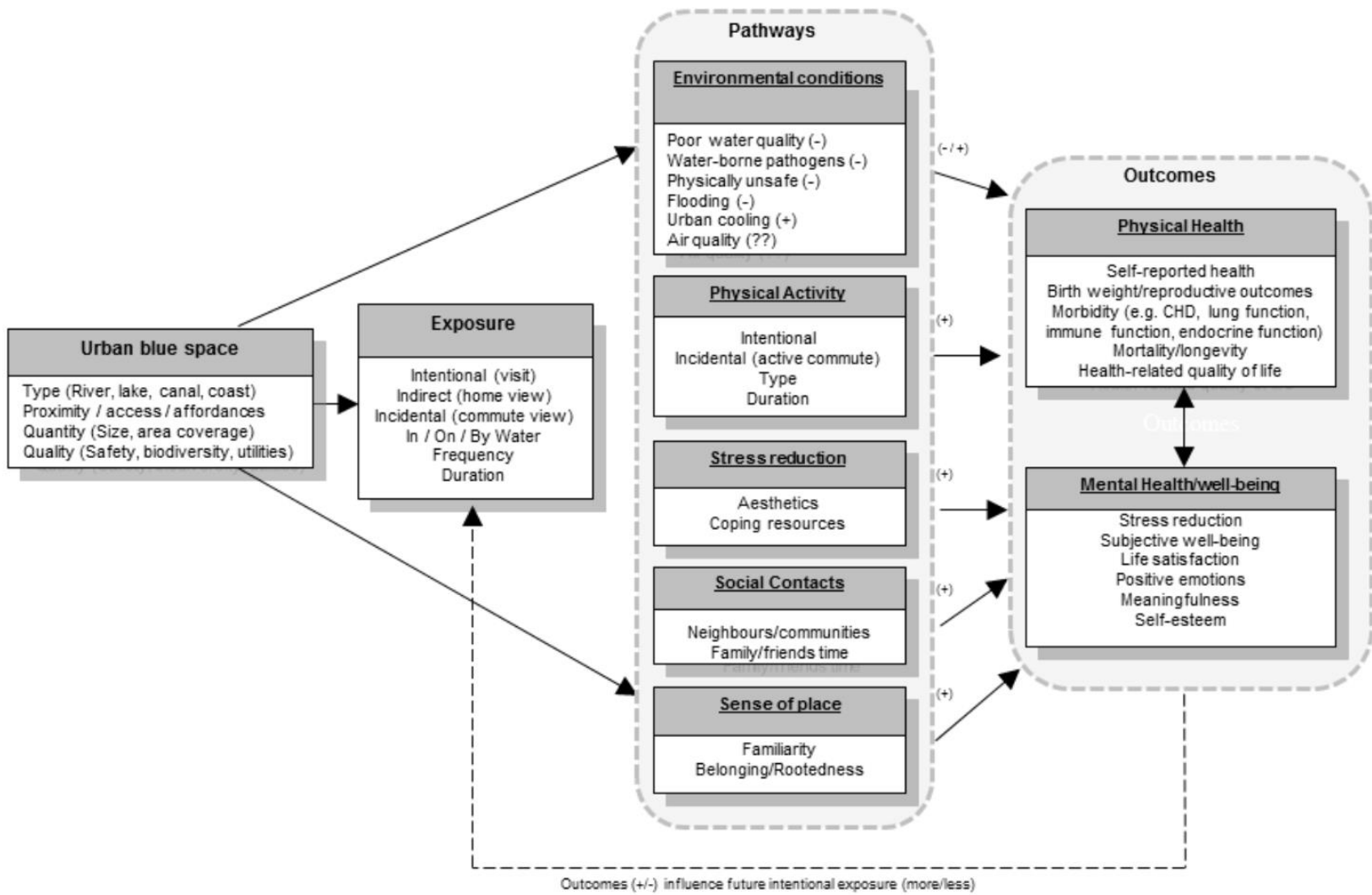


BlueHealth: Concepts and approaches

- **Blue infrastructure** can directly or indirectly promote health and prevent disease,
- There is a clear (however yet to be explored) mechanism and pathway appears to play a major role in achieving these benefits
- Coastal or inland waterbodies, are prime locations for leisure and tourism, homes or hotels with water views are significantly more expensive.



Source: <http://www.landezine.com/index.php/landscapes/landscape-architecture/realized-projects/waterfront>



Contextual factors

e.g. Socio-demographics, Regionality, Weather, Cross-sector considerations (e.g. transport, tourism, commercial), Inequalities, Culture, Childhood experience, etc.

Source: BlueHealth project Report, 2015



Environmental evaluation or audit :

To understand the impact of natural and built environment impact of the built environment on green space use (physical activity), so far three categories of measures are being used

1. Data obtained by interview and self-administered questionnaires (perceived access and use)
2. Set of measures use systematic observation, audits to objectively and unobtrusively to quantify attributes of the built environment.
3. Involves data from archival (existing) that is often layered and analysed using GIS

Brownson et al., 2009

It is important to examine their **reliability and validity** of landscape evaluation models.



Source: <http://www.townshipdesign.com/blog/site-survey>



Source: Author



Development of Bluehealth Environmental Assessment Tool (BEAT)

- **BEAT** has been developed as part of planning and design of blue spaces;
- Evaluates a place in a holistic way, through integrating a number of domains (such as the social, physical or ecological);
- Designed primarily for identifying the extent to which a particular blue space provides opportunities for obtaining exposure to water;
- BEAT is for team of experts and Local communities or citizen groups
- Elements of tool are objective and measurable on site and can be administered by single person;
- The tool has been developed based on a systematic review using 39 existing place or space assessment tools from diverse disciplines i.e. Community planning, urban planning, public health, transport planning, urban design and place making, sustainability, environmental management etc.



When reviewing each tool, we considered the following aspects:

- The theme which the tool functions Country and year of publication
- The type of place or space under assessment
- The scale of the place or space under assessment
- Aim of the assessment and assessment types
- Domains, factors, and criteria
- Contributing discipline and intended users
- Structure of the tool
- Complexity, length, number of question asked
- Data collection and assessment method
- Scoring methods
- Presentation and communication of the result
- Validity and reliability of the tool



Bluehealth Environmental Assessment Tool (BEAT) Testing Locations



Basic Description of Bluehealth Environmental Assessment Tool (BEAT)

- A simple scoring system either categorical rating (1-5) or present or absent.
- comparison can be made between different sites or for the same site at different time points.
- The tools reviewed helped in clarifying and determining the domains for BEAT;
- Each domain then subdivided into several factors or criteria, assessed separately and then summarised to give a score for the entire domain.
- Tool has been divided into Four steps
 - Step1: **Preliminary Data about the site**
 - Step2: **General Site Description**
 - Step3: **On site Survey (terrestrial)**
 - Step4: **Water Ecosystem Assessment**



BEAT: Online Survey Tool <https://beatbluehealth.wixsite.com/site>



Bluehealth Environmental Assessment Tool (BEAT)

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Welcome to the BlueHealth Environmental Assessment Tool

In order to provide places where people can enjoy access to water and also obtain many of the health and well-being benefits associated with such blue spaces it is important to be able to make effective links from a planning and design perspective. A tool for evaluating a place in a holistic way, through integrating a number of domains (such as the social, physical or ecological), and which enables the positive and negative aspects to be identified is needed.

The tool presented here provides a comprehensive method of assessing all relevant domains related to 'blue spaces' (any outdoor space that prominently features water, and which individuals may experience, whether by direct contact in, on or by the water, or by indirect means such as seeing it). The tool is designed primarily for identifying the extent to which a particular blue space provides opportunities for obtaining exposure to water but also what impacts there might be on the environment itself. It can be used as a means of collecting data for monitoring purposes, as a starting point in a planning and design project for upgrading, restoring or providing new access to waterfront landscapes, or as a post-occupancy evaluation of a built project.

The tool is designed to be used by two distinct groups for which there are two versions: the Professional Tool and the Community Tool.

The Professional tool is aimed at experts such as landscape architects, ecologists, recreation planners, urban planners or hydrologists who know the relevant domains and have sophisticated methods or instruments for assessing many of the factors. A team of experts might be used to collect and interpret the data, to relate data collected on site to that available from monitoring stations (for example air or water pollution) or from other statistical sources (such as socio-economic data about local residents) and, most importantly, to relate the factors to one another and not just treat them separately.

The Community tool is aimed at local community or citizen groups who have an interest in their local environment and want to be able to check aspects of a place such as how safe it is for their children to go swimming or to educate themselves in urban ecology as well as to help themselves develop a project for the improvement of a local place. School students may also use the tool, for example in science projects or in studies of the local environment, its hazards and changing condition. Communities often have members who are themselves rather knowledgeable about some areas, such as bird watchers or fishermen, whose expertise or tacit knowledge might be capitalised upon for the purpose of collecting good quality data.

[Professional Login](#)[Community Login](#)

Survey page



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BEAT Survey Guidance notes

Guidance Notes for the Professionals

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Guidance Notes for the Community

[Download PDF Version](#)

Guidance on water ecosystem assessment

[Download PDF Version](#)

Survey Forms (Paper Version)

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Guidance page



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World Climate Classification



Blue Space Types



Inland Waterbody Types



Urban Coastal Blue Space Types



Non-Urban Blue Space Types

Water Quality Aspects



Water Quality and Ecosystem Aspects

Useful Information

Contact



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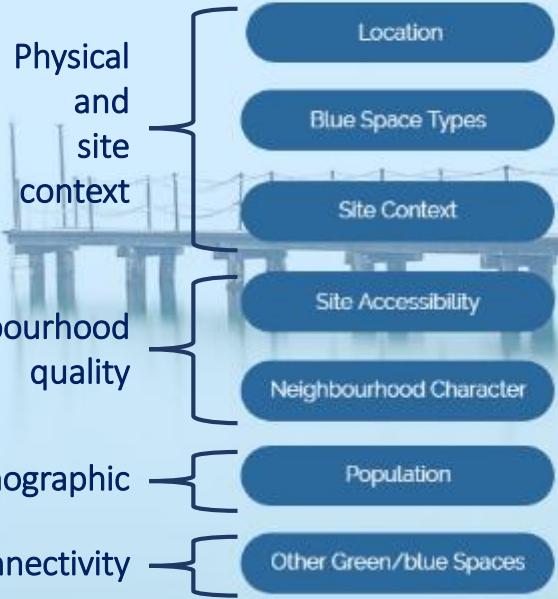
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BEAT: Step 1 and 2

STEP 1 Pre-site survey desk study

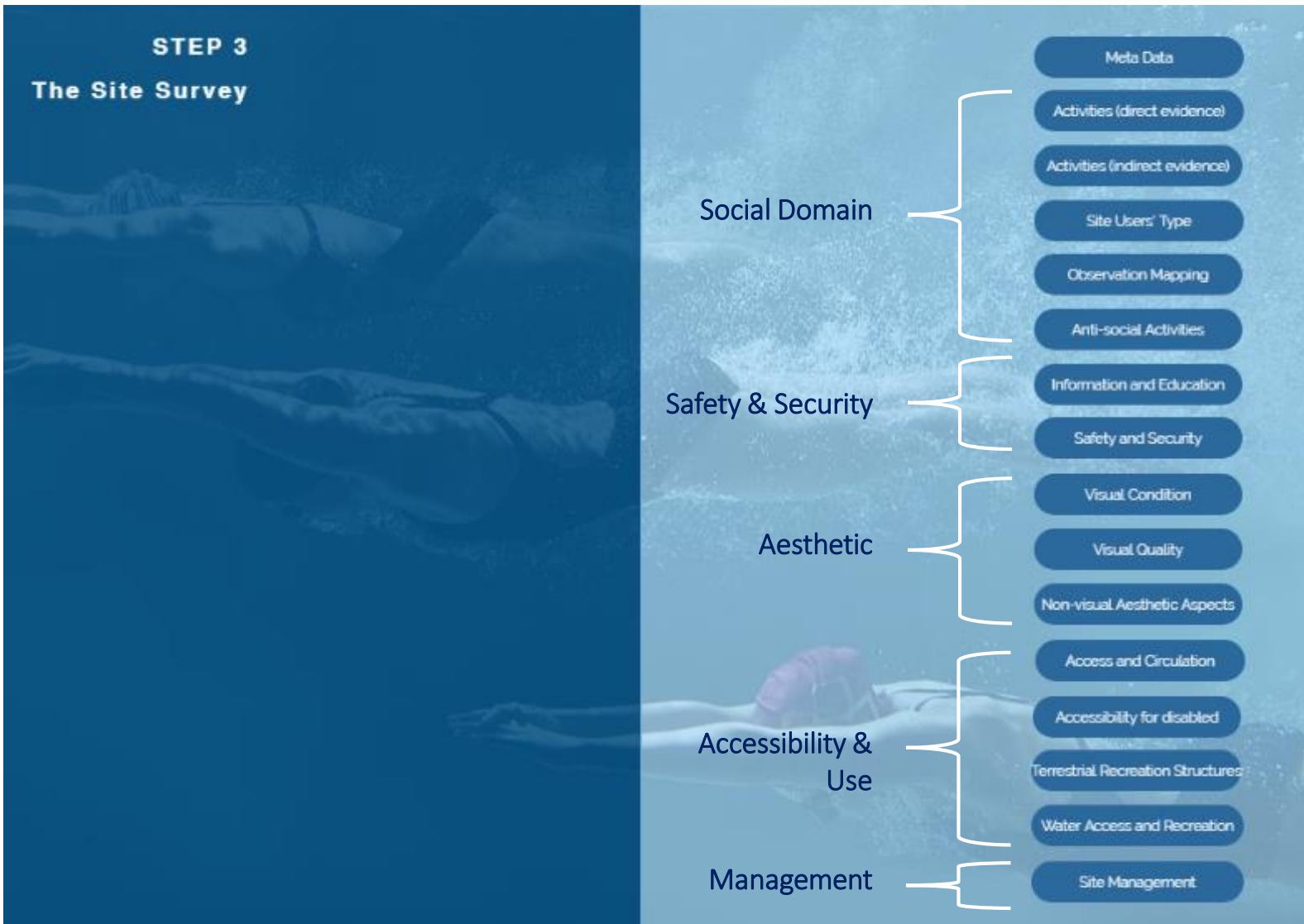


STEP 2 General description of the site

First Impression on the Site



BEAT: Step 3



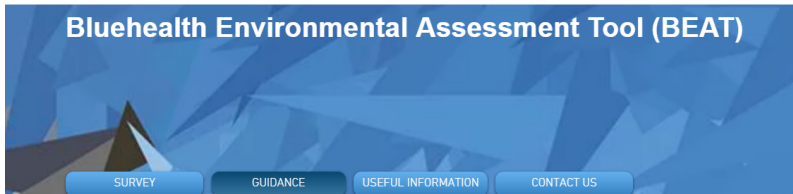


BEAT: Step 4





BEAT: Guidance for the Terrestrial and Water Ecosystem Assessment



BEAT Survey Guidance notes

Guidance Notes for the Professionals

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Guidance page

- Guidance documents assist how to complete the assessment and what specific factors should be looked at when evaluating each domain and aspects.
- Each assessment should be completed by at least two surveyors acting independently and their scores agreed or averaged.
- Surveyors should practice the assessment and, receive 2 hrs. of training.
- BEAT is applied via the web-interface which can be used on a laptop, tablet or smartphone, also using paper forms that available to download, and data may be entered later after the completion of the survey.
- Post- intervention, 3rd step may be repeated, in order to record changes and establish if the intervention met its objectives.



BEAT Piloting: Besos River Montcada, Barcelona, Spain

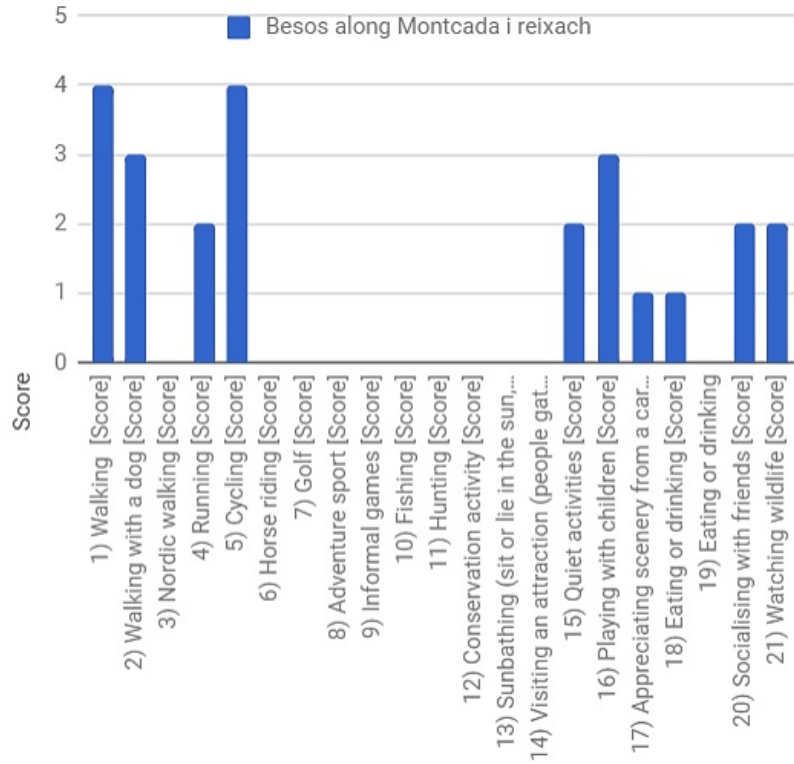


BH Case study Site: Besos River Montcada, Barcelona

Besos River Montcada, Barcelona

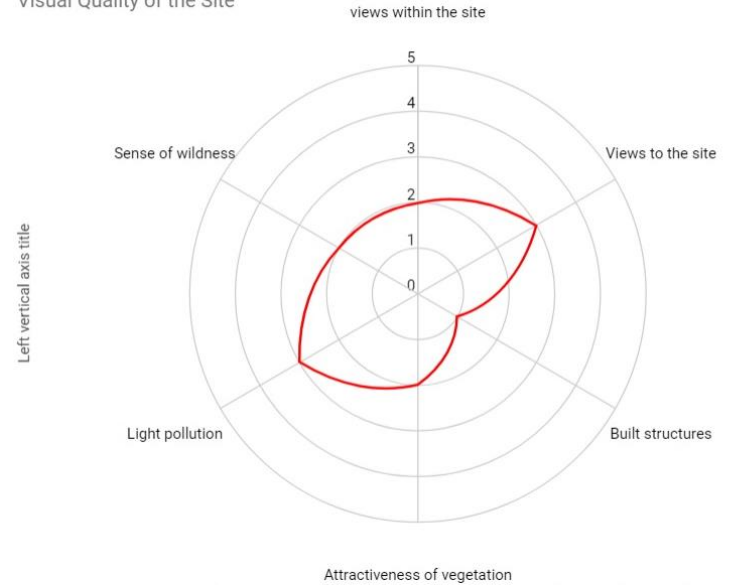


Activity next to the water



Types of activity

Visual Quality of the Site

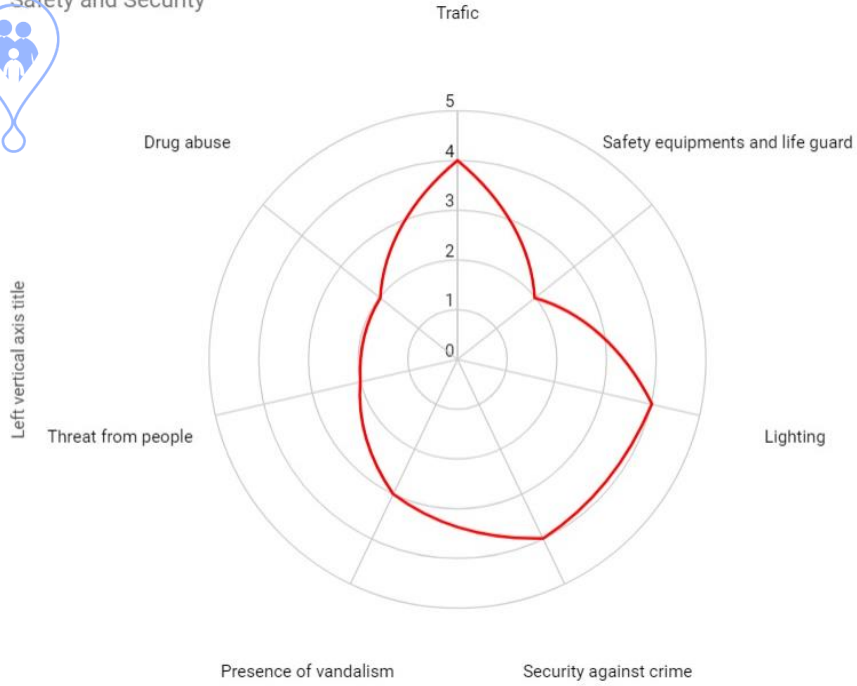


Visual quality





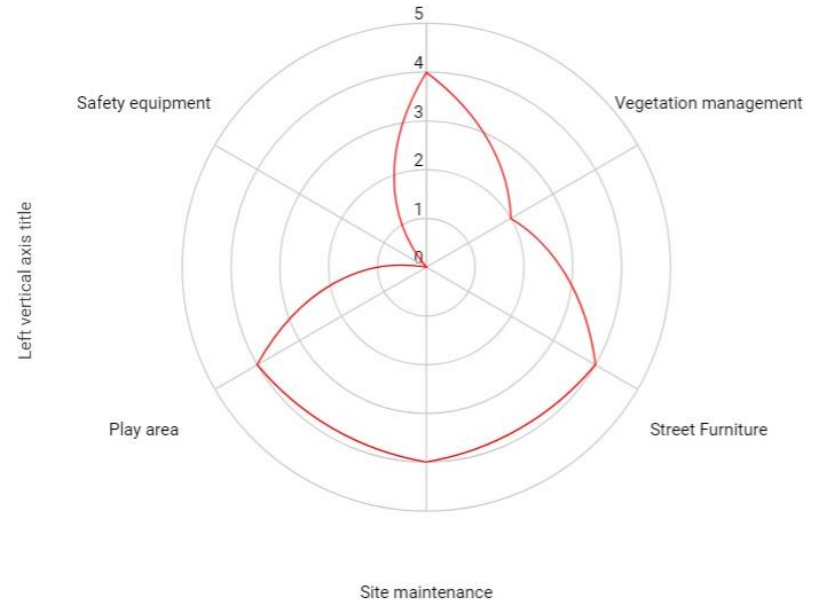
Safety and Security



Site Safety and Security

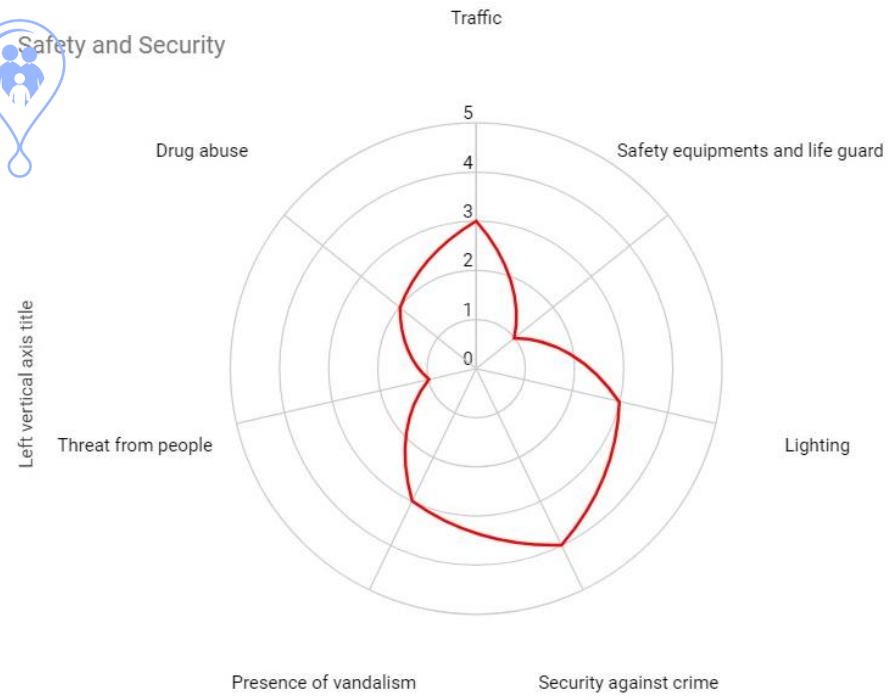


Site Management



Site Management





Safety and Security



Visual quality



STEP 4

Water Ecosystem Assessment

Standing water
i.e. pond, lake etc.

- Standing water (shore zone)
- Standing water Human Impact
- Ecosystem Services
- Standing Water Ecology

Running water
i.e. River, Creeks.

- Running water (shore zone)
- Running water Human Impact
- Ecosystem Services
- Running Water Ecology

Running water
i.e. Sea, Bays, Estuaries.

- Marine (shore zone)
- Marine Human Impact
- Ecosystem Services
- Marine Ecology

Thank you