

# EXPLORING TOOLS – ECOLOGICAL EVALUATION OF URBAN GREEN SPACE

TOOL

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Building off concepts and strategies presented earlier in *Inclusive Ecology*, this section provides a brief overview of a ranking index that I developed as a master's student. The methodology can help urban planners, or any interested stakeholder, evaluate the ecological strength of green spaces in their cities and towns.

The tool was designed to allow individuals without formal education or training in landscape ecology to begin to characterize green space and evaluate how its spatial configuration (size and shape), distribution (quantity, distance, location), human use, and vegetation management, contribute or detract from overall ecological health.

The methodology is far from perfect, but results from the evaluation exercise may allow for some broad, qualitative conclusions about the ecological strength of the analyzed green space. With that information in hand, one can initiate conversations and begin to establish strategies for management and growth of the green space network. The categories, indicators, and the point system for the ranking tool are presented in the table below.

# 1. SPATIAL CONFIGURATION

## 1.1 RELATIVE SIZE

- 1 = small;
- 2 = medium;
- 3 = large

The size of the habitat influences the viability of the population. Larger areas can usually support more diversity and native species. For the purposes of this exercise, observers are encouraged to qualitatively assess the size of 'habitat' observed, and not the entire site (i.e. a patch of forest in a park vs. the entire park).

0-3

- 1 = Straight, Thin;
- 2 = Rectangular;
- 3 = Round

## 1.2 SHAPE

Several studies confirm that a more rounded shape better preserves biodiversity by protecting the interior, or core, habitat.

0-3

- 1 = Busy streets, High density or intensive commercial/ industrial use;
- 2 = Low volume streets, Low density, or residential zone;
- 3 = Public land, Open space, Nature reserves, Rural areas

## 1.3 ADJACENT LAND USE

Land use intensity can impact habitat value. More intense uses reduce compatibility and create conflict, particularly along the border.

0-3

- 1 = Completely isolated;
- 2 = Limited Connection;
- 3 = Highly connected

## 1.4 CONNECTIVITY OR PROXIMITY TO NATURAL AREAS

Connections to natural areas or preserves allow for greater mobility of organisms from source habitats.

0-3

- 1 = intense human use;
- 2 = moderate use;
- 3 = low to no use

## 2.1. HUMAN USE

Human use can impact the quality of space. Direct observation of how citizens interact with space is the most desirable. If people are not observed in the space, the intensity of use can be inferred according to several factors, such as the presence of trails (formal and informal), trash bins and/or litter present, play areas, soil compaction, art installations, etc.

# 2. USE

## 2.2. PROTECTION MEASURES

0-3

Visible measures that reduce direct human impact, such as rules and signage or installation of temporary (or permanent) enclosures for protection of particular areas (breeding grounds, nesting etc.)

- 1 = No protection;
- 2 = Little Protection;
- 3 = Adequate protection, no notable impact

## 3. VEGETATION

### 3.1. DEGREE OF 'NATURALNESS'

0-3

A green space is classified as an 'anthropogenic habitat' if the site is managed rather intensively to maintain human use. Semi-natural spaces are those that contain remnants of natural spaces, where management is not as intensive, nor exclusively for human use. Although it can be argued that there is no 100% pristine space in the city, the sites characterized as 'natural' are the reserves and zones established for the conservation of habitats and their species.

- 1 = Vegetation clearly managed for human use;
- 2 = Semi-natural, maintaining some natural state;
- 3 = conservation/protected area

### 3.2. HEIGHT OR MANAGEMENT OF GRASS

0-3

Areas of reduced mowing can harbor greater insect diversity. Height of grass is easily observed.

- 1 = Short grass: intense management, frequently cut, weekly to biweekly;
- 2 = Medium height grass, cut monthly to bimonthly;
- 3 = high grass, cut annually (2-3 times)

### 3.3. STRUCTURE

0-3

This methodology requires the observer to look for elements that impart vertical and horizontal structure and are adapted to the urban context, including natural and artificial elements.\* (page 434)

- 1 = 0-6 observed elements
- 2 = 7-14 elements;
- 3 = 15-19 elements

### 3.4. INVASIVE SPECIES

0-3

Invasive species have become an issue in many urban environments. Observers can contact local park staff to see which species are relevant to their city. In the case of Washington, D.C. five easily identifiable species were selected.

- 1 = Visually dominated by invasive species ( $\geq 50\%$ ).
- 2 = Easily observed, but do not dominate the space (25-50% coverage).
- 3 = Rarely Observed (0-25%)

*\* The observer should look for and count the following elements: forest, group(s) of trees, row(s) of trees, single trees, hedges and shrubbery, dead wood, tall herbs/grasses, manicured lawn, annual vegetation (short-lived), trodden or intensely used vegetation, exposed or bare soil, plants growing on vertical surfaces such as walls or fences, walls and broken stone/rubble, artificial structures, paved areas/paths, aquatic plants, presence of water, mosaic of different park areas, varied topography.*

SITE VISIT,  
WASHINGTON DC  
Source: author's  
personal archive



## A PRACTICAL EXAMPLE

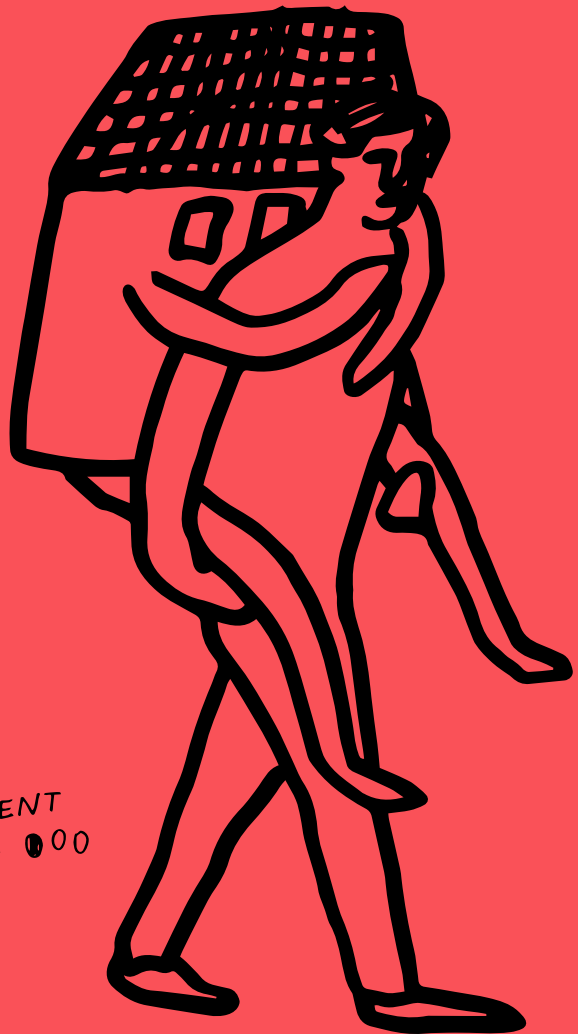
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The following example presents the ranking index in practice. The observed space in Washington D.C. is on public land in front of a school. The corner of the site has a 'desire path' which has been compacted by heavy foot traffic. Desire paths typically represent the shortest and/or most easily navigated route in a green space. Aside from the corner, the size, configuration, and location of the site do not permit many recreational activities. No other human activity was observed in this particular space. There is very little vegetation beyond manicured lawn. Due to close proximity to a community garden (adjacent land use across the street), its linear structure, and exposure to sunlight, this might be a suitable area for pollinator-friendly vegetation.

Ranking Exercise:

- 1.1 RELATIVE SIZE ●○○
- 1.2 SHAPE ●○○
- 1.3 ADJACENT LAND USE ●○○
- 1.4 CONNECTIVITY OR PROXIMITY TO NATURAL AREAS ●○○
- 2.1. HUMAN USE ●○○
- 2.2. PROTECTION MEASURES ●○○
- 3.1. DEGREE OF 'NATURALNESS' ●○○
- 3.2. HEIGHT OR MANAGEMENT OF GRASS ●○○
- 3.3. STRUCTURE ●○○
- 3.4. INVASIVE SPECIES ●○○

Total: 14/30



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