Urban semi-public spaces: Preferences for management scenarios and measures to enhance their acceptance

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Introduction

Urban areas are highly managed spaces characterized by a high diversity of substrates and structures in a mosaic pattern, with inherent human contact and disturbances. They can be seen as ecosystems emerged from local-scale, dynamic interactions among socio-economic and biophysical forces. Urban areas are also places where contact with nature is, almost by definition, limited. Naess (1973) maintains that the 'deep' satisfaction that we receive from close partnership with other forms of life in nature contributes significantly to our life quality. Given the established importance of contact with nature for the quality of life of citizens, urban management can reasonably include the conservation of nature within cities (Bolund & Hunhammer 1999). Yet, thorough knowledge of people's relationship with nature is necessary if they should be motivated to accept, or actively support, nature conservation measures (Hunter & Rinner 2004). This paper describes a project, carried out in Switzerland, which sought to measure preferences for habitat elements that have been shown to encourage biodiversity in urban areas and whether knowledge of ecological richness influenced preferences.

Method

A random sample of households from three major Swiss cities, Lugano, Lucerne, and Zurich was used in a mail out survey with a response rate of 30.2% (900 valid questionnaires returned). One third of the respondents were informed of a correlation between environmental complexity and ecological richness indicated by the probability of attracting the Great Spotted Woodpecker to the site; while one third of the respondents were informed of the probability of attracting the less charismatic Clover Stem Weevil. The remaining third received no further information.
Participants were shown photomontages of urban semi private spaces in which varying levels of vegetational complexity and infrastructure had been added. Information about the costs of the various landscaping options was also given as an additional attribute. Participants were asked to rate each landscapes on a likert scale of one to ten.

Results and Conclusions

The results of the analysis are expressed in terms of utility estimates and some description of their interpretation is warranted. The part-worth estimates are expressed on a common scale so the attributes can be compared by calculating the ranges (highest–lowest) of these estimates and dividing them by the sum of all the utility ranges to give its relative importance. The mean utility scores of each attribute at each level and the relative importance of each attribute are presented for each of the target cities are presented in the table 1, which is divided into three sections according to sample location.

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Table 1: Utility estimates according to attribute and treatment group, showing the difference between the treatment groups and the control group

Attribute Level		Control (1)	Insects (2)	Effect (2-1)	Birds(3)	Effect (3-1)
		Treatment Group to which Respondents were Allocated				
Infra structure	none	-0.343	-0.364	-0.021	-0.364	-0.021
	path	0.129	0.112	-0.017	0.179	0.050
	all	0.214	0.253	0.039	0.185	-0.029
% Importance		31.039	28.945	-2.094	26.255	-4.784
Complexity	lowest	0.486	0.582	0.096	0.973	0.487
	low	0.971	1.164	0.193	1.945	0.974
	high	1.457	1.745	0.288	2.918	1.461
	highest	1.943	2.327	0.384	3.890	1.947
% Importance		42.828	45.964	3.136	51.515	8.687
Cost	10Fr	-0.410	-0.346	0.064	-0.279	0.131
	30Fr	-0.819	-0.692	0.127	-0.557	0.262
	50Fr	-1.229	-1.038	0.191	-0.836	0.393
	70Fr	-1.638	-1.384	0.254	-1.115	0.523
% Importance		26.133	25.091	-1.042	22.229	-3.904

The expected negative linear correlation between utility estimates and cost was found in each sample and adds confidence that the respondents considered all of the randomly assigned attributes when making their assessments. There was a clear preference for complexity as utility estimates rose with increasing complexity in each sample and for each treatment. Similarly there was a preference for the inclusion of infrastructure, although the relative importance was considerably lower than that of the complexity variable. The infrastructure variable did not significantly change according to the treatments. We can conclude that infrastructure is related to established preferences for useful spaces and the usefulness of a space, and in contrast to preferences, it does not change with ecological richness.

Evidence was found from each sample city that a respondent who is informed that a particular course of action will provide a habitat for a creature, and thus receives evidence of ecological richness, will tend to favour that course of action over actions that are less favourable for the species. Increased likelihood of providing a habitat resulted in a corresponding increase in utility estimate. For example, the utility estimate of the ‘best' habitat increased by 2.319 in Lucerne, by 1.947 in Zurich, and by 1.637 in Lugano when comparing the woodpecker treatment group with the control group. Furthermore, the importance of the habitat variable was greater for the woodpecker treatment group than for the control group in the samples from Lucerne (8.7%) and Zurich (16.7%). As could be expected, the willingness to pay decreased with rises in costs, yet the woodpecker treatment groups from both Lucerne and Zurich rejected extra costs less strongly.

The result that utility estimates of habitat variables for the treatment groups are higher than for the control group in all of the samples, with greater increases corresponding to increases in the likelihood of providing habitats, provides clear evidence that knowledge of ecological richness does have the ability to influence public attitudes towards habitat variables. The clear implication is that this can be translated to influencing acceptance of conservation interventions – also in visitor management.

References

Bolund, P. & Hunhammar S. (1999). Ecosystem Services in Urban Areas, Ecological Economics, 29, 293–301.

Hunter, L. & Rinner, L. (2004). The association between environmental perspective and knowledge and concern with species diversity. Society and Natural Resources 17: 517- 532.

Naess, A. (1973) The Shallow and the Deep, Long Range Ecology Movement, In Environmental Philosophy: Critical Concepts in the Environment, Vol. 2 Society and Politics (Eds, Callicott, J. B. and Palmer, C.) Routledge, London. 51-56.