Introduction

By 2030, more than 60% (4.98 billion) of the estimated world population (8.27 billion) will live in cities (United Nations Population Division, 2001). In Europe, urban areas account for 25% of land cover and 70% of the human population (European Environment Agency, 2006). Given that urban areas have extraordinarily large and complex ecological footprints, with considerable direct and indirect effects on surrounding natural ecosystems (Alberti et al., 2003), local strategies for sustainable urban development have become important for global sustainability. Huang et al. (1998: 23) define a sustainable city as an "ecopolis rich in natural resources and biodiversity, safe, healthy and liveable, and with high economic vitality and efficiency of energy use". These concepts correspond to three dimensions - social, economic, and ecological - which must be combined to ensure a sustainable future.

To manage progress toward sustainable urban development, it is essential to develop suitable indicators, one of which is the quality and quantity of green spaces and related elements in the city (Huang et al., 1998; Schauman and Salisburry, 1998; Chiesura, 2004). We define green spaces as pieces of vegetated land within or adjoining an urban area, including parks, gardens, natural or semi-natural areas, green corridors, and other functional green areas (Scottish Greenspace, 2008). Green spaces provide numerous physical, psychological, and recreational benefits (Attwell, 2000; Eliasson, 2000; Millard, 2000; Gómez et al., 2001). Residents appreciate their existence in a neighbourhood, and this is reflected in higher property prices (Tyrväinen, 1997; Tyrväinen and Miettinen, 2000). Urban green spaces have intrinsic ecological value; they often have a variety of habitat types, which allows for high species diversity, including rare and threatened species (Caula et al., 2003; Caula, 2007; Chace and Walsh, 2006). However, high human density in cities and the consequent social needs for spaces for recreation, building and transportation, for example, make urban nature conservation difficult.

Fernandez-Juricic & Jokimäki (2001) point out that the public's involvement in environmental issues should be used as a great resource to tackle conservation problems. Urban

landscape problems could be viewed as a considerable opportunity to increase the public's participation in the conservation of urban wildlife and natural habitats (Savard et al., 2000). For example, seeking to improve and integrate existing urban environmental policies, the European Union (Europa, 2008), in consultation with experts and citizens, aims to increase quality of life in cities and to implement sustainable urban development through its 6th Environment Action Programme.

The European Union's Thematic Urban Strategy (Europa, 2008) encourages an integrative approach to landscape planning that considers social, economic, and environmental issues. Regarding urban green spaces, this strategy focuses on reducing urban sprawl and loss of natural habitats as well as raising citizens' awareness of these issues. This urban policy can be strengthened by local stakeholders' initiatives. Although still not ratified by all the European Union member states, the Lisbon treaty (Europa, 2007), through its Citizens' Initiative, allows citizens to bring forward policy proposals to the European Commission. One could imagine that citizens or civil society organisations could promote initiatives for the management of urban green spaces.

The main purpose of a conservation strategy for urban green spaces should be to restore the link between people and nature which would offer urban people more possibilities to learn about their immediate natural environment. Such endeavours would certainly benefit human well-being and wildlife conservation (Fernandez-Juricic and Jokimäki, 2001). It would involve assessing how people perceive those urban natural green spaces and the surrounding wildlife.

Regarding the ecological value of urban green, most studies on urban wildlife have focused on birds (Marzluff, 2001; Chase and Walsh, 2006), as birds have characteristics that make them good biodiversity indicators; they have a stable taxonomy, are subject to standardized techniques for survey and sampling, and have high popularity among the public (Vuorisalo et al., 2001; Clergeau et al., 2001). Since studies on bird communities are available for more and more cities (see Kelcey and Rheinwald, 2000; Marzluff, 2001; Chase and Walsh, 2006), we used baseline ecological information on birds to find out whether people's opinions on natural urban green spaces

changed when we gave them information about the importance of these areas for wildlife conservation (Caula et al., 2008).

Thus, this paper aims to explore people's preferences toward natural urban green spaces and to determine how those preferences are influenced by attitudes, socio-economic factors, and knowledge about the capacity of green spaces to sustain urban avifauna. In this paper we want to address the following questions: (1) what is resident's willingness to contribute financially to two types of projects for urban green spaces? (2) how do people's attitudes and socio-economic characteristics affect this willingness? and (3) is this willingness affected by the knowledge that natural green spaces are important for bird conservation?

Method

Study area

Our study site is the city of Montpellier (population 244,500) in southern France (43°40'N, 3°50'E). This choice is relevant for our objectives because it is located in the Mediterranean basin which is one of the 25 global biodiversity hotspots (Myers et al., 2000). Furthermore, Montpellier has one of the fastest urban growth rates in France, at 1.88%/year between 1990 and 1999 (Groupement de la Statistique Publique, 2003). Montpellier covers about 5,700 ha, of which 741 ha are public green spaces. Montpellier has an average of 33 m^2 of urban green space/inhabitant, compared to 20 m^2 for all of France, 17 m^2 for Spain, and 15 m^2 for Italy (Staners and Bordeaux, 1995). The combination of high biodiversity value and rapid urban development make Montpellier an appropriate study area for a socio-ecological evaluation of public green spaces. In Montpellier, green spaces consist of natural habitats, public parks and squares, public and private gardens, wooded areas, tree-lined streets and tramways, cultivated areas, and green areas surrounding public or industrial buildings, shopping malls, sports facilities, and cemeteries. The following ten species represent 82% of the tree cover in the city: *Platanus hybrida* Brot. (36%)*, Pinus pinea* L. (10%),

Celtis australis L. (9%), Arecaceae (Palmacea) (7%), *Sophora japonica* L. (6%), *Melia azedarach* L. (4%), *Robinia pseudoacacia* L. (3%), *Quercus ilex ilex* L. (2%), *Acer negundo* L. (2%), and *Morus kagayamae* Koidz. (2%) (Bourgery, 1996). Most of these species are exotic ornamentals.

There is a growing knowledge of communities in the urban Montpellier landscape (Caula, 2007; Caula et al., 2008). Sixty-one bird species have been recorded in Montpellier and can be clustered into three groups: (1) species characteristic of areas with a high proportion of buildings, such as *Columba livia*, *Passer domesticus*, *Larus cachinnans,* and *Phoenicurus ochruros;* (2) species associated with a mixture of buildings and gardens, such as *Sylvia melanocephala*, *Sylvia atricapilla*, *Parus major*, *Parus ate*r, *Carduelis carduelis*, *Phoenicurus phoenicurus*, and *Phylloscopus trochilus;* and (3) species typical of green spaces embedded in the urban matrix: *Alectoris rufa*, *Falco tinnunculus,* and *Corvus monedula* were closely associated with urban farmland areas, and *Erithacus rubecula*, *Fringilla coelebs*, *Turdus merula*, *Garrulus glandarius,* and *Luscinia megarhynchos* were abundant in woodlands.

Questionnaire design

Our aim was to explore the contribution of attitudes, socio-economic factors, and information on urban bird conservation toward preferences and willingness to financially contribute to green spaces in Montpellier. Researchers have examined the link between public attitudes, the provision of information, and valuation measures (Blamey 1998); environmental attitudes are correlated with willingness to pay (Kotchen and Reiling, 2000). On the other hand, public attitudes and willingness to pay measured with the Contingent Valuation Method (CVM) could be affected by information provided in the questionnaire (Raybould, 2005). While we used the CVM (Carson, 2000), and suggested different amounts of money in order to assess people's willingness to contribute financially, we did not try to estimate the economic value of this environmental good. In terms of advantages, the CVM is simple, flexible, widely used, and easy to analyze (Venkatachalam, 2004). In terms of disadvantages, critics are concerned about the validity and

reliability of CVM results, along with impacts of several potential biases and errors (Venkatachalam, 2004).

Our questionnaire included information on the type and amount of green spaces in Montpellier and allowed respondents to fill in answers themselves. We drafted two versions. In the first, the "experimental questionnaire", we provided information on the possible negative effects of the loss of urban green spaces on avifauna; in the second, the "control questionnaire", this information was not included.

The questionnaire (Appendix 1) comprised three parts. First, we asked attitudinal questions about the importance of green spaces and fauna in Montpellier. Variables of this type have proven to be as strong as socio-economic variables in explaining the variability of willingness to contribute financially (Spash et al., 2006). Second, we asked several standard demographic and socio-economic questions. Third, we elicited valuation of two different scenarios for increasing green spaces in Montpellier. We gave clear information about the types and percentage of green spaces in Montpellier, followed by two questions on whether or not the amount of green spaces in Montpellier should be increased. If the person wished to increase green spaces in Montpellier, we presented two hypothetical scenarios for increasing: (1) the natural scenario, with green spaces for leisure, where the natural landscape is conserved and most of the natural vegetation remains intact, and (2) the ornamental scenario, where natural landscape is replaced by a new landscape that resembles an urban square with big ornamental trees and decorative exotic plant species. We explained that financial support was required for one year, due to the scarcity of local council funding. Then we asked respondents what they preferred in terms of proportion of each green space type (five categories from 100% natural to 100% ornamental, with 25% increments); their willingness to contribute financially (WTCF; dichotomous variable: yes or no); and, in the case of a positive answer, how many Euros they would contribute for each. We use a multiple choice format by providing 10 options, ranging from 1 to >30 EUR/month. We used WTCF to determine a respondents' level interest in helping to increase green spaces, as opposed to willingness to pay which is more often used to estimate economic value.

Sampling and survey method

The Montpellier municipality has a network of 27 local cultural centers (23 of which were active). These "common houses" (locally known as "Maison pour tous") are spatially distributed according to population density. These municipal structures host socio-cultural activities (e.g., sports, music, and games), which are often managed by local associations. Since people of diverse age, social, and educational backgrounds go to these centers, they were suitable to obtain a random sample. A pilot test was conducted in four centers.

From 4 May to 19 June 2006, we left 30 questionnaires (15 control and 15 experimental), in each of the 23 active cultural centers and asked the respondents to leave the completed questionnaire at the reception desk. We verified the effectiveness of the randomization process and the equivalence between the control and the experimental groups by means of tests on the homogeneity of categorical data. We used self-response questionnaires because they are cheaper and quicker than conducting in-person interviews. We acknowledge that a self response survey has several disadvantages: it tends to include only those individuals who are most biased or most interested in replying, the response rate cannot be controlled, and the potential for non-sampling error can be high (e.g., replies forgotten, incomplete questionnaires). Still, they are considered relevant for surveying people's attitudes (Carson, 2000). In addition, this method is convenient for the respondent and there are fewer interviewer effects (Azqueta, 1994).

Questionnaire returns

We distributed 690 questionnaires, of which 212 (30.7%) questionnaires were returned. Of these, 53.3% belonged to the experimental group and 46.7% belonged to the control group. We had 100 fully completed questionnaires (44.6%), which was slightly less than completion percentages

in other studies (Pate and Loomis, 1997; Loomis and Ekstrand, 1998; Tyrväinen and Väänänen, 1998).

Most respondents (70%) were female and 45% were single. The average household size was 2.5 people and 65% of respondents had children in the household. The mean of number of children in the household was 2.06. The mean age of the respondents was 43 years (ranging from 18 to 18). When asked about their highest level of education, 24% had a five years degree, 12% had a Bachelor's degree, and 20% had a high school diplome.. Regarding employment, 46% were employees and workers, 19% were managers and teachers and 8% were students. Regarding occupation, 30% were private sector salaried employees, 20% were public sector employees and 23% were retired. The monthly household income for 80% of the respondents was 600-2,300 EUR and the average income bracket was 1,500 EUR/month/household.

For comparison, the 1999 French demographic census indicates that 54% of Montpellier residents were women, 52.3% had children, and the average number of people/household was 1.9 (INSEE, 2002). The proportions of residents with various levels of higher education correspond to the sample. However, the percentage of residents with little education (certificate of primary studies or no diploma) is higher than in the sample (census 28.0%, sample 9.4%). The age distribution of our sample corresponds to that of Montpellier residents over 20. The average monthly household income for the population of Montpellier is 1,136 Euros.

Data analysis

Using multiple logistical regression methods, we analyzed the possible dependence of WTCF (as a dichotomous variable) on (1) the provision of bird information and (2) the independent socio-economic and attitudinal variables. We used multiple linear regression methods for other variables, including "type of project" (PROJECT; consisting of percentages of natural or ornamental vegetation and coded as a continuous variable: 1 (0% natural-100% ornamental), 2 (25% natural-75% ornamental), 3 (50% natural-50% ornamental), 4 (75% natural-25%

ornamental), 5 (100% natural-0% ornamental)), and "quantity to pay" (QTP) for the project (regardless of project type). In all cases, we used backward elimination procedures (Zar, 1999). Before running the regressions, we examined the multicollinearity among independent variables using the Cramer coefficient. Multicollinearty between dependent variables was low and the effects on the regression were negligible.

The regression analyses were used only with the aim of detecting the influence of the independent variables (i.e., provision of bird information and socio-economic and attitudinal variables) on the dependent variables (i.e., type of PROJECT preferred, WTCF, and QTP). We developed a contingent matrix showing the relationships between the dependent variables and the variables selected in the regression. We analyzed data using the Statistica® software package (StarSoft, version 7).

Results

Attitudes toward urban nature

Respondents had a favorable attitude toward the existence of urban green spaces; 96% said that green spaces are "important" or "very important" for improving the quality of life in the city and 83% said that they use green spaces. The most frequently used green spaces were two natural urban forests: Bois de Montmaur (26% of respondents) and Lac des Garrigues (18%). When asked about perceptions of the quantity of green spaces in Montpellier, 12.2% of respondents answered that there were few, 40.5% said that there was a moderate amount, and 40.5% considered that there was a large amount. Air purification was considered the most important benefit provided by the green spaces in the city, followed by the possibility of going out for a walk, running, or doing outdoor exercise. Most respondents (68%) said that having the chance to enjoy wild animals in the city was "important" or "very important". Ninety-three percent of respondents agreed with increasing the amount of green spaces in Montpellier.

Variables influencing types of green spaces preferred

Of the 208 respondents who expressed an opinion about the composition of urban green spaces, 30% preferred 100% natural areas, 43% preferred 75% natural - 25% ornamental areas, and 25% preferred a 50/50 split. Only two respondents preferred 100% ornamental, and only two respondents preferred 25% natural - 75% ornamental areas.

The multiple linear regression analysis (Table 1) indicates that "the perceived quantity of urban green areas in the city" (QGA), "the possibility of enjoying wild animals (WFAU)", gender (SEX), and the presence of children at home (CHILDREN) influenced the preference for either the natural or ornamental project (PROJECT). As far as the attitudinal variables are concerned, the preferences for a natural project was higher among respondents who answered that there were few or moderate amount of green spaces in Montpellier and among respondents who gave more importance to wildlife conservation in the city. A higher percentage of women and people with children preferred the natural project.

Variables influencing willingness to contribute financially

Among the 209 interviewees who responded to the WTCF question, 52% expressed a value for WTCF. The logistical regression analyses (Table 2 showed three independent variables: frequency of use of green spaces (FUSE), profession (PROF), and gender (SEX). Seventy five percent of independent professionals and 80% of managers and teachers expressed a WTCF, compared to only 48% of employees and workers and 38% of students. This result is linked to monthly household income. Most self-employed professionals (55%), managers and teachers (86%) have a higher monthly household income (1500 – 4600 Euros), whereas most students (86%) and employees and workers (67%) have a lower monthly income (600-1500 Euros).

A higher proportion of men (59.0%) than women (49.3%) expressed a WTCF. We found that perceived quantity of urban green spaces in the city (QGA) could explain this result; more men (22%) perceived a low quantity of urban green spaces than women (8%). Finally, WTCF increases considerably with the frequency of use of the green spaces (Fig 1); 59% of respondents who expressed a WTCF claimed that they used the green spaces frequently (every day or every week), whereas 60% of respondents who did not express a WTCF claimed that they never or infrequently used the green spaces.

Of the 131 respondents (61.3%) who voiced a protest bid, the main reasons were: "the local government should pay for these spaces" (60%), "my household income means I can not afford it" (18%), and "taxes are already very high" (15%). The others reasons ("I will not use these spaces", "I do not agree to create new spaces" and "There are already enough parks") accounted for less than 5%.

Variables influencing quantity to pay

The multiple linear regression analyses for the amount to pay for a natural project (Table 3) showed that the possibility of enjoying wild animals (WFAU), age (AGE) and the presence of children at home (CHILDREN) influenced this dependent variable. We found that those who gave greater importance to the conservation of wild fauna in the city and people with children were more inclined to pay a high amount for the natural project. Although older people have similar or higher incomes than younger people, the QTP for natural projects diminished with age. We found that 72% of older people had a QTP of 12 EUR/year, whereas only 55% of younger people had the same QTP. While 12% of younger people declared a QTP of 300 EUR/year, no older people declared a similar QTP. People with children had a greater preference for the natural project and agreed to pay more for it than those without children. The average QTP bracket for natural projects was 0.18-0.28% of the monthly household income.

The multiple linear regression analyses (Table 4) showed that the variables for gender (SEX) and the perceived quantity of urban green spaces in the city (QCG) influenced the QTP for ornamental projects. A higher percentage of women preferred the natural project. Therefore, the percentage of women willing to contribute financially for the ornamental project was lower than for the natural project. The average QTP bracket for ornamental projects was 0.08-0.12% of the monthly household income.

The influence of bird information

The provision of bird information did not have a significant effect on the dependent variables PROJECT, WTCF, and QTP in the multiple regressions. We then categorised the respondents in terms of their importance placed on urban wild fauna (WFAU) (Fig. 2). In the experimental group (i.e. when information was given about possible negative effects of losing urban green spaces on avifauna) the proportion of people who preferred the natural project was higher among those who said urban wild fauna was important than among those who said it was not important. In the control group (i.e. when information on birds was not provided), this proportion was not significantly higher. However, preference for the natural project is significantly higher in the experimental group ($\chi^2 = 20.525$, df = 6, $p<0.05$) only for those who consider enjoying urban wild fauna as "important". We could not find an analogous result with the QCA, CHILDREN and SEX variables influencing green spaces types preferred.

In the same way, we categorised the respondents according to their frequency of use of green spaces (FUSE) (Fig. 3). In the category "monthly" of FUSE, we found a significant higher proportion of people willing to contribute financially in the experimental group than in the control group ($\chi^2 = 11.988$, df = 3, $p<0.05$). The other variables that affected WTCF, gender and profession, do not show a similar response.

The results of the survey are summarized in Fig. 4: the preference for "natural" green areas is linked to attitudinal variables (perception of the quantity of green areas and interest for wild

animals) as well as socio-economic variables (gender and number of children in the household). WTCF is positively linked to frequency of use but depends on income (income being itself related to gender and profession). Quantity to pay for natural projects is linked to the interest in wild animals but also to two socio-economic variables (age and presence of children in the household). Others variables driving the quantity of WTCF for ornamental projects included perception of the quantity of green areas and gender. Finally, giving information about the importance of green areas for avifauna only has a limited effect. It has an influence on: 1) the preference for natural project but only for a category of respondents, and 2) WTCF but only through one modality of frequency of use.

Discussion

We found a few differences between our sample and the population of Montpellier. The proportion of women was higher in our sample; a possible explanation is that the cultural centers offer activities for children of school age, thus attracting more mothers with children. The difference between the sampled average monthly income and the INSEE data could be linked to the fact that cultural centers are visited less frequently by people with very low income than those with higher incomes. Apart from these differences, which imply caution in interpreting data, our results provide a valuable insight into citizens' opinions. However, it is possible these populations may differ according to other unmeasured variables.

Although the CVM was designed to assess the economic value of public environmental goods (Davis, 1963; Carson, 2000), our results show that a method adapted from CVM can be used as a tool for revealing social preferences regarding green spaces. One way of finding out about the public's appreciation of green spaces is to ask about WTCF and to refer to the quantities of money as an indicator of the importance given to the type of green spaces considered.

Our first objective was to find out how people value two different projects for urban green spaces. Consistent with previous studies in other geographical contexts, our results found that most

people (93%) want more green spaces in their city. Similarly, in Finland, approximately half of the respondents in a CVM study expressed a willingness to pay to prevent construction in urban forests (Tyrväinen, 2001). In the same cities, a one km increase in the distance to the nearest forested area led to an average 5.9% decrease in the market price of the dwelling; residences with a view onto forests were, on average, 4.9% more expensive than dwellings with otherwise similar characteristics (Tyrväinen and Miettinen, 2000). Citizens in Bari city, Italy see the public and private green areas as a single beneficial system and perceive green areas as enhancing their quality of life (Sanesi and Chiarello 2006). In Stockholm, Bolund and Hunhammar (1999) concluded that the urban natural green areas services have a substantial impact on quality of life in urban areas and should be addressed in land-use planning. In a Venezuelan study, 99% of respondents indicated that urban green areas are important or very important for improved quality of life (Caula and DeNóbrega, 2005)

Most people (over 70%) preferred the natural over ornamental types of green spaces. Many people who declared that the benefit from enjoying wild animals in the city was important preferred the natural project. This is consistent with numerous studies of public attitudes toward natural resources demonstrating the positive social value of native urban biodiversity. For example, in a survey for the UK Forestry Commission in 1989, most people preferred forests that were diverse, looked natural, and fit into the landscape (Millard, 2000). In urban woodland in Reading, UK, a large majority of people valued the 'naturalness' of the woodland. Regarding possible reasons for this type of preference, Rohde and Kendle (1994) suggested that the attractiveness of urban wildlife for people originates from some properties of naturalness. Moreover, urban sites with tree and shrub communities probably come closest to providing people with wilderness qualities in an urban area. This can contribute to what Millard (2000) refers to as people's sense of place. This means a perception of what distinguishes a person's own place from other urban localities. It also raises people's awareness of how they value the place in which they live.

Our second objective was to find out the extent to which people's attitudinal and socio-economic characteristics affected their valuation of green spaces. In early CVM surveys, some

influential attitudinal and socio-economic variables recurred across studies and countries (Bateman and Langford, 1997 - national park in the United Kingdom; Hadker et al., 1997 - national park in Bombay, India; Tyrväinen and Väänänen, 1998 - urban forest in Finland; Oguz, 2000 – urban parks in Ankara, Ethiopia; Coles and Bussey, 2000 - urban forest in UK; Blaine et al. 2003 - urban green spaces in USA; Caula and DeNóbrega, 2005 - urban botanical garden in Venezuela; Raybould, 2005 - erosion beach in Australia; Jim and Chen, 2006 - urban environments in China). These variables include the respondent's income, frequency of use of the study site, age, gender, level of education, presence of children at home, preferences for environment-related activities, attitudes, and the existence of substitutes for environmental goods. In our study, the preference for natural green spaces was significantly linked to people's positive attitude towards wildlife conservation and the desire to increase the amount of green spaces in the city. The preference for natural green spaces was also influenced by gender and the presence of children at home. People with children at home had a greater preference for natural spaces. However, this was more apparent among women than among men and it is linked to a more general gender issue (Blunt and Wills, 2000). In France, the average salary for women is 15% lower than for men doing the same job; unemployment is higher among women, and women do two-thirds of domestic chores (Gailliard, 2002). Consequently, women spend more time tending children than men, which involves participating in leisure activities such as going to children's parks and playgrounds. Thus, women may be more aware of the importance of green spaces for day-to-day well-being, which could explain why they expressed a stronger WTCF.

WTCF tends to be influenced by profession, the frequency of use of green spaces, and gender. In our study, as in many others, profession was correlated with income level. Our results show that people with well-paid jobs had a higher WTCF for green spaces than those with lower-paying jobs, consistent with the economic theory that household income and WTCF are positively correlated (Jakobsson and Dragun, 2001). The WTCF was affected by the same variables that characterize the acquisition of a market good (i.e., demand and available budget). We did not find a correlation between gender and monthly household income.

People's attitudes toward wildlife conservation and the presence of children at home influenced the preference for the natural project, and thus had a positive and significant correlation with the QTP for the natural project. As in other studies (Loomis and Ekstrand, 1998; Pate and Loomis, 1997), we found a significant negative correlation between age and QTP.

The percentage of people expressing a WTCF was smaller and the percentage of protest bids was greater than was found in other studies (Mitchell and Carlson, 1989; Hadker et al., 1997; Tyrväinen and Väänänen, 1998; Oguz, 2000; Caula and DeNóbrega, 2005). Additionally, the average QTP in proportion to the monthly household income (0.165%) was lower than the value found by Hadker et al. (1997; 0.24-0.27% in India) and Caula and DeNóbrega (2005; 0.46% in Venezuela). Two points may provide some explanation. First, Montpellier, like many other French Mediterranean cities, has a landscape pattern with a dense ancient downtown district and a large area of new low-density areas with individual houses and gardens. As a result, local inhabitants may be under the impression that they live in a very green city compared to other cities. Second, despite the fact that Montpellier has one of the most rapid annual urban grow rates (8-11%; INSEE, 2002), it has very few new boroughs with many high buildings. Its urban growth is largely due to the development of new sectors with individual houses and gardens, which immediately surround the urban core of the old villages on the town's periphery. This could explain why local people do not feel that urban growth makes the environment too artificial.

Our last objective was to determine whether the information on the importance of green spaces for bird conservation could change the WTCF for green spaces. The information about birds increased preference for the natural project and WTCF only for a certain category of people (people with a "favourable" attitude for urban fauna and people who use green spaces monthly). Similarly, Jensen (2000) found that providing information and explanations (especially those that emphasize the positive aspects) to forest recreationists about management practices increased support for those practices. We did not find a correlation between the provision of bird information and QTP.

Even though giving information on the importance of birds in urban habitats can be perceived as a key factor to increase citizens' environmental awareness, our results show that

people yet aware of environment are positively influenced by this information and show a higher willingness to contribute financially. This suggests that giving information on wildlife and natural habitats in the city is not enough for increasing the interest for natural green spaces for the public. The challenge for public bodies and nongovernmental organizations dealing with urban nature conservation is to convince those citizens unaware of environmental issues. Sustainable management of urban areas must take into account both the necessity to maintain and enhance ecosystem services in the city and citizens' well-being. Urban green spaces can play an important role from that point of view. As a network of ecological habitats, they can provide resources for urban wildlife and can provide a variety of desired services to urban residents. Our results confirm the interest of citizens for maintaining urban ecosystem services, particularly through the existence of natural green spaces in the city.

Decision makers and managers should take advantage of this positive attitude. In terms of sustainable urban management, our results show that municipalities could, in their green spaces policies, put more emphasis on natural urban habitats in a very broad sense. Instead of designing ornamental new landscaped parks, one option could be to take advantage of the remnants of the previous non urban landscape (e.g., vineyards, orchards, overgrown fields or gardens) and their existing vegetation. Those green spaces would provide recreational and biodiversity services and could be managed at lower costs if compared to ornamental parks where flowering, watering, weeding (sometimes with chemicals), pruning, and trimming are time, money and energy consuming.

Designing new green spaces following those principles could also be part of municipalities' strategies to increase environmental awareness. Our results showed that only giving basic information on the relationships between green spaces and bird habitats requirements did not change attitudes toward public green spaces for all citizens. Public campaigns that explain, based on actual examples, the advantages of maintaining a network of green spaces in the city could help increase the public's environmental awareness and in doing so, could lead people to think as

sustainable urban development, not as a top-down injunction, but as a real way to increase quality of life in the city.

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FIGURES

Figure 1. Variation in the WTFC with the frequency of use of the green spaces (FUSE). WTCF increases by over 20% as frequency of use of the green spaces increases.

Figure 2. Variation in the preference for a project type (50% natural, 75% natural or 100% natural) in the control (without bird information) and the experimental questionnaire (with bird information). Groups categorized according to the possibility of enjoying wild animals in the city. Pearson Chi-square analysis control group $x^2 = 20.52533$, df = 6, $P < 0.05$; experimental group $x^2 = 8.101851$, df = 8, $P > 0.05$.

Figure 3. Variation in the WTCF (No-Yes) in control (without bird information) and experimental questionnaire (with bird information). Groups categorized in terms of frequency of use of urban green spaces. Pearson Chi-square analysis control group $x^2 = 11.98784$, df = 3, $P < 0.05$. Experimental group $x^2 = 5.207731$, df = 5, $P > 0.05$

Figure 4. This graph shows the attitudinal and socio-economic variables that affect the dependents variables: type of project, WTCF and QTP. Perceived quantity of urban green areas in the city (QGA), possibility of enjoying wild animals (WFAU), Frequency of use of green areas (FUSE), gender (SEX), presence of children at home (CHILDREN), Profession (PROF), monthly household income (INCOME), age (AGE) as explanatory variables.