

**WPI – LONDON BOROUGH OF MERTON  
LOCAL NATURE RESERVES**

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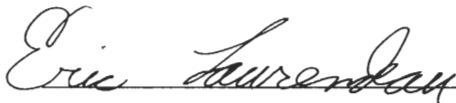
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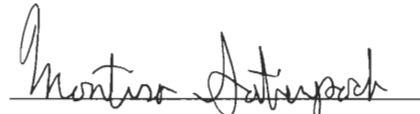
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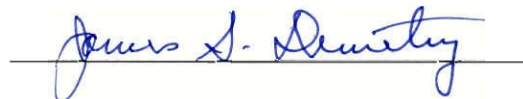
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This report reflects the work of WPI students. It does not necessarily reflect the opinions or work of employees of Leisure Services at the London Borough of Merton.

# **ABSTRACT**

Leisure Services of Merton Council wish to promote the thirteen Local Nature Reserves of Merton and to provide residents with helpful information about them to increase attendance. A user profile was created by gathering data from the residents of Merton through mail surveys, interviews at the reserves, and surveys from the local schools. Our findings showed a lack of awareness, which led us to create a teacher manual and a public transportation guide. The results also included information useful to the process of applying for future grant funding and a number of suggested improvements to enhance the thirteen nature reserves.

# EXECUTIVE SUMMARY

Local Nature Reserves (LNRs) are just one of several places in a city or town where plants can grow wild and animals can comfortably reside. Sites are declared Local Nature Reserves because they have features of special interest such as flora and fauna, which are maintained under guidelines from a site's management plan. In the London Borough of Merton there are thirteen LNRs that many people do not visit or even know exist.

Leisure Services of Merton Council wish to provide helpful information to the residents of Merton to promote these thirteen nature reserves and increase attendance at them. To attract more people, improvements need to be made at these sites. Money for these developments can be acquired through grant funding. An accurate user profile would assist Leisure Services when applying for this subsidy. A user profile contains data such as who uses the reserves, how often they use them, and features that they would like to see improved.

The goals of this project were achieved by creating a user profile of the LNRs. This information helped us determine the level of awareness among the general public and the local schools. Possible improvements were also suggested for the LNRs. Promotional materials were also designed to inform local schools of the benefits of the LNRs towards outdoor education and recreation.

The user profile was created by gathering data on the usage of the LNRs from the residents of Merton, people at the reserves, and the local schools. To get a representative sample of the estimated 188,000 residents of Merton, a mail questionnaire was sent to 1000 randomly selected households throughout the Borough. Along with the questionnaire was a cover letter explaining our project and how their feedback was important. Also included was a map of Merton highlighting the thirteen Local Nature Reserves and a return envelope with prepaid postage.

Interviews at nature reserves were conducted to get information on the user population of the reserves. There were six important nature reserves to visit since Leisure Services was applying for grant funding for some of these reserves while others were in deprived areas and had potential for future grants. By interviewing the people at these sites, we were able to collect data that represented how the people felt in terms of their satisfaction with the reserve and suggested improvements.

Science coordinators of the local schools were asked to provide information on current school practices for environmental education with respect to the nature reserves. Twenty schools around the Borough of Merton were surveyed based on their location

with respect to our six target nature reserves. They were originally contacted several times via fax, phone, and finally through the mail. The science coordinator was asked to fill out a questionnaire for our study that would provide information on how important outdoor education is to the current science curriculum at the chosen schools. To promote the reserves, we included leaflets and a map of the nature reserves in Merton to promote them along with the survey. By enclosing information with the survey, we still were able to achieve our goal of promoting Local Nature Reserves for educational purposes, even if the schools chose not to respond.

The results of the mail survey are based on 138 questionnaires that were received, representing 325 residents of Merton. From these results we have a 5.43 confidence interval with a 95% confidence level. The data obtained from these surveys were used to compile a user profile that would be referred to when filling out grant applications. Most of the residents of Merton visit Cannon Hill Common and Morden Park. These two are the largest sites that are connected to parks and other recreational facilities, which is one reason why they tend to draw more people. The most popular activities conducted at the reserves were walking followed by relaxation and dog walking. The majority of users are satisfied with the nature reserves they visit and those that are not satisfied suggested cleaning up rubbish and dog faeces by placing more rubbish and dog fouling bins around the reserves. The majority of non-users were unaware of the reserves or did not have the time to visit these sites. Most of the users range from the ages of 54 through 64 and were retired, whereas the non-users range from the ages of 30 through 39 and are less likely to have leisure time during the week.

The results of the nature reserve interviews were based on input from people at Morden Park, Merton Green Walks, Myrna Close, Cannon Hill Common, Sir Joseph Hood Memorial Playing Fields, and Beverly Meads. A total of 33 interviews were conducted at these reserves. Dog walking was the most common activity carried out at the Local Nature Reserves followed by walking. Two thirds of the people interviewed at the reserves were female and only one third was male. Of the people found at the Local Nature Reserves on weekday afternoons, two thirds were retired, students, or housewives. During the weekend, the users interviewed were of more varied occupations, such as psychiatric nurse, journalist, and company director. Many of the interviewees suggested improvements such as cleaning up the reserve, fixing trails, adding benches, and preventing dog fouling.

Eight science coordinators from the original twenty chosen schools responded to our survey. Five out of the eight said they have conducted educational fieldtrips to the LNRs. Educational activities included pond dipping, tree planting, and observing mini-

beasts, plants, and water vegetation. Most teachers agreed that outdoor education can enhance the students' learning and that LNRs could be an integral part of their curriculum. Although they showed interest in the application of the LNRs toward the environmental education programme, there was a lack of awareness on the availability of many other nature reserves for educational purposes. They recommended that more information should be provided on what the reserves have to offer.

Awareness seemed to be the most prominent concern amongst our feedback. Creating more leaflets for the reserves and making them more accessible to the public is one way to let the public know more about the reserves. Increasing the number of signs at and around the nature reserves will help people identify their location and gain access to these sites. We developed a bus guide that details all forms of public transportation that will enable people to get to the nature reserves.

In response to the teacher survey, we created an informative 'Teacher Guide' for Morden Park. The manual can be used if they wish to incorporate a fieldtrip or its material into a lesson plan. Teachers also expressed interest in having someone knowledgeable that could lead the students around the nature reserves. Since cost may be a problem, we recommended contacting 'Friends' groups to see if any of the members would be willing to volunteer their time to help educate the students by acting as tour guides.

The lack of cleanliness at the reserves seemed to be a common complaint of the people we questioned. In several of the reserves there are 'Friends' groups who are volunteers that take care of the park, maintain the features, and clean up graffiti. The stronger the presence of 'Friends' groups in the community, the easier it would be to maintain the reserves. This is one reason why it is beneficial to try to increase the number of people in 'Friends' groups as well as create new ones for reserves that do not have them. If the number of dog faeces bins and rubbish bins is increased, there may be a decrease in the amount of faeces or litter on the ground. Another alternative is to hire a bailiff to fine people that do not pick up after their dogs.

Our project on the Local Nature Reserves has given Leisure Services a more complete understanding of how the nature reserves are used and who uses these sites. The main purpose of the project was originally to create a user profile that would provide information for grant applications. The bus routes and teacher guide were additions that came midway through the project, which helped meet the needs of the people we surveyed as well as the whole Merton community. The information in this report will aid Leisure Services in making their thirteen Local Nature Reserves a better place for both humans and wildlife.

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# 1. Introduction

In many urban areas, forests and woodlands are being levelled to make way for new developments. Land that is not developed on is turned into pitches and other sporting greens. Flora and fauna are driven out of their natural habitats and forced to adapt to new ones. Some of the species are endangered and need to be protected from becoming locally extinct. Local authorities were given the power through the National Parks and Access to the Countryside Act (1949), to provide or secure the provision of Local Nature Reserves (LNRs). A Local Nature Reserve is one of several places in a city or town where animals can comfortably reside and plants can grow wild. They are host to a few rare species that currently occupy the land and would cease to exist in these areas if these nature reserves were not preserved. Sites are declared LNRs because they have features of special interest and are designated on the basis of English Nature guidelines (<http://www.merton.gov.uk/naturereserves/>).

The Local Nature Reserves in the London Borough of Merton are for people and wildlife ([www.english-nature.org.uk](http://www.english-nature.org.uk)). Wildlife is free to inhabit its natural environment and people can experience these sites at their own leisure. Here people have opportunities to learn, relax, or even reduce stress (Kahn, 1999). Local Nature Reserves can have a profound positive effect on human physiological and psychological systems and yet not many people visit them or even know they exist.

Several of the LNRs in Merton are relatively recent, the earliest of them existing since the mid 1980's. Of the thirteen nature reserves declared, only four of them have leaflets that describe different features of the reserve, such as the wildlife and a brief history of the area. Some of these nature reserves are supported by 'Friends' groups, whose mission is to maintain and provide an environment that can be used by all residents. Such groups include Friends of Cannon Hill Common and Friends of Cherry Wood who are the only other groups, aside from Leisure Services, that can apply for financial support for improvements through their organisations. Improvements that may be subsidised are various things such as fixing a bridge or resurfacing a path.

Leisure Services of Merton Council would like to increase attendance at the thirteen nature reserves in Merton by making people aware of these sites and their benefits. They wish to provide helpful information to promote the thirteen LNRs for their educational and recreational assets. Our objective was to help Leisure Services increase the interest level of LNRs within the community by gathering data on who uses the reserves and what they would like to see improved. An accurate user profile was established by gathering data from both the general public and the local schools in

Merton. In fact, LNRs provide excellent open space for teachers to take their students for educational outings. By informing local schools of possible educational features and promoting environmental awareness, there can be an increase in attendance at the LNRs.

Information gathered from our study will provide a better opportunity to obtain funding from grant agencies, since concrete information did not exist about who uses the reserves. Leisure Services had to estimate figures and speculate about what the people of Merton wanted from the nature reserves due to the lack of studies in this field. There has also been a lack of study regarding the impact of LNRs toward environmental education programmes at the local schools.

Minimal promotion of these nature reserves has resulted in a very low awareness level among the people in Merton. Thus, it is desirable to increase awareness and determine the current usage of the LNRs by surveying the schools and residents of Merton. Information such as this will be used to apply for funding for further improvements to the thirteen declared Local Nature Reserves.

The project began with the task of increasing awareness of the LNRs. We achieved our goal by creating a user profile for these sites. These groups also supplied us with ideas on possible improvements to the nature reserves such that more people are able to enjoy their natural surroundings. Our study also looked into the National Curriculum for environmental education programmes to find out what the teachers are currently teaching on this subject.

We presented the information along with other essential data that we gathered to Leisure Services. The user profile is a compilation of this data that the Leisure Services Department will use in order to apply for grant funding. We also developed effective ways to promote the nature reserves for both environmental education as well as recreational benefits for the local community. This project provided the London Borough of Merton with a better sense of who is using the nature reserves and what Leisure Services can do to make these sites better.

## **2. Background**

### **2.1 Local Nature Reserves**

Thirteen Local Nature Reserves can be found throughout the London Borough of Merton. The locations of the thirteen sites can be found on the map in Appendix A. These reserves are different from the typical parks that people enjoy visiting at their leisure. It is sometimes hard to differentiate between a nature reserve and a park if people are unaware of the definition of a nature reserve. People believe that nature reserves are places used mainly for recreational purposes. The actual function of a nature reserve is to provide a place where nature can thrive and not be harmed or drastically altered. Some examples of preserved natural features of the reserves include brambles which are allowed to grow and provide places for certain types of birds to set up nests, and meadows which are cut only once a year, in order to allow certain types of plant life to grow and insects to reside. Ruth Hutton (personal communication, March 24, 2003) informed us that there are particular guidelines the area must follow to be declared a nature reserve, such as no permanent artificial lighting. These conservation areas exist in specific parks throughout Merton.

### **2.2 Research Questions**

The backbone of the project was the set of research questions that would guide our study toward the intended results. The questions were designed prior to the start of our data collection and allowed us to assemble background information that would assist our data collection. The following were our research questions:

Who uses the reserves? What age groups? What income levels?

Why do people visit the nature reserves?

What educational benefits do the nature reserves have to offer?

What possible improvements do people want to see in their nature reserves?

How can we get more people to be aware of, and go to the nature reserves?

Since our goal was to create a user profile for Leisure Services we had an idea of the background information that needed to be gathered. The demographics of Merton are useful in establishing a user profile. If this is identified, we would know the groups that could possibly be using the reserves by age and income levels.

Researching the features of the nature reserves and the activities that are allowed at these sites was beneficial in helping us narrow down options for why people visit nature reserves and differentiate between reasonable and unreasonable improvements people would like to see. Without this knowledge, unreasonable data would be presented to Leisure Services, causing them to waste time filtering through our data. Finding out what can be learned at an LNR gave us an indication of the educational benefits these sites have to offer and what local schools could gain by visiting these sites.

## **2.3 Demographics**

According to the census taken in 2001, the population of Merton is approximately 187,908 people, of which 49% are male and 51% are female. This census also provided demographic information for people of Merton regarding ethnicity, age, and employment status, as seen in Appendix B and Appendix C

(<http://www.statistics.gov.uk/census2001/pop2001/merton.asp>).

There is existing evidence claiming that age, in general, is a reason for different opinions on the environment. “Young people are less concerned about the environment than the middle aged. People in their 40s and 50s are the most likely to have signed a petition about an environmental issue. The proportion of young people doing so fell from 50% in 1993 to 31% in 2000” (<http://www.merton.gov.uk/la21/Sc%20Info.asp>).

## **2.4 Educational Benefits**

### **2.4.1 Science and research**

One method for making young people more concerned about the environment is by increasing their awareness of the natural world. When children are taught about something from an early age, they will be more likely to be conscious of what they have learned about. By promoting school curriculum’s rich with opportunities to learn about environmental sciences, the children can be made aware of nature, and this awareness can be carried with them as they grow older. “Active learning and adventure outdoors introduces young people to the environment in a way which develops understanding appreciation, awe, wonder and respect. It fosters sensitivity to the environment, helps young people to see themselves in a global context and helps to develop citizens with an awareness of the need for sustainable use of the world’s natural resources”

([http://www.englishoutdoorcouncil.org/Values\\_and\\_benefits.htm](http://www.englishoutdoorcouncil.org/Values_and_benefits.htm)).

Nature reserves can prove to be very beneficial by enhancing the learning and teaching experience for both students and teachers of the local schools in Merton. There are 51 primary and secondary institutions in Merton as seen in Appendix D, all of which

may benefit from the nature reserves. School curriculum's that include environmental education through fieldtrips to LNRs can create a more interactive learning experience. Outdoor education is a way of introducing the students to a different method of learning by moving away from the traditional classroom based setting to an open environment. This will not only create more enthusiasm for the students, but provide hands on experience that will enable them to learn better.

The main objective of most outdoor learning is to broaden the perceptions of students and allow them to have an overall better understanding of concepts through practical work rather than theory-based teaching. In fact, environmental education is the basis for developing a relationship between environmental perceptions and behaviour. This creates a better awareness on environmental issues and helps students to investigate their personal interests. High school biology teacher, Sonia Vickers (personal communication, March 9, 2003) says that students tend to enjoy and benefit from outdoor education more so than classroom lectures. By allowing students to observe, understand, and experience their environment through the Local Nature Reserves of Merton, they will be encouraged to ask questions, dig into their curiosity and become more independent learners.

#### **2.4.2 Environmental Awareness**

Education related to nature can also be achieved on a more informal level through environmental awareness for the sake of personal interests, as well as betterment of the community and earth. An increased awareness and use of the Local Nature Reserves among people, young and old, in the surrounding area has the potential to improve the quality of life for the residents, as well as improve the sense of community in Merton.

Grant applications looking for projects within the Local Nature Reserves will help to increase awareness, appreciation, and preservation of nature in the Merton area. Biodiversity is an important feature of a community. There is a great variety of wildlife, and England's range of biodiversity is said to be extraordinary ([www.english-nature.org.uk](http://www.english-nature.org.uk)). There are many different species of wildlife, all of which hold their own vital place in the ecosystem. Unfortunately, man's routine of building and city development can lead to an environment thrown out of natural equilibrium. There is a sense of responsibility when one species has power over others; therefore we must preserve what we can. It is a worthwhile practice to respect the environment because the condition of the environment can affect the condition of our own lives. The appreciation of nature is a good ideal to pass on to future generations; those who may be artistically or educationally inspired by the natural wonders of the environment. The Local Nature Reserves offer a good opportunity for interaction with nature for people who may not

regularly have the chance to access open natural space. One way to enhance these sites to attract more people is to be awarded grant money to make improvements.

## 2.5 Grant Money

An important part of the project was to gather data needed to answer questions asked on the grant applications. There are many different grant schemes including Wildspace!, Aggregates Levy Sustainability Fund, Reserves Enhancement Scheme, Section 35 National Nature Reserve Capital Grants Scheme, and various local grants and biodiversity grants. These grant applications provided us with information about what kinds of questions they asked and what information from this project they needed. With this information we were able to formulate questions for our surveys and interviews.

The Wildspace! grant scheme is one of the grants for which we plan to help collect information requested by its grant application. English Nature is a government agency set up by the Environment Protection Act 1990. The Wildspace! grant scheme distributes £5.2 million of the agency's money to the improvements of Local Nature Reserves. The Wildspace! grant scheme has particular goals and looks to aid Local Nature Reserves that have potential to reach these desired goals. The grant scheme looks for Local Nature Reserves that are in areas which lack convenient access to open space, and areas in urban and rural deprivation. They would like to help out areas that will benefit people with physical or mental disabilities. Moreover, they are looking to aid reserves which provide a focus for environmental education and will make apparent the advantage of local biodiversity (<http://www.english-nature.org.uk/special/lnr/pdf/WILDSPACEAPPLICATIONFORM.PDF>).

The Wildspace! grant scheme is also looking to enable the establishment of new 'Friends' groups, and create more of a sense of community involvement in nature reserves. Wildspace! would like to help out projects that interact with local communities and reach a new and wider audience. Their aim is to promote the use of Local Nature Reserves for environmental education purposes, and have nature reserves offer training, learning, and personal development opportunities. A majority (70%) of the money given out by Wildspace! grant scheme will go towards nature reserve projects that are in areas of high population density (greater than or equal to 1000 people per sq kilometre). Thirty percent of the overall grant distribution will go towards projects which promote access and accessibility to Local Nature Reserves, including physical access and encouraging currently under-represented cultural and social groups to use Local Nature Reserves (<http://www.english-nature.org.uk/special/lnr/pdf/WILDSPACEAPPLICATIONFORM.PDF>).

The Aggregates Levy Sustainability Fund is another grant application for which we plan to find required information. The Aggregates Levy Sustainability Fund grant scheme has £9 million in available funds for nature reserves ([www.english-nature.org.uk](http://www.english-nature.org.uk)). They want a description of the project and what the money will be used for. They would like to know the aims of the project and how they will be achieved. They also want to know how the success of the project will be measured and how it will affect the community. They would like to see how they will involve the local people in this project. If any planning permissions are needed, they want to know what permissions have been received. Since they are providing the money for the project they want to know all the capital expenditures of the project that will be done, such as tools, vehicles, and land purchase. They also request figures for other external income. They want to know everything about the project and how their money will be used along with all other money. This is to be sure that the grant money is not misspent, but instead used directly for the purpose of improving the nature reserves (<http://www.english-nature.org.uk/about/pdf/ALSFAPPFORM.PDF>).

## **2.6 Features of the Nature Reserves**

The features of the different nature reserves can draw people to specific reserves as opposed to others. All of the reserves are similar to a certain extent because of the guidelines that are required to declare an area a nature reserve, but still different reserves have different unique features. This can be due to location; some may contain bodies of water while others only have meadows and woodlands. Different features throughout the reserves may simply be the result of various levels of financial funding. Since each Local Nature Reserve is different, they each have their own plans for maintenance and management particular to that site.

### **2.6.1 Maintenance**

To be presentable and inviting to visitors, nature reserves must be well kept. Some maintenance responsibilities include vegetation control, boundary maintenance, water level control, removal of invasive species, planting trees, cutting grass, and picking up litter. It is also important to consider that structures and artificial features existing in the outdoors must be able to stand up to local climate conditions. This implies concern for the durability against erosion, corrosion, rot, decay, and insects in man-made features of the reserves, such as signs and bridges.

### **2.6.2 Management Plans**



All of the reserves have their own management plans that are formed to protect and preserve the local flora, fauna, and landforms. Although each reserve has different features that need to be managed, all of the plans have the same context. In general, the plans begin with a summary of the current status, general information, and description. Objectives for each site, a record of management work that has been carried out, and a framework for future management work are all included in each management plan (<http://www.merton.gov.uk/naturereserves>).

The general information section includes facts and figures such as name, location, area, grid reference, contact information, district, status, and access. An inventory of the reserves containing data from the management plans can be seen in Appendix E. The description section of the plans detail the history, physical properties (soils, geology, hydrology, etc.), natural trends, vegetation, and fauna. These two sections do not go into the management aspect of the sections that they detail. If the physical properties have to be managed, these strategies are described later in the plan (<http://www.merton.gov.uk/naturereserves>).

General guidelines are established for the reserves. These guidelines are developed to ensure the safety of the biodiversity in each reserve. Footpaths, litter, health and safety, chemicals, burning, and dead wood are all described so that standards are created to tell management what is considered acceptable and not acceptable ways of dealing with these features on site (<http://www.merton.gov.uk/naturereserves>).

The individual nature reserves can usually be subdivided into compartments; these are areas of different biodiversity such as ponds and woodlands. The different compartment sections give a brief description, to date and future management plans, and objectives particular to that compartment. The management plans are established for a ten- year period. At the end of the period they are reviewed and sections are altered as seen fit to keep the reserves best interest in sight (<http://www.merton.gov.uk/naturereserves>).

The objectives vary from site to site, but they all have the common goal of protecting the reserves to enhance the user's experience. Some of the reserves have educational objectives for both the local schools and community members. The aims of these sites are to provide opportunities for educational use and involve people in the study and management of the site and ultimately realise the importance of nature conservation. Other objectives focus on maintaining, protecting, and enhancing particular features that are specific to different sites. Some sites have to plan extra protection due to undesirable species that can spread and invade certain wildlife, creating an eyesore to those visiting the nature reserves. If the nature reserve does not have interpretive panels and leaflets

already, there is usually an objective to create these to advance local awareness (<http://www.merton.gov.uk/naturereserves>).

The plans end by detailing who is responsible for the management of the nature reserve. Details are also presented explaining the management committee, who they will consult with their decisions, and to whom their work will be submitted. The management plans also explain who is responsible for the management work and occasionally an honorary warden is also named here (<http://www.merton.gov.uk/naturereserves>).

The management plans are useful to us because we can see the work that has been accomplished in some of the nature reserves and the plans for upcoming work. By reading the plans, one can also get a sense for the kind of biodiversity in these sites. Overall, the management plans can help us gear our user profile to discover the improvements that community members are looking for at the reserves.

### **2.6.3 Disabled Accessibility**

One important aspect that differs among nature reserves is varied levels of accessibility for people with disabilities. Special needs accessibility is often a neglected feature to be mentioned in the informative leaflets pertaining to individual nature reserves. Some of these sites often get muddy due to of inclement weather, making it hard for the people with disabilities to explore the environments of Local Nature Reserves. Every person should have an equal opportunity to explore these sites, which leads us to believe that there are further improvements that can be made at the reserves to benefit this portion of the population.

Cannon Hill Common is one specific example of a nature reserve where the need for disabled access stands to be improved. According to Ruth, the walkways presently tend to become muddy, which inhibits people with disabilities from easily travelling through the reserve (personal communication, March 24, 2003). Laying down a more appropriate surface on top of the walkways would be a possible solution to this problem.

### **2.6.4 Improvements**

There are several improvements that can be done keeping in mind the guidelines and restrictions that define Local Nature Reserves. For example, potential improvements would be to increase the number of benches or rubbish bins. People may also want interpretive panels to guide them through the nature reserve. As mentioned, another improvement would be better accessibility throughout the reserves for people with disabilities. For the reserves to have the resources that the community desires, it is necessary that the reserves receive grant money to pay for such improvements

There are features that people may desire in the reserves that conflict with regulations required for an area to be declared a nature reserve. For instance, the reserves are not allowed to have lighting because this may interfere with the wildlife that would normally inhabit the area. Other features, such as cafés, swimming pools, pitches, and playground equipment may be entertaining outdoor facilities, but they have no place in a nature reserve. Thus, it is important in this project to keep in mind the balance between recreation and preservation when it comes to improving nature reserves.

### **3. Methods**

The main research areas for this project included demographics, educational benefits, personal usage, and the reserve features. This helped determine to what extent these nature reserves are integrated in people's daily lives and what improvements should be made. We used the data from surveys and interviews that we conducted at these reserves in order to provide Merton with a user profile on the thirteen Local Nature Reserves. An important aspect of this project was to suggest ideas for possible improvements that may be considered as a part of fulfilling the aims of the grant foundation, and to promote the reserves for educational and recreational use.

The Local Nature Reserve project that we conducted relied heavily upon the people who live and work in Merton. To obtain the data needed to make a thorough conclusion on the usage of the nature reserves we mailed out a questionnaire to residents of Merton and conducted interviews with people at the reserves and with science coordinators of local schools. The data that we collected from these subjects were then analysed and compiled into a user profile. In the future, this information will be used for applications to obtain grant funding for the Local Nature Reserves.

#### **3.1 Subjects for Study**

Our study consisted in part of gathering data from people in the Merton area. This includes people who are the users of the nature reserves, science coordinators of local schools, and randomly chosen households. The information we gathered from the users and households dealt with age, ethnicity, income level, location of residence, and if they frequent the nature reserves. The data collected from the schools covered topics such as the environmental education taught at the school and what sites, if any, are visited for educational purposes.

We used a variety of methods to cover a wide range of residents. To reach users and non-users of the nature reserves we mailed out questionnaires. For more data about the users of these sites we conducted interviews with people at the Local Nature Reserves. For data about environmental education we contacted local schools to arrange interviews with their science coordinators.

Since there was only a limited amount of time and a broad range of people to survey, it was appropriate to select samples. Merton is too large an area for us to have obtained survey answers from every person. Taking all of these factors into account, we chose a certain number of schools to collect data from since it would have been too time consuming to visit each and every school in the Borough. The schools were chosen on the basis of their location, as recommended by our liaison. To obtain a representative

sample of the Merton population, we randomly selected as survey recipients one thousand addresses from the electoral register.

### **3.2 Data Collection Methods**

The data for our study were collected using three different methods, the first being a mail questionnaire. This was sent out to one thousand randomly selected residents of Merton to gather information on the user and non-user populations. Our second method dealt with interviewing people at the Local Nature Reserves to get information on the user population. The last method targeted the local schools of Merton where we conducted interviews with science coordinators to gather data on their school's environmental education practices. As the study progressed, we resorted to sending fax questionnaires followed by mail questionnaires so that we could achieve a higher response rate from the science teachers. A thorough study of the Wildspace! grant application suggested to us what information was needed, from which we formulated questions that would be the basis of the questionnaire and the interview guides. By gearing the questions toward the particular subject of study, we were able to acquire the necessary information to apply for grant funding and answer our research questions stated in Chapter 1.6.

The mail questionnaire was the main focus of our project since this was the best way to get a good representative sample of the residents. The questionnaire was geared toward entire households as opposed to individuals so that more data could be obtained from fewer mailings. With Merton being such a highly populated city, it would minimise costs and analysis time by having one questionnaire for each of the one thousand randomly selected households. Through multiple edits and revisions a final draft of the questionnaire was approved by our advisors, Professors Demetry, Brown, and Theyel, and liaison, Ms. Ruth Hutton. The final version of the questionnaire can be found in Appendix F.

Attached to the questionnaire was a cover letter to the residents that explained who we were, why we were sending a questionnaire, and what we wanted to achieve from their responses. Also included in the cover letter were contact numbers where people could get further information on 'Friends' groups and the landscape and ecology of the reserves. The cover letter can be found in Appendix G. In addition to the cover letter, a map of Merton (Appendix A) highlighting the locations of the thirteen nature reserves was provided for reference while completing the questionnaire. The last thing included with the mailing was a return envelope with prepaid postage. We acquired 77,000 addresses from Merton's electoral register. This information was then put onto a

database and one thousand addresses were chosen by randomly selecting an equivalent number of addresses from each of the eighteen wards as shown in Appendix H. These addresses were then printed on mailing labels which were affixed onto envelopes. By the middle of the second week all one thousand questionnaires were mailed out and the next task was to set up interviews with the local schools.

Before making appointments at the twenty local schools for interviews, we informed them with a fax stating that we would contact them in the near future to request and schedule an interview with the science coordinator of the school. The fax can be found in Appendix I. The twenty schools were chosen based on their location with respect to the nature reserves that were targeted and accessibility to these sites. There were fourteen primary schools and six secondary schools selected. The day after sending our faxes, we made a follow-up phone call to each school to make an appointment. During the interviews we used our interview guide (Appendix J) to collect data on the environmental education practices of each of the twenty schools. To those schools that were unable to conduct phone interviews or schedule an appointment, we followed up by a second fax containing the actual questionnaire and a cover letter informing them of the purpose of our study. A second round of phone calls were made to remind the schools of the fax that was sent a couple of days back, and to check whether the science coordinators actually received them or not. A small number of schools required us to resend the fax since they claimed that they must have misplaced it or did not receive it at all. We then faxed them the entire survey with the cover letter and asked them to fill it out and write any comments or suggestions they may have. This resulted in a couple more responses, but not nearly enough as we hoped. Therefore, we decided to send out a mail with the survey, a cover letter, some leaflets on the parks and reserves of Merton, a map of the thirteen nature reserves and a return envelope. The letter also mentioned a fax number, letting them have the option of either returning the survey by mail or replying via fax. The aim of this mail was also to promote the nature reserves and make the science teachers more aware of the educational opportunities, regardless of whether they chose to reply back to our survey.

On the days that we did not interview the teachers we interviewed people at the LNRs. We conducted our interviews at Beverley Meads, Cannon Hill Common, Morden Park, Myrna Close, Sir Joseph Hood, and Wandle Meadow Nature Park. These were selected because they were the sites for which grant applications were in process or would be in the near future. For further information, we contacted a knowledgeable member of Friends of Cannon Hill Common to inquire about specific statistics and potential improvements to the reserve. The questions that we asked at these six sites

were from our interview guide, which can be found in Appendix K. The interview guide is somewhat similar to the actual mail questionnaire, but specifically targets the user population of the reserves.

### **3.3 Measuring Key Variables**

The questions and choices on our questionnaire are based on the Wildspace! grant application. The application looks for the age, ethnic origin, gender, and economic status of the people who will benefit from the funding. We also asked those who received our survey about their activities at the reserves, their involvement in ‘Friends’ groups, and their reasons for non-use of the reserves.

Park activities and reasons for non-use are very broad variables that we have in our study. We asked respondents to check any of the activities or reasons on our list that apply to their household. By including an ‘other’ answer the person was given the opportunity to write in their own activity or reason for not going to the reserves. We measured both of these questions in two ways. We tallied all of the answers that had been chosen including the ‘other’ choice. Then we created a separate list of the write-ins corresponding to the ‘other’ choice for comparison in our analysis.

A question on our survey asks people where they live. They were given a choice of one of the six areas in the London Borough of Merton. From these data we learned where people live to correlate this to attendance at different reserves.

The variable ‘improvements’ was the hardest to measure due to the qualitative data that was received. This question offered the respondent no choices; it open-ended question that allowed them the freedom to suggest any improvements that they would like to see at the reserves. Responses were categorised by similar suggestions that correspond to certain age groups or park locations.

The remaining questions dealing with age, household income, ethnic origin, and gender are at the end of our questionnaire. Since these are sensitive topics not everyone may answer them. We hoped that if people did not feel comfortable answering these questions they would still mail back our survey leaving those questions unanswered. This still provided us with the other information that we needed regarding the use of the nature reserves. When inputting the data to be analysed we made a note if a question was left unanswered. This was to keep track of the percentage of the surveyed population our data represented.

### **3.4 Data Analysis**

For our primary research question on who uses the Local Nature Reserves, we collected data according to age, ethnic origin, gender, residential location, frequency of

visits, park activities, and income levels for the purpose of the user profile. Taking a random sampling of the 77,000 household addresses available for the Merton area allowed us to obtain data from residents other than the demographic group typically found at the nature reserves. Since these surveys were addressed to individual households, the sample population was a representation of the number of households instead of individuals. This reduced the number of required responses to 200 questionnaires since there are about 2.39 persons per household in Merton. This gives us a representation from more than 450 individuals, which is well above the required 383 as calculated by the sample size calculator for surveying purposes ([www.surveysystem.com/sscalc.htm](http://www.surveysystem.com/sscalc.htm)). The sample size calculator is a tool that allows one to calculate the number of responses required to achieve a certain degree of confidence in the collected data. The responses were then analysed to find possible correlations between average household income levels and residential location. This helped us determine whether these nature reserves are accessible to higher income families or evenly spread among all economic backgrounds. The information also helped us on the demographics aspect of our research, which fulfils the requirements for the grant application.

The second data analysis method was used to collect information on the educational aspect of the nature reserves. Our main purpose was to determine the level of awareness among the teachers of the local schools. To obtain such information, it was necessary to conduct a separate survey (Appendix J) that was directed towards the educational sector. The results from the user profile were kept separate from the educational information to avoid any validity threats from mixing methods. We contacted twenty primary and secondary schools in Merton, selecting them according to their proximity to the selected nature reserves. This information was categorised according to teacher awareness, students' interest and participation in relation to the nature reserves, and potential improvements suggested by the teachers. The responses to our survey questions on environmental education were relevant to our project since many of the grant agencies wish to support environmental education through nature reserves.

Our fourth research question involved gaining information on what potential improvements could be made to the LNRs based on the needs and/or wants of the public. Categorising the questions on possible improvements according to users, non-users, and teachers helped analyse the data for this aspect of the study. This was to avoid the potential for any validity threats that may result from focusing on a particular group. The data helped us devise potential plans to implement the suggestions for improvement,



keeping in mind what are reasonable requests. Having specific plans for improvements would provide a stronger case for the grant inquiry process.

Our final objective for this project was to promote awareness among the people of Merton and to increase public attendance at these nature reserves. We suggested possible design and content ideas for producing leaflets and interpretive panels for the thirteen nature reserves, which may help draw more of the residents of Merton to the reserves. We got these content ideas mainly from the surveys we conducted and the improvements that people suggested. Another idea was to promote 'Friends' groups that we hope will pave the way in promoting awareness of the reserves. This was done by asking people on the surveys whether they are aware of these groups and giving them contact information if they were interested in joining. To promote the educational aspect of the LNRs, teacher guides were designed which are teacher-friendly versions of the management plan. These teacher brochures contain helpful information on the educational outlooks specific to the nature reserves being studied. In order to analyse the efficiency of the several promotional methods, the leisure service department may want to conduct a final study that will involve observing any increases in attendance at these LNRs.

### **3.5 Schedule**

A schedule of the tasks that we accomplished can be seen in the Gantt Chart in Appendix M. We identified five major aspects to consider when doing our project in London, which include mail surveys, school interviews, nature reserve interviews, promotions, and writing our IQP. Each one of these aspects and their corresponding subcategories had milestones that we had decided upon. These were days when we wanted to have a particular aspect of the project completed. For example, the first milestone we encountered is under the "Mail Surveys" category. By the end of the first week we had hoped to send out all of our mail surveys. However, due to lack of reply envelopes these surveys were not entirely mailed out until the 25<sup>th</sup> of March, which was the beginning of week two. We mailed surveys to residents as soon into the project as possible such that we received responses to them on time. Other milestones included days when we wanted to have our interviews, both at the nature reserves and at the schools, completed. Most milestones were flexible within a day or so, such that we were able to keep track of things without allowing tasks to be delayed as there was a great deal of ground to cover. The Gantt Chart allowed us to track our progress on a day to day basis so that we remained on track.

## 4. Results and Analysis

The following chapter will present and discuss the results that were collected from the onsite interviews, the returned science coordinator surveys, and the mail questionnaires. The results of the mail questionnaires represent the responses of the household, not the individual that filled out the survey, whereas the interviews conducted at the Local Nature Reserves represent the individual alone. The completed surveys received from the science coordinators describe aspects of the environmental educational programme of that particular school.

### 4.1 Mail Surveys

The results of the mail surveys are based on 136 questionnaires that were returned. Tracking the total number of people in each household allowed us to know how many individuals the data represented. In total, our data corresponds to 320 residents of Merton. The data did not meet the expected number of questionnaires or represented individuals, which were 200 and 383 respectively. Due to this lack of returned surveys, the confidence interval of our data increased from 5 to 5.43 using a 95% confidence level. This will affect the accuracy of our data presented by increasing the range of accuracy.

The responses that we received have been categorised into two groups. From the returned questionnaires 52.5% of the residents were users and 47.5% were non-users. Using the new confidence level of 5.43 we can determine how accurate our data is and form conclusions. We are 95% sure that the user percentage of the population is between 47.07% and 57.93% and that the non-user percentage is between 42.07% and 52.93%. From this variation in the data it is our suspicion that more surveys came back from users because they are the ones who are more concerned about environmental issues or are frequent visitors of the reserves. We believe that more non-users exist but they were less concerned about completing and returning the survey due to lack of interest in the reserves.

When asked which of the thirteen nature reserves are visited most frequently by the households, we found that two of the thirteen reserves are visited more often than the rest. According to the results, Morden Park is the most visited reserve and Cannon Hill Common was ranked second. As shown in Figure 4.1, 50 of the households visit Morden Park and 26 visit Cannon Hill Common. These two are the largest reserves that are connected to parks and other recreational facilities. There may be a correlation between recreational facilities and the amount of visitation since people visit these reserves more often than the other reserves that do not have such facilities. For the smaller reserves, the

frequencies of visits are greatly dependent on the location reserve. In the case of Beverley Meads, located in Wimbledon, the respondents who visited this site all lived in the Wimbledon area of Merton.

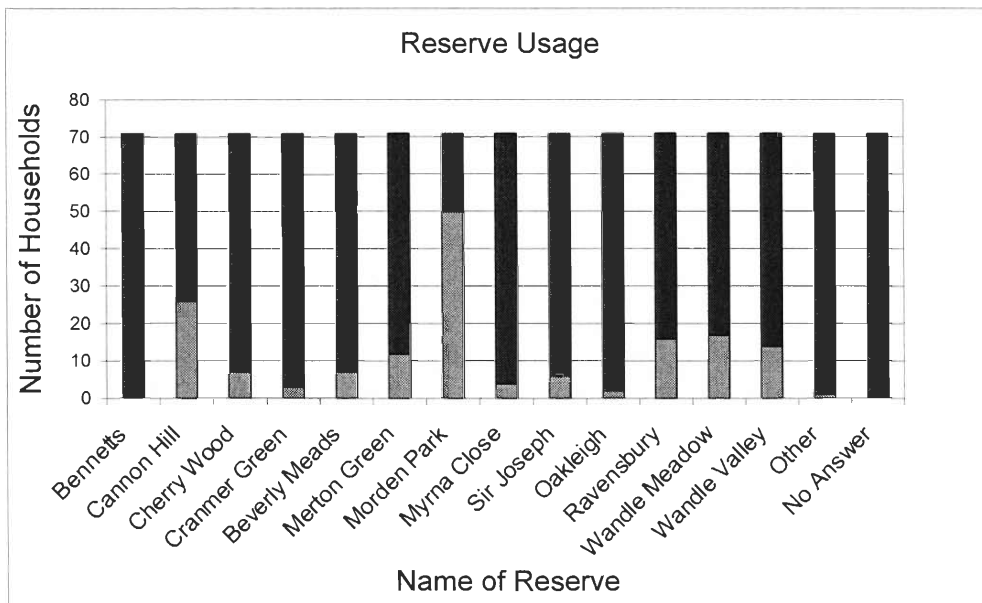
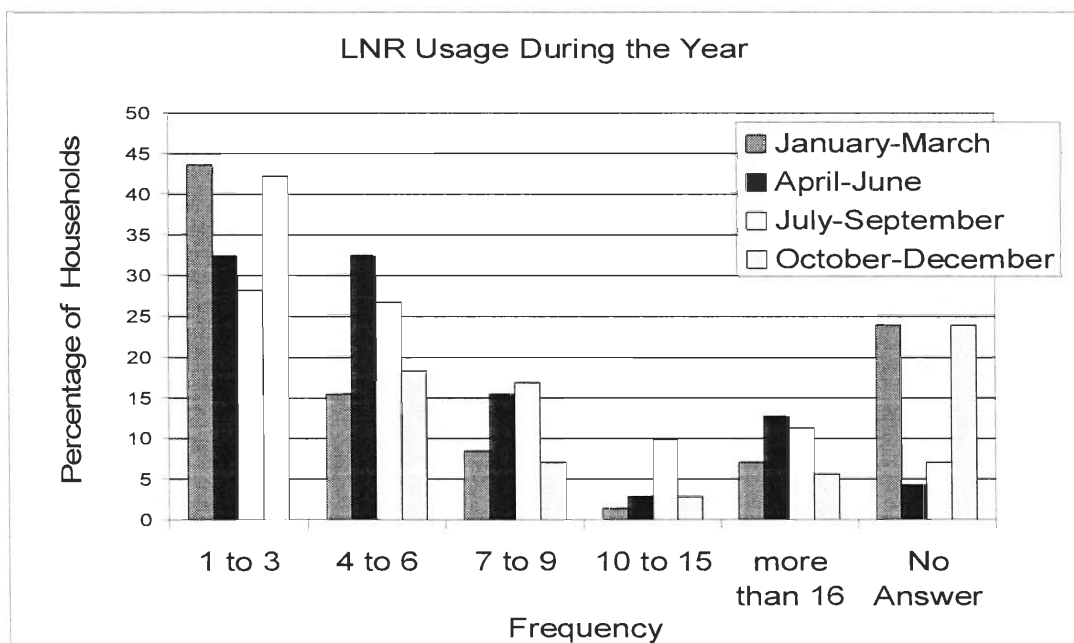


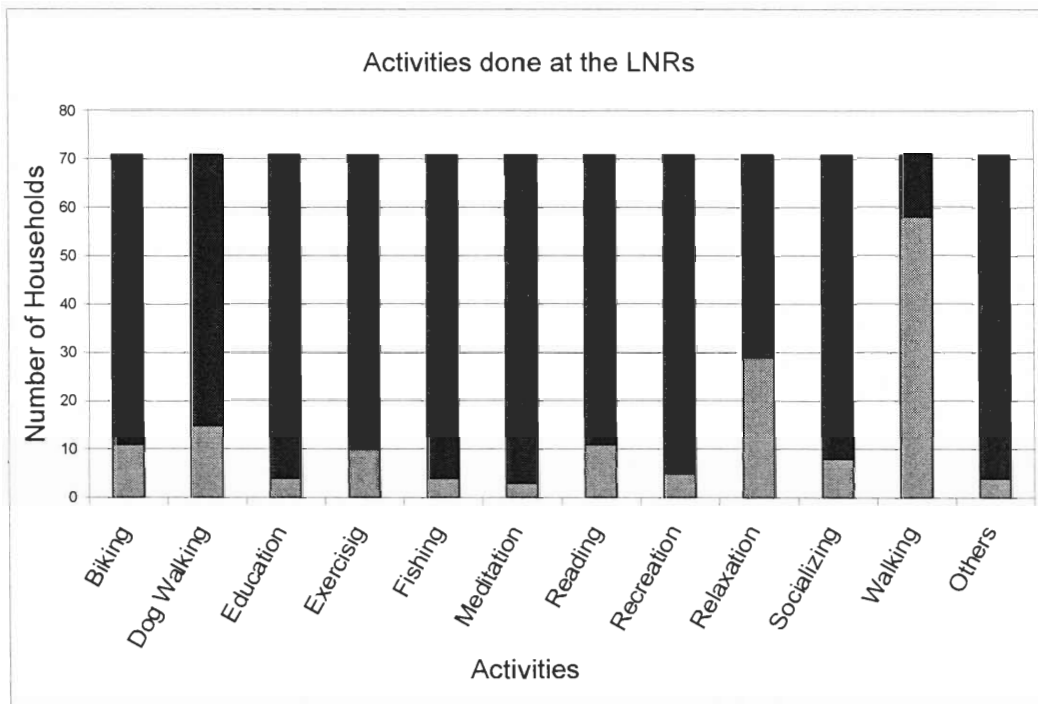
Figure 4.1: Percentage of households visiting each of the thirteen nature reserves.

People visit the Local Nature Reserves at different frequencies throughout the year. As seen in Figure 4.2, the reserves are visited less often in the months of January to March and October to December. The most common range for this time of the year is between one to three visits. The number of visits for the months of April to June and July to September are more frequent ranging from seven to nine. The data show that people visit the reserves more often during the spring and summer months than they do during the fall and winter.



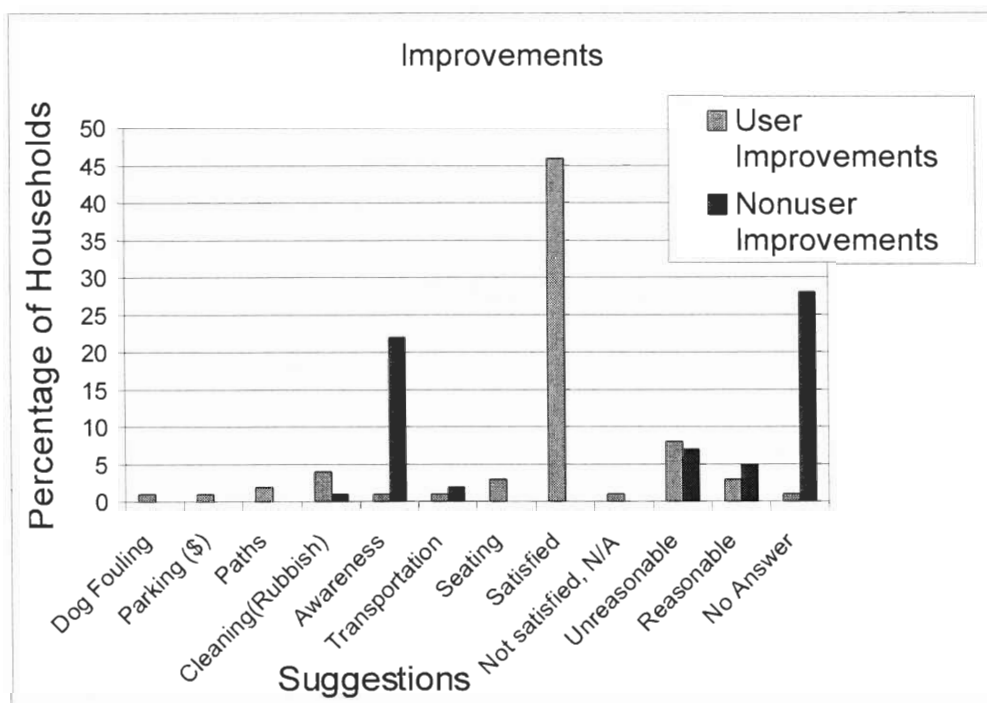
**Figure 4.2: The frequency of visits to the LNRs by households during the year.**

People go to the Local Nature Reserves for a variety of reasons. Figure 4.3 shows a breakdown of the most popular activities that people do at the reserves. Walking was the most common choice followed by relaxation and dog walking.



**Figure 4.3: Various activities done by the users at the LNRs.**

The user population gave a variety of answers for most of the questions, except the question regarding improvements. 64.8% ticked the box for being satisfied with the nature reserves they visit, but the remaining surveys suggested further improvements. Figure 4.4 shows the suggestions for improvements of the 33.8% of people who were not satisfied with the features of the reserves that they visit. Appendix L shows a table of the suggested nature reserve improvements. For the non-user population, 43% of the non-users chose not to answer the question regarding the improvements they would like to see at the LNRs. Of the non-user population that answered the question, 33.8% believed that more information should be available to increase their awareness of the thirteen reserves. Taking into consideration the required guidelines for nature reserves, we were able to eliminate the unreasonable feedback that we received. These included suggestions such as swimming pools or cafés at the reserves.

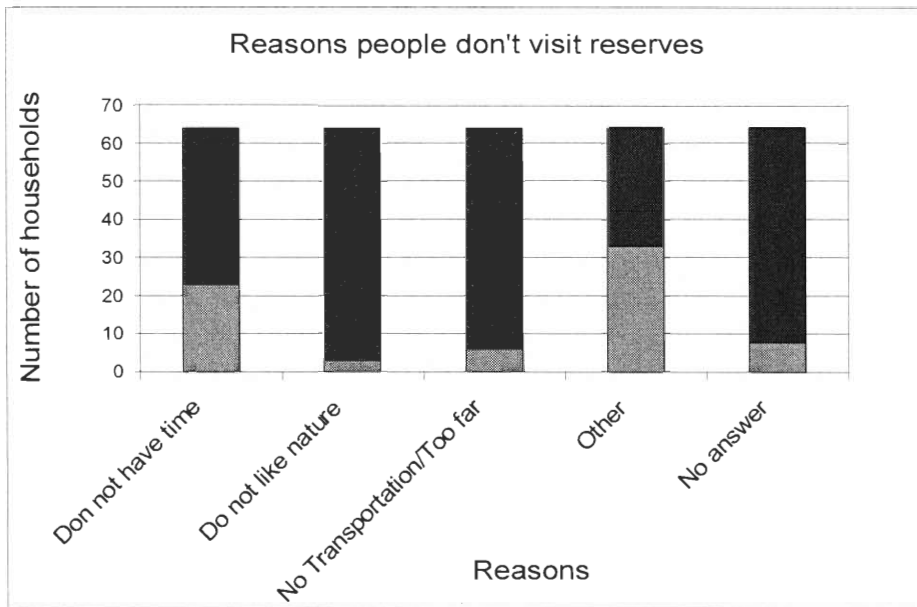


**Figure 4.4: Suggested improvements by the users and non-users**

The non-users were asked to give the most relevant reason why they do not visit the nature reserves. Table 4.1 shows the reasons of the non-users that ticked the 'other' box for this question. Among the reasons that were given, 52.2% of the people who ticked this box said that they were unaware of the reserves. From Figure 4.5, the second most popular reason for not visiting the nature reserves was that people did not have the time. Thus it seems these reserves are not visited as often because people are either unaware or do not have the time.

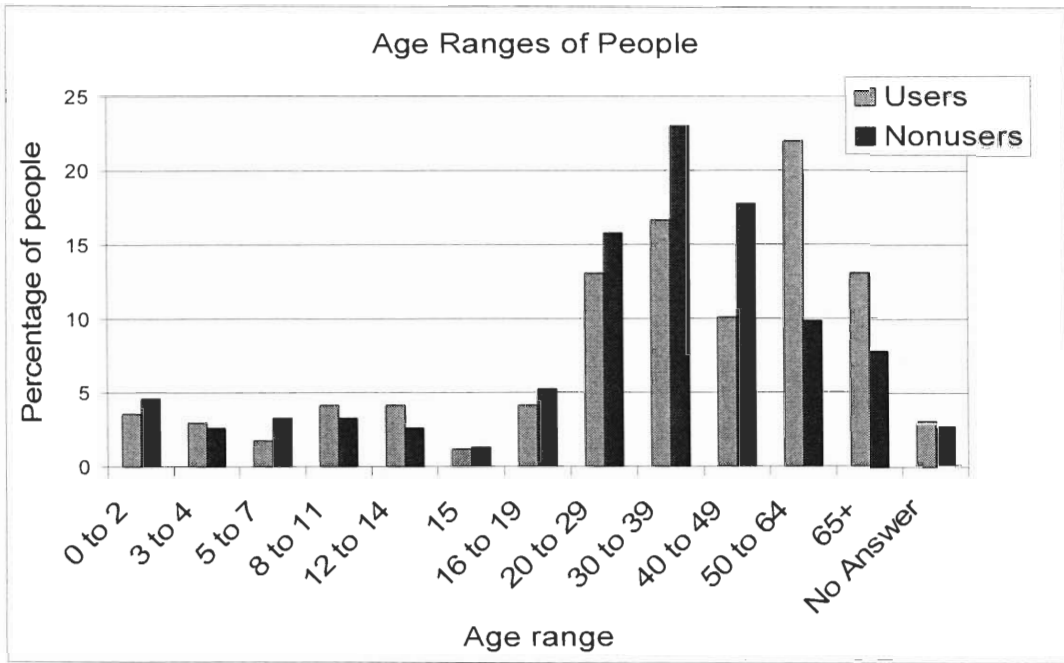
Prefer other places (x 2)
Breathing problems makes walking hard
Unaware (x 12)
Teenage attitude
Laziness
Don't think of it (x 2)
No inclination
Other Interests
Children too young
Fear of muggers, bully boys, racial harassment

**Table 4.1: Other reasons for not visiting the reserves**

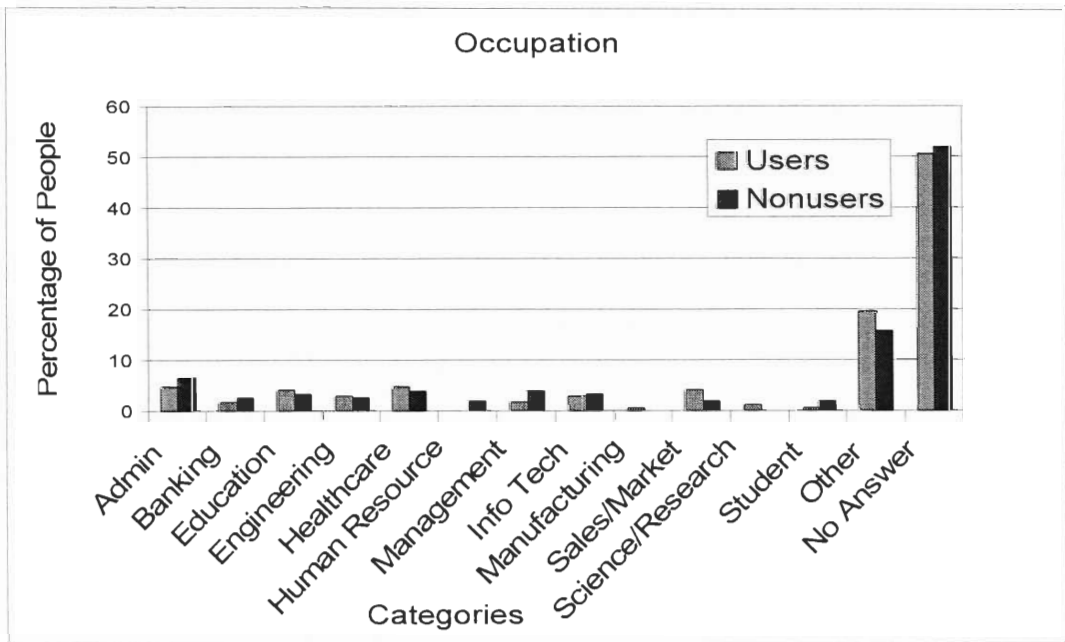


**Figure 4.5: Reasons why households do not visit nature reserves**

The questions regarding age, occupation, and income level were intended for the user profile, which will be used in the future by leisure services to fill out grant applications. Figure 4.6 shows the age distribution among the users and the non-users of the LNRs. Most of the users range from the ages of 54 through 64 whereas the non-users range from the ages of 30 through 39. This can be related to the fact that most users are retired and have the time to visit the nature reserves. In contrast, the lower age bracket that represents most of the non-users may indicate people who are working and do not have the chance to visit LNRs during the weekdays. The occupations of the users and non-users can be found in Figure 4.7. For the people that answered this question, most of the users selected 'other' and specified that they were retired (48.4%). This reiterates the fact that people who visit these reserves are mostly retired and can afford the time for the visit. Figure 4.8 depicts the general ethnic distribution among the users and non-users. The majority of both users and non-users were white. The distribution of household income per year is shown in Figure 4.9. 31% of the user population and 24.6% of the non-users preferred not to answer this question. Figure 4.5 through Figure 4.8 represent data that will be included in the user profile and used to fill out grant applications.



**Figure 4.6: Age range of users and non-users**



**Figure 4.7: The occupations of users and the non-users**

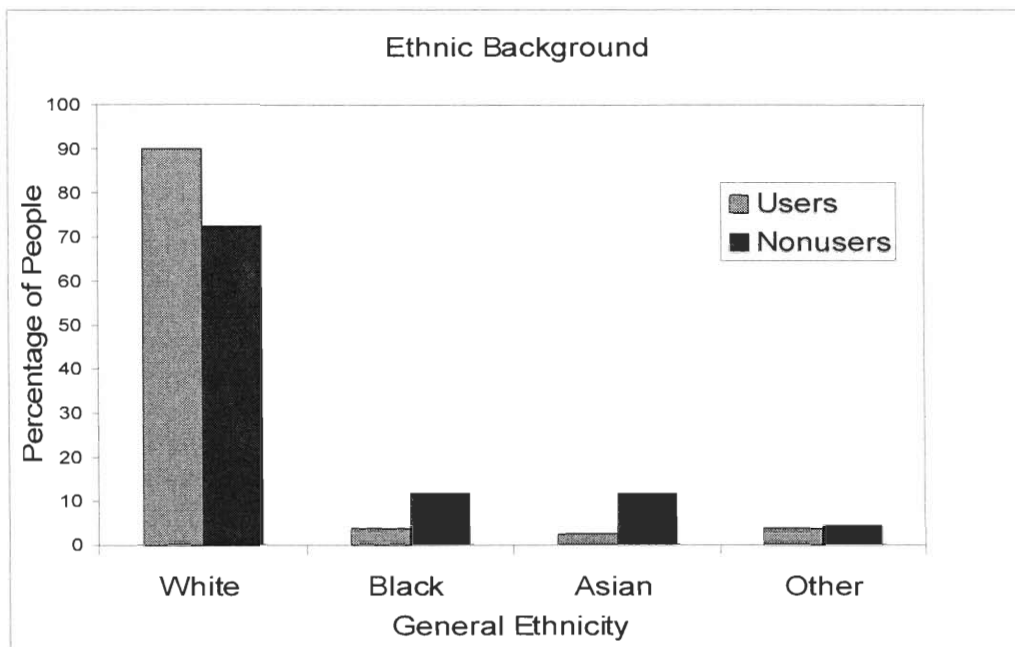


Figure 4.8: The ethnic distribution of users and non-users.

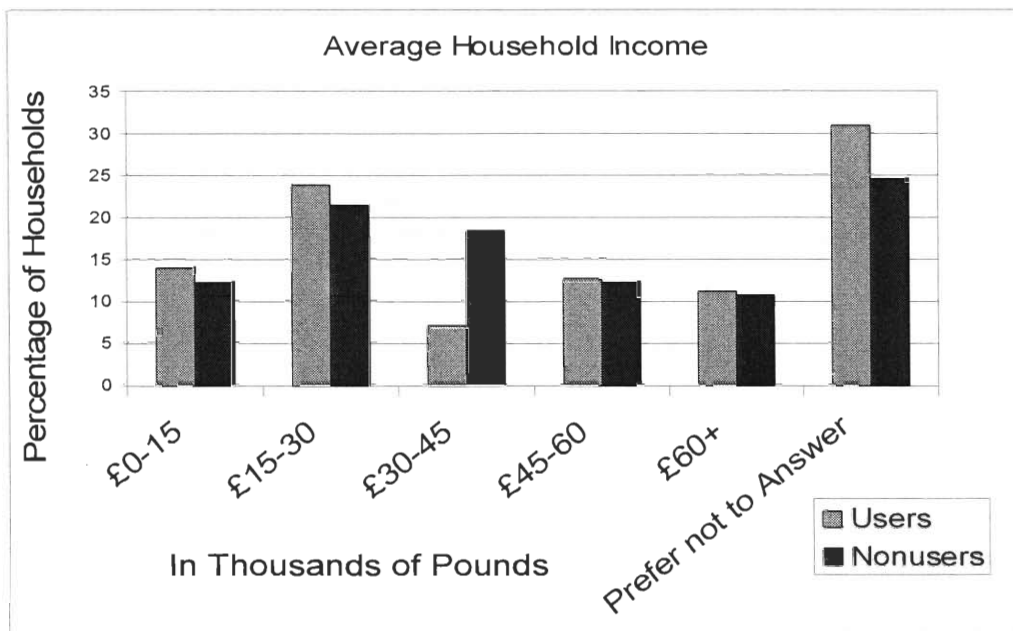


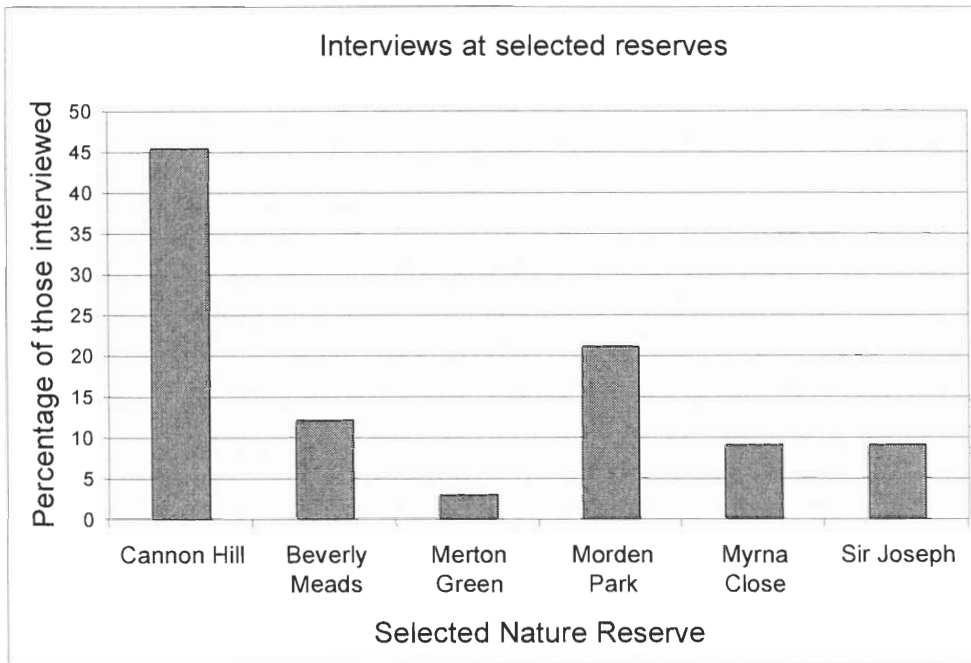
Figure 4.9: Average household incomes for users and non-users.

## 4.2 Local Nature Reserve Interviews

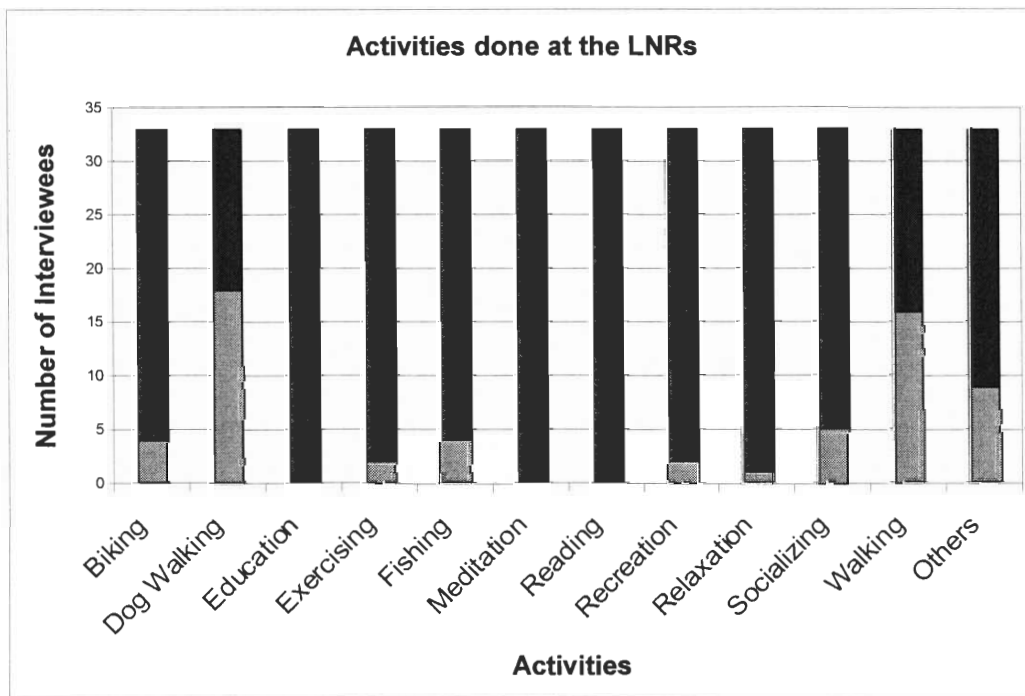
The results of the nature reserve interviews were based on input from people at Morden Park, Merton Green Walks, Myrna Close, Cannon Hill Common, Wandle Meadow Nature Park, and Beverly Meads. A total of 33 interviews were conducted at these reserves. The distribution of interviews at each reserve can be seen in Figure 4.10. Dog walking was the most common activity carried out at the Local Nature Reserves, done by 17 of the people interviewed as seen in Figure 4.11. People may find that the reserves are good locations to walk their dogs because many parks do not allow dogs, so



Local Nature Reserves provide a good alternative area for dog walking. The second most popular reason for going to the reserves was for walking, enjoyed by 16 of the people interviewed.



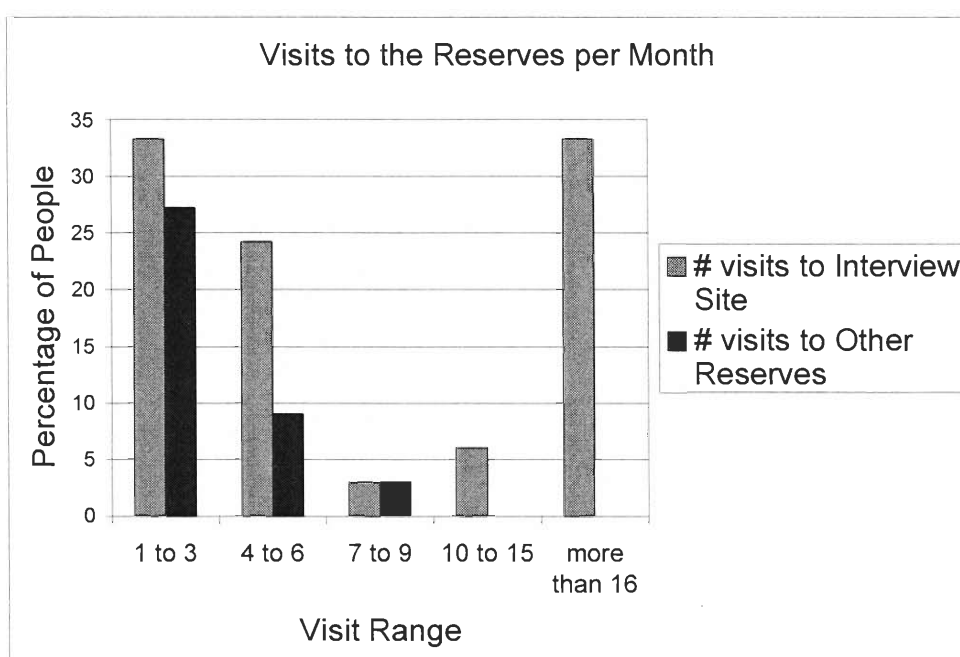
**Figure 4.10: Percentage of Interviews at Selected Reserves**



**Figure 4.11: Various activities done by the people at the reserves**

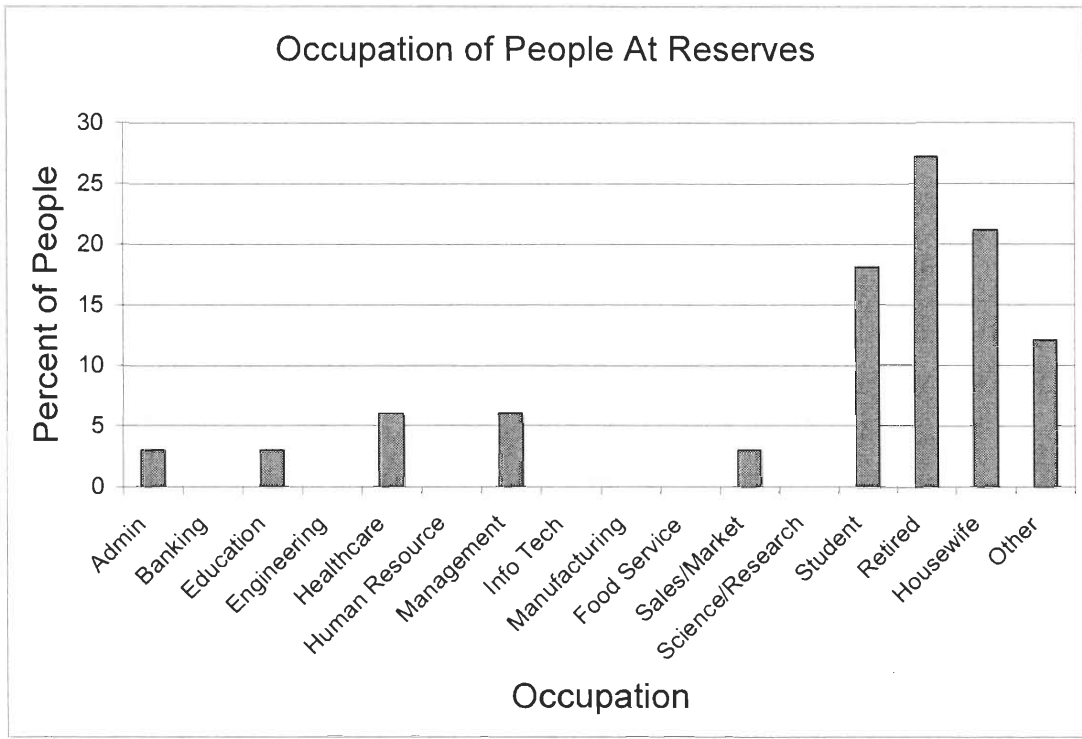
Of the people visiting the nature reserves, 48% also visit at least one other nature reserve besides the one in which they were interviewed. Attracting 24% of interviewees, Ravensbury Park was the most common reserve that people said they visited in addition to the reserve in which they were interviewed. People most commonly visited the reserve

in which they were interviewed either rarely or on a regular basis. The most frequent answers chosen for the question of how many times a user visits the reserve in which they were interviewed were either one to three times per month or sixteen or more times per month as seen in Figure 4.12. These two categories each encompassed one third of the people interviewed at the reserves. It makes sense that these categories would be the highest because most of the people we interviewed were either new to the Local Nature Reserves or visited regularly. All of the people who reported using the reserve over sixteen times per month were people who visited the reserve on a daily basis. Only three of the people interviewed were members of a ‘Friends’ group, of which only one was a group related to an LNR; Friends of Cannon Hill Common. This question was to find out if the ‘Friends’ groups were major users of the reserve.



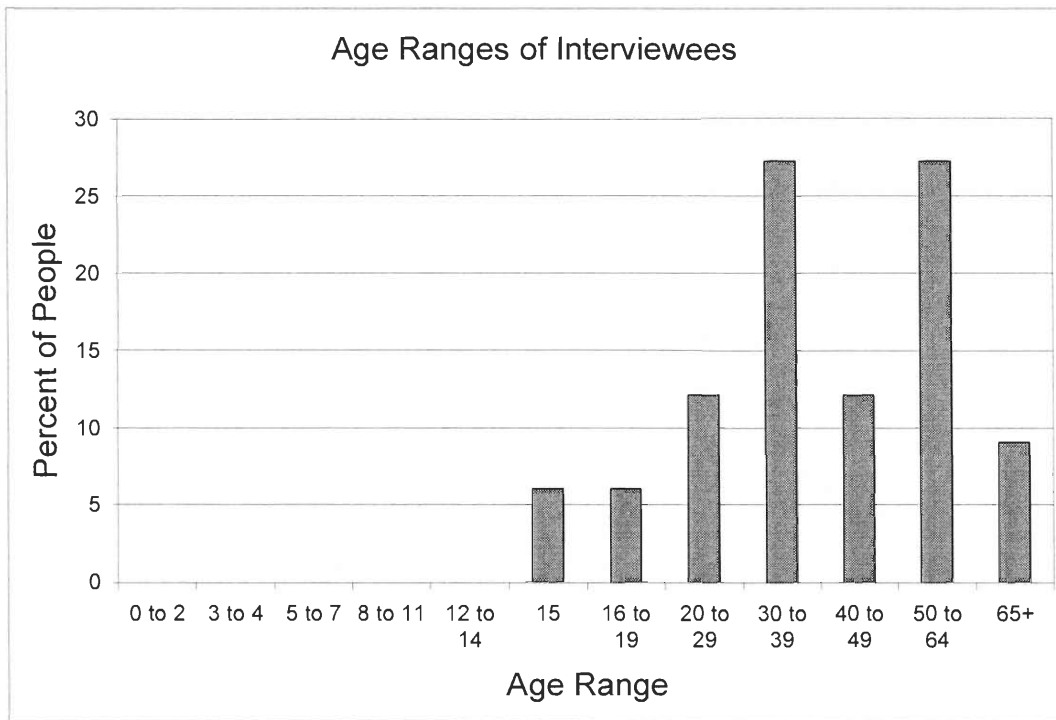
**Figure 4.12: Visits per month to the LNR of interview and other LNRs**

The majority of people interviewed were British. Only 9% of the interviewees were Irish or of some other white background and 12% were of Asian decent. Two thirds of the people interviewed at the reserves were female. This may be an indication that females are more likely to be at home and are able to visit nature reserves during weekday afternoons, while the males are more likely to be at work. Of the people found at the Local Nature Reserves on weekday afternoons, two thirds were retired, students, or housewives. This is logical since these are people who have less pressing job responsibilities during the daytime, so they have more free time to visit the reserves. During the weekend, the users interviewed were of more varied occupations, such as psychiatric nurse, journalist, and company director. The different occupations of people at the reserves can be seen in Figure 4.13.



**Figure 4.13: Occupations of people at the reserves**

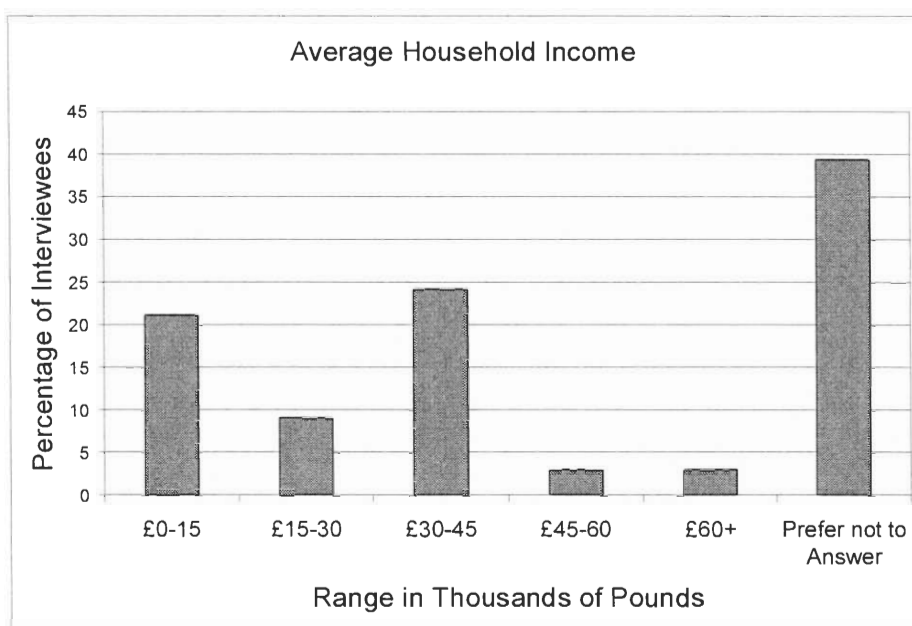
The variety of ages of the people interviewed at the Local Nature Reserves is similar to the age distribution from the mail questionnaires. Figure 4.14 shows the percentages of people in the different age brackets.



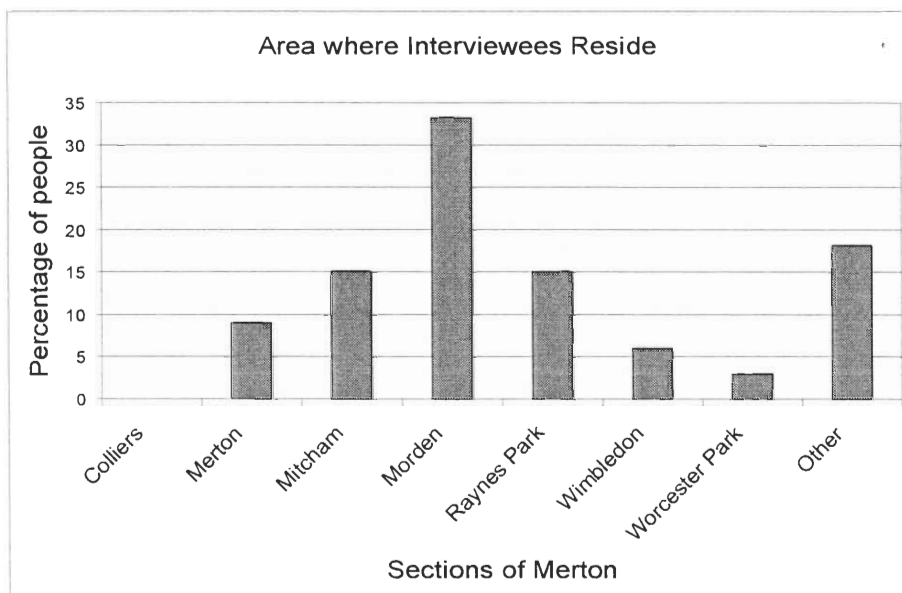
**Figure 4.14: Age Ranges of people at the reserves**

The data gathered from interviews at the LNRs cannot completely represent the general opinions of all of the users because more interviews were conducted on weekday afternoons, and therefore the interview data may not fully incorporate the opinions of

people who work during weekday afternoons. When asked about household income, 39% of those interviewed opted not to respond. The most common income bracket was the range of 30,000 to 44,999 pounds per year, which was reported by 24% of the people surveyed as seen in Figure 4.15. The second most common income range was the lowest option, zero to 14,999 pounds per year, reported by 21% of the people surveyed. The popularity of this income bracket may coincide with the fact that a majority of people interviewed were retired and their income came mainly from pension, which many interviewees said was not much money. A third of the people interviewed were from Morden, which correlates with the fact that 45% of our interviews were conducted in Cannon Hill Common which is by Morden. The distribution of locations of interviewees can be seen in Figure 4.16.



**Figure 4.15: Average Household income of Interviewees**



**Figure 4.16: Areas where Interviewees Reside**

A third of the people interviewed were satisfied with the reserve they were visiting. This is somewhat an accurate representation of the level of satisfaction because people who are interviewed are more likely to tell you what they are thinking and what is on their mind about the LNRs than those who respond to a mail survey. The improvements suggested here will be particularly useful when suggesting improvements that require grant funding.

There were fifteen interviews conducted at Cannon Hill Common out of which 94% suggested a possible improvement for the reserve. People at Cannon Hill Common suggested the improvement of making the reserve a cleaner place. This includes cleaning up the pond, cleaning up graffiti, preventing dog fouling, and cleaning up litter. It was also suggested that the trails be improved. As they are now, the trails tend to not allow adequate access for people with disabilities. If the trails were clearer and less prone to becoming muddy, it would provide better accessibility for people in wheelchairs (Figure 4.17). Two people mentioned reopening the café at Cannon Hill Common. While the café is not technically on the land designated as a Local Nature Reserve, having a café near the reserve may help draw people to visit the reserve more frequently, and increase reserve attendance. Another suggestion was that Cannon Hill Common should have more benches to accommodate people who may not comfortably be able to walk for long periods of time around the large area of the reserve. The request for additional benches was also made at Morden Park. Another suggested improvement in Morden Park was to create a better drainage system to prevent areas of the park from getting too muddy in the winter.



**Figure 4.17: Muddy trail and graffiti on dog bin at Cannon Hill Common**

From interviews and observation, it seems that the people who visit Myrna Close go there just because it provides a convenient shortcut from their flats to shopping areas. The people we interviewed all said they used the reserve as a cut-through and other people who we observed seemed to be busily passing through, not taking a relaxing nature stroll.

One limitation to our interview data was that it did not seem appropriate or convenient to interview people who were using the LNRs for exercise purposes. It seemed difficult and intrusive to try to stop and interview people who were running or riding on bikes through the nature reserves. Not all of these were accounted for but it should be noted that it is a sizeable number.

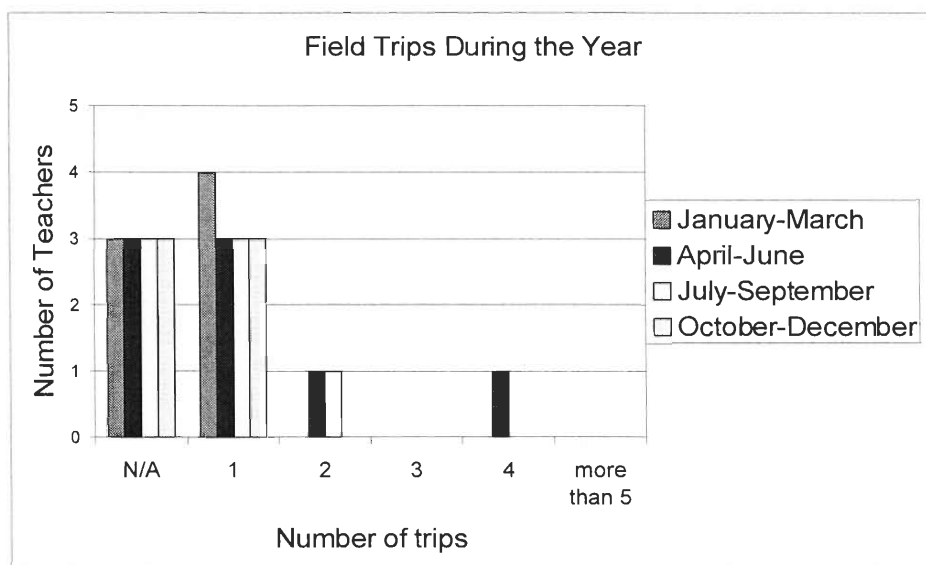
There were several observations that were made while visiting the reserves. One initial observation was the lack of distinct definition of the nature reserve area. Signs were difficult to find, and some which were noticeable enough were covered in graffiti. The entrances to the Local Nature Reserves were not always clearly marked. Another observation was the problem of dog fouling. This was observed in all of the thirteen LNRs, and mentioned frequently by users both at the reserves and in the returned mail surveys. It is understandable that dog fouling would be a problem since we have seen that most of the people interviewed at the reserves go there to walk dogs. Litter was also a common problem in each of the thirteen reserves. In reserves where there were bodies of water, such as Cannon Hill Common, there was often litter in or near the water. Litter bins and dog waste bins are present in the reserves, but further enforcement of clean-up habits could be encouraged by either providing more frequent receptacles for litter and dog waste, or by making stricter consequences for those who do not take appropriate measures to keep the reserves clean. A summary table of the possible improvements as mentioned by the interviewees at the visited reserves can be seen in Appendix L.

One observation noted when asking users the question of which other nature reserve they may go to was that many people reported names of parks, such as Wimbledon Common, or Richmond Park. We had to clarify to the interviewee that these mentioned areas were parks and not Local Nature Reserves. This further proves the fact that people are unaware of the definition of a Local Nature Reserve.

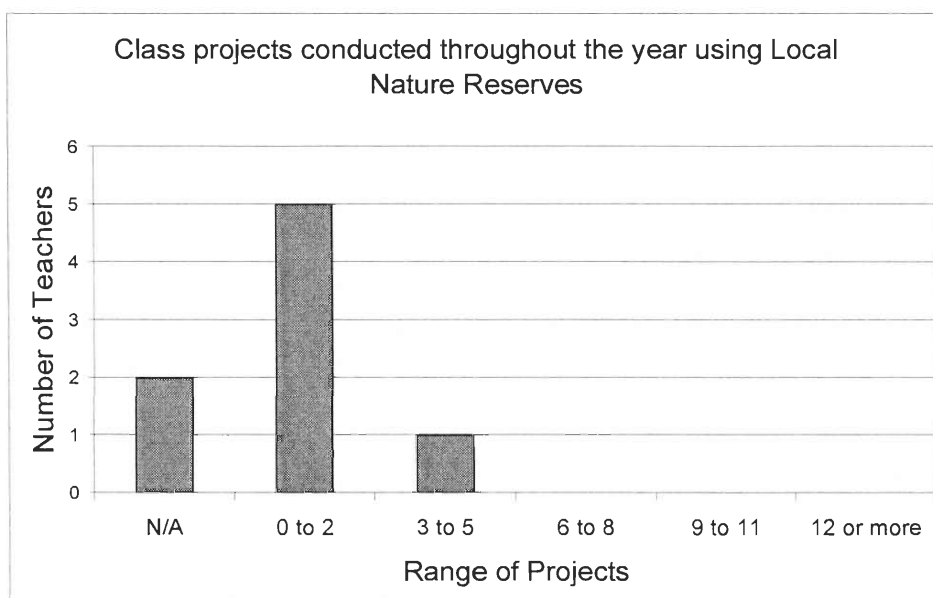
### **4.3 Teacher Surveys**

The responses that were obtained from the eight science coordinators give a rather narrow scope on the environmental education practices as followed throughout the local schools of Merton. The lack of awareness of the LNRs is likely accountable for the low response rate from the teachers or they are simply too busy to bother. All of the schools

that responded had part of their educational curriculum devoted to environmental science. Five out of the eight schools also reported conducting at least one, but no more than two trips per year to a Local Nature Reserve for educational activities. Figure 4.18 shows the distribution of fieldtrips during the year, while Figure 4.19 shows how many projects were conducted at the LNRS. According to Figure 4.18, most teachers will take their students on a fieldtrip at least once during the school year; however more trips per teacher are conducted between the months of April to September since it is probably the most ideal time of the year to take the children for a nature study.



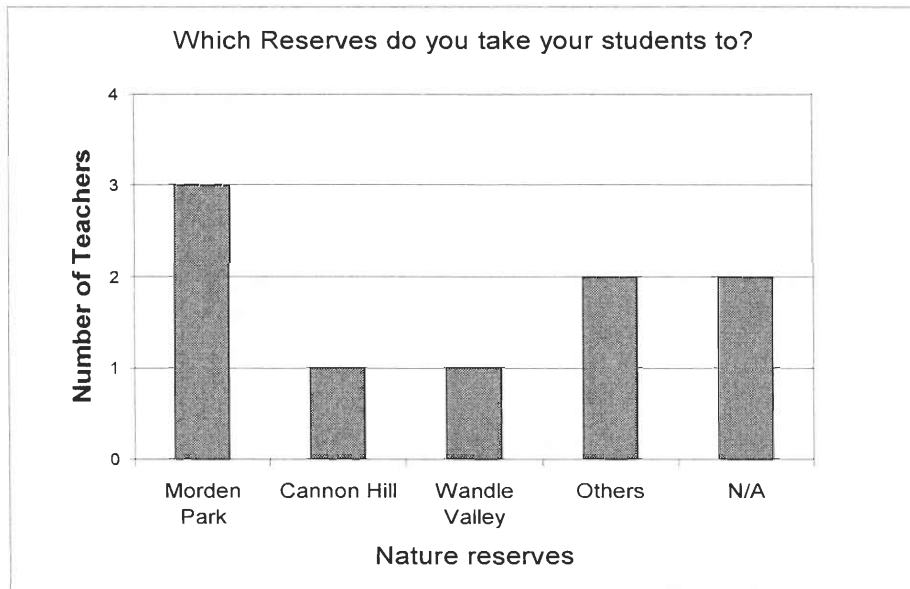
**Figure 4.18: Fieldtrips during the Year**



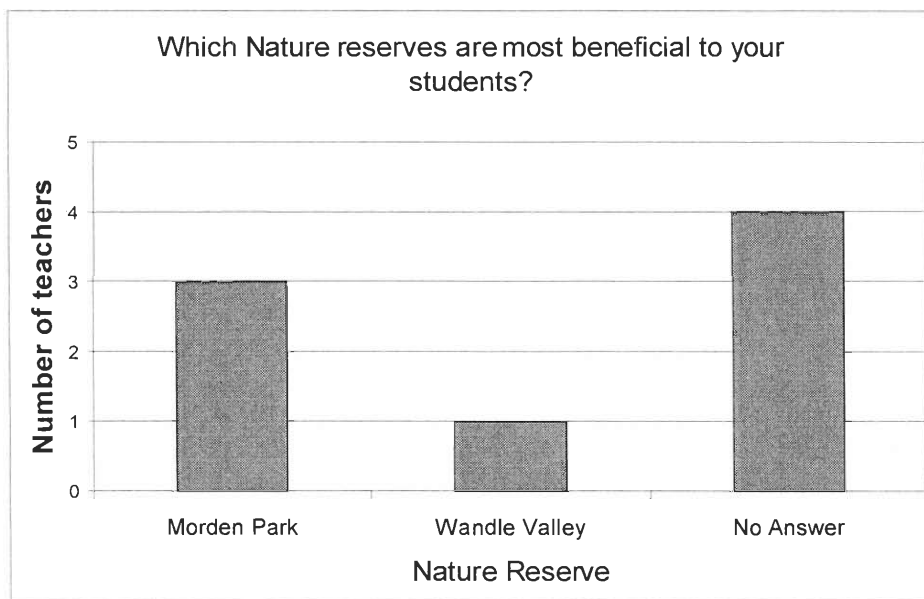
**Figure 4.19: Number of class projects conducted during the year**

Figure 4.20 shows that Morden Park is the most common reserve used by the schools. The popularity of this reserve could be a result of the fact that there are many features available for use, such as a pond which they can use for pond dipping. Other

activities conducted at the reserves include tree planting, and observing mini-beasts (tadpoles), plants, and water vegetation. Cannon Hill Common and Wandle Valley were among the other reserves that the teachers say are useful for environmental education activities. Figure 4.21 shows reserves that teachers felt were most beneficial to their students.



**Figure 4.20: Reserves most visited by the schools**

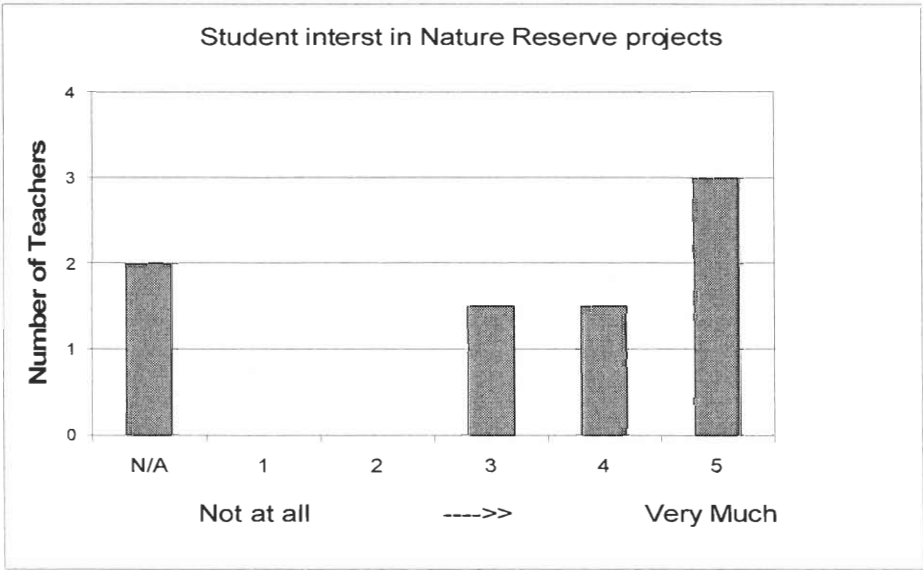


**Figure 4.21: Reserves most beneficial to students**

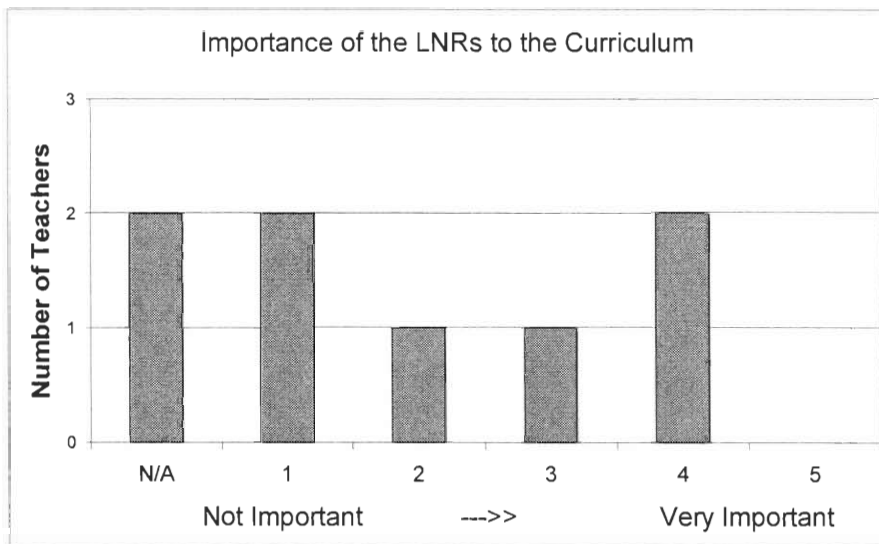
The surveys suggest that students are generally quite interested in conducting experiments at the Local Nature Reserve. On a scale of 1 to 5 with 5 being the highest possible ranking, the teachers ranked the students' interest in conducting environmental projects at the LNRs with an average score of 4.25 as shown by their teachers who responded as seen in Figure 4.22. The teachers also stated that Local Nature Reserves were 'somewhat' important to their curriculum. When asked about the importance of the



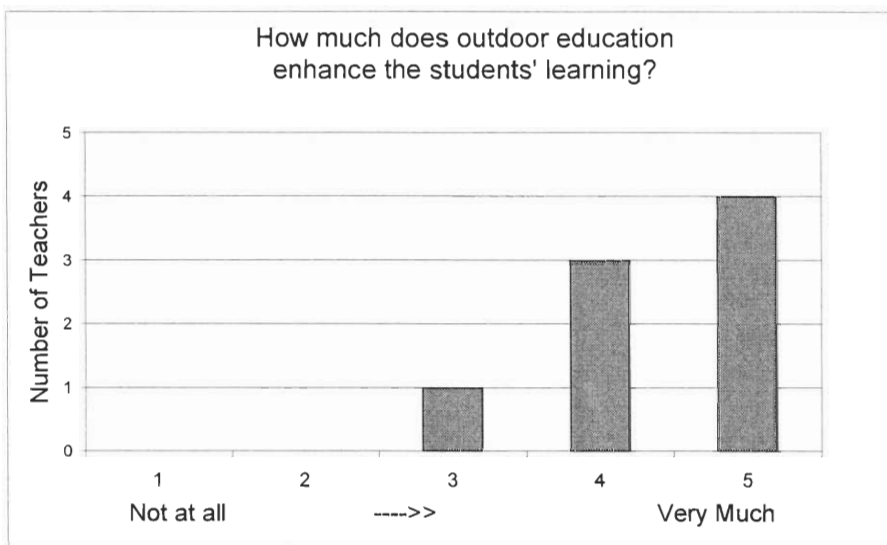
LNRs towards their curriculum, the average rank of the teachers that responded dropped to about 2.5 as shown in Figure 4.23. Although there is enough interest in conducting environmental projects, there seems to be a lack of incorporation of the LNRs into the school curriculum. This may be because teachers have not been fully aware of the possibility of using the available LNRs to enhance their education programme or they have ruled them out as fieldtrip locations for one reason or another. One teacher said that the LNR could not support 100 or so students. The teachers confirmed that the education experience of the students can be enhanced by LNR visits, giving this statement an average ranking of 4.4 as shown in Figure 4.24. They rated the statement that a student enjoys learning in an outdoor environment at an average of 4.4 as shown in Figure 4.25. None of the teachers who responded were involved in a 'Friends' group. The purpose of this was to find out if there was a correlation between being involved in a 'Friends' group and taking their students to a LNR. From these results it can be said that there is a clear interest in outdoor education, but due to a lack of information and awareness, the local schools have been unable to regularly incorporate LNRs into their curriculum.



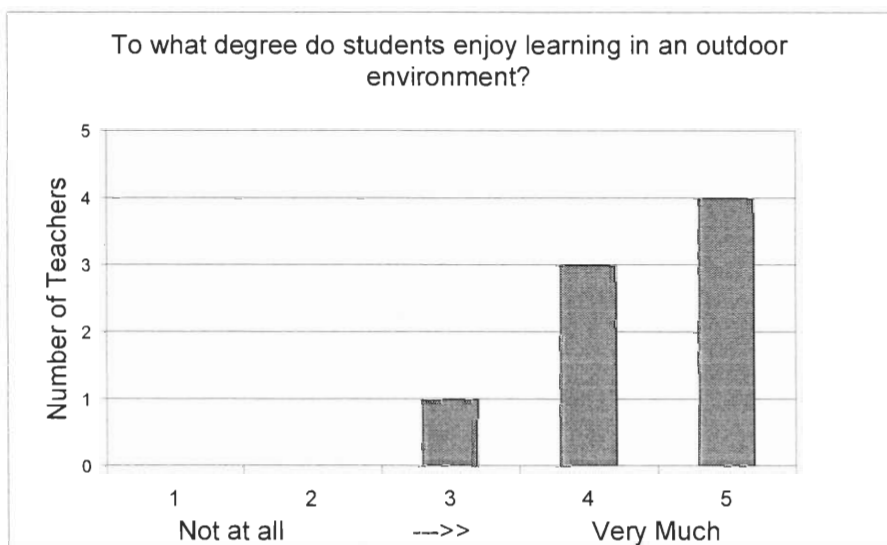
**Figure 4.22: Teachers' rank of Student's Interest in Nature Reserve projects**



**Figure 4.23: Teachers' rank of importance of Local Nature Reserves to the Curriculum**



**Figure 4.24: Teachers' rank of how much outdoor education enhances learning**



**Figure 4.25: Teachers' rank how much students like learning in the outdoors**

Two of the teachers requested personal guides who could give their class educational tours of the reserves. They said that while interpretive panels and other such information sources are useful, they do not compare to an actual person who is familiar with the reserves, to guide and teach the students. Two of the teachers said that they need more information on the facilities available at the reserves for potential educational uses. From the analysis of this data, the best way to make them more aware of the LNRs was to provide them with a teacher guide. The teacher guide was designed to include information on the facilities available at Morden Park (voted as the most popular reserve for education purposes), since there was no prior promotional material for this reserve.

The lack of survey responses may be an indication that the schools are not fully aware of the benefits of the Local Nature Reserves for educational purposes or are simply too busy to reply. The completion of the survey by the science coordinators would be in part for the sake of improving the education system, but many still chose not to respond. By our creation of an effective teacher guide, the teachers can be informed of the features of the reserve even if they did not reply to our questionnaire. This is in the effort to reach the teachers in order to increase their awareness of the educational possibilities at the nature reserves.

## 5. Conclusions and Recommendations

Once a complete set of data had been compiled and analysed, we could make conclusions and recommendations based on our findings. We looked for trends in the data, such as taking note of reserves that were visited more often than others. The data collected from the residents of Merton gave us a good indication of what was lacking and what could be improved about the reserves. This gave us a basis for making recommendations to Leisure Services regarding how they can improve the reserves and attract more visitors. The data that was obtained from surveying teachers at local schools also opened up a range of possibilities for what we, ourselves, could do to help promote the reserves and increase attendance.

### 5.1 Surveys and Interviews

The two Local Nature Reserves that were visited most often by the respondents to the mail questionnaires were Morden Park and Cannon Hill Common. These two sites happen to be the largest of the thirteen, 17 and 18 hectares respectively (<http://www.merton.gov.uk/naturereserves>). Morden Park and Cannon Hill Common both have parks next to them that offer recreational facilities that are not permitted on the actual nature reserve ground, such as swimming pools or playgrounds. This gives them an advantage over smaller reserves in urban areas because people who go to the parks may also go to the reserve as well.

Dog walking was the most common activity of people interviewed at the nature reserves, but this activity was not ranked as high in the mail questionnaire. Walking was the top choice of the mail questionnaire and the second choice for the interviewees, suggesting that walking is one of the main activities performed at the reserves. Since walking is so popular, one of the improvements suggested by both groups of people was improving the pathways that meander through the reserves. This would not only benefit those walking but would also increase accessibility for people with disabilities who do not have the opportunity to go to these sites because of the current condition of the paths. Developing better pathways or improving the drainage systems would prevent the paths from becoming muddy from rain or melting snow.

One suggested improvement to the nature reserves was the addition of benches for both Morden Park and Cannon Hill Common. Once we had visited these sites we observed the scarcity of benches and realised why this would need to be improved, especially for people who would like to sit and relax in the reserves or those who have difficulty walking for prolonged periods of time. This would account for the numbers of people who go to the reserves for relaxation, which was the second most common

reported activity. Also, because of the fact that most of the users are older residents (ages ranging from 50 and over), the demand for benches seems to be quite justified.

The need for awareness of the thirteen Local Nature Reserves in Merton was one of the more prominent concerns among the non-users. In order to deal with this issue, we decided to design a brochure that contained directions to the reserves using bus routes and alternative public transportation systems as seen in Appendix P. These brochures were formatted into a webpage so the general public will have access to this information. A map of the thirteen nature reserves will also be included on the webpage for people to reference. This will increase awareness among the people and provide easy access to information that was not previously available on Merton's nature reserve website. Another possible measure to allow people to access the reserves more easily would be to create more signs around the reserve areas. This includes signs on streets near the reserves which point the visitor in the direction of the site, better signs to distinguish the reserve grounds, especially by the entrances, and directions or interpretive panels within the reserves so that visitors can explore the areas without getting lost.

The lack of cleanliness at the reserves seemed to be a common complaint of the people we questioned. In several of the reserves there are 'Friends' groups who are volunteers that take care of the park, maintain the features, and clean up graffiti. The stronger the presence of 'Friends' groups in the community, the easier it would be to maintain the reserves. This is one reason why it is beneficial to try to increase the number of people in 'Friends' groups as well as create new ones for reserves, which do not have them. If the number of dog faeces bins and rubbish bins is increased, there may be a decrease in the amount of faeces or litter on the ground. Another alternative is to hire a bailiff to fine people that do not pick up after their dogs.

In the interviews done at the nature reserves, many of the visitors suggested improvements that were specific to the site where they were interviewed. For instance, the people at Cannon Hill Common suggested the need for a cleaner environment. This includes cleaning up the pond, graffiti, dog fouling, and litter. We reported these concerns to our liaison who requested such information for a grant application for this reserve to obtain funding to make such improvements. The grant application was filled out accordingly and sent out on April 9, 2003 to the Wildspace! grant foundation.

## **5.2 Education**

Teachers have conducted educational fieldtrips to the LNRs and they agree that outdoor education can enhance a student's learning. Morden Park was the most popular choice for teachers, although most of the LNRs could play an integral part in the

environmental education curriculum. While many of the science teachers showed interest in the application of the LNRs toward the environmental education programme, there was a lack of awareness of the availability of many other nature reserves for educational purposes. To begin the process of addressing this problem, we created a 'Teacher Guide' for Morden Park, full of information geared toward teachers about plants, wildlife, and the geography of the reserves, as seen in Appendix O. Leisure Services can use our guide as a basis from which they can create teacher guides for other reserves to further promote Local Nature Reserves for educational purposes.

A request made by the teachers was for the provision of a person knowledgeable about the Local Nature Reserves to serve as a guide. The teachers feel that having a guide to take the students around the reserves would be more beneficial to their learning as opposed to the teacher taking the students themselves. The cost of hiring a professional guide may be a problem and grant funding might not be provided for such a suggestion. Given this situation, we suggest contacting 'Friends' groups to see if any of the members would be willing to volunteer their time to help educate the students by acting as tour guides. This can be anyone who is knowledgeable and has the time to educate primary or secondary school children of the activities that can be done at the reserve they visit.

### **5.3 Conclusion**

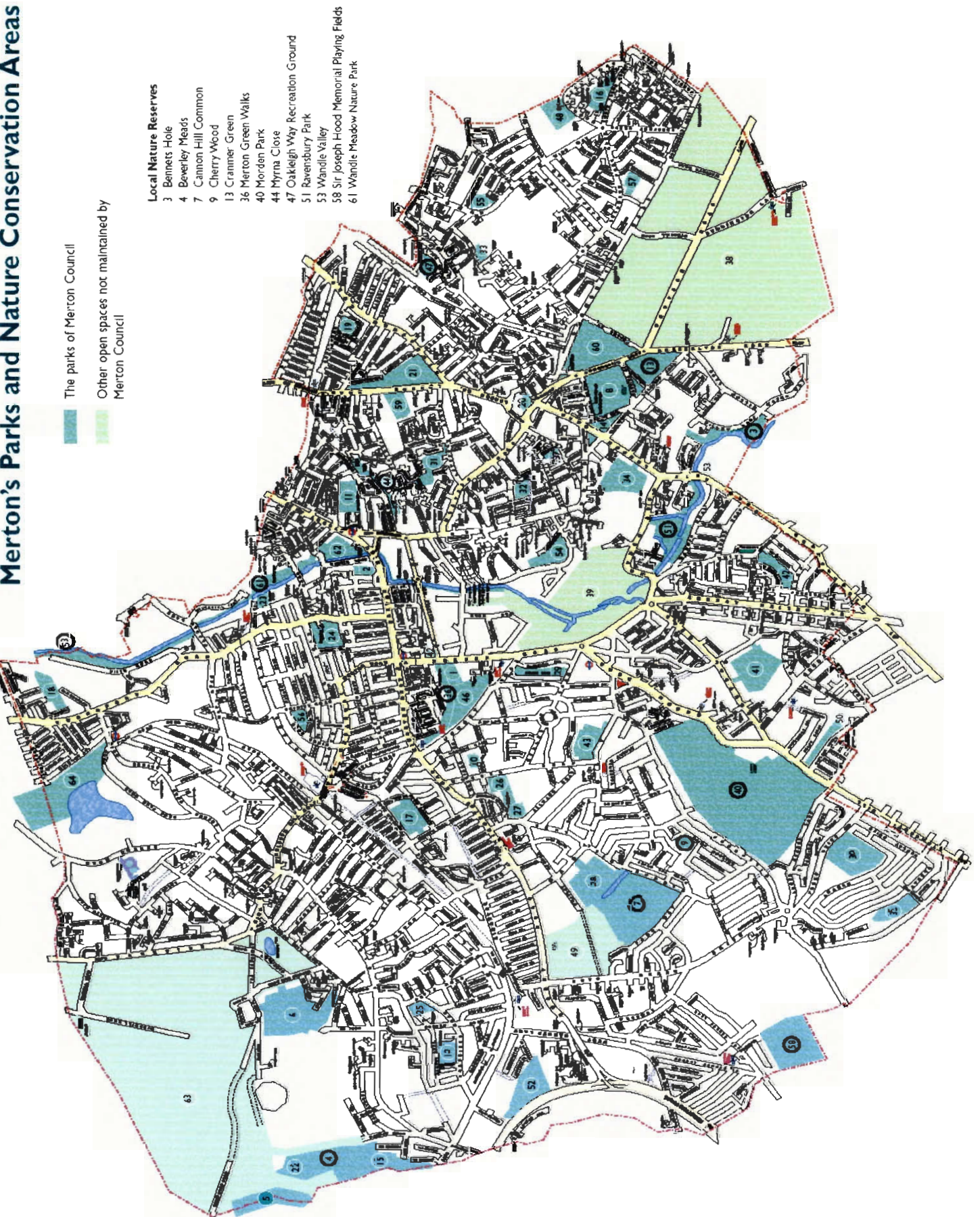
The Local Nature Reserve project has given Leisure Services a more complete understanding of how the nature reserves are used. The main purpose of the project was originally to create a user profile for Leisure Services that would provide information for grant applications as found in Appendix N. Feedback from the surveys and interviews suggested a broadening of the scope of the project to further meet the needs of the community. The public transportation guide and the teacher manual, additions that came midway through the project, were in response to the needs of the people we surveyed. In the future, more teacher manuals can be created for the different reserves. This will enable more young people to be interested in nature. A follow-up study could also be conducted on reserve attendance to determine the success of our promotional efforts. The information in this report will aid Leisure Services in making their thirteen Local Nature Reserves a better place for both humans and wildlife.

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# Appendix A: Existing Local Nature Reserves\*

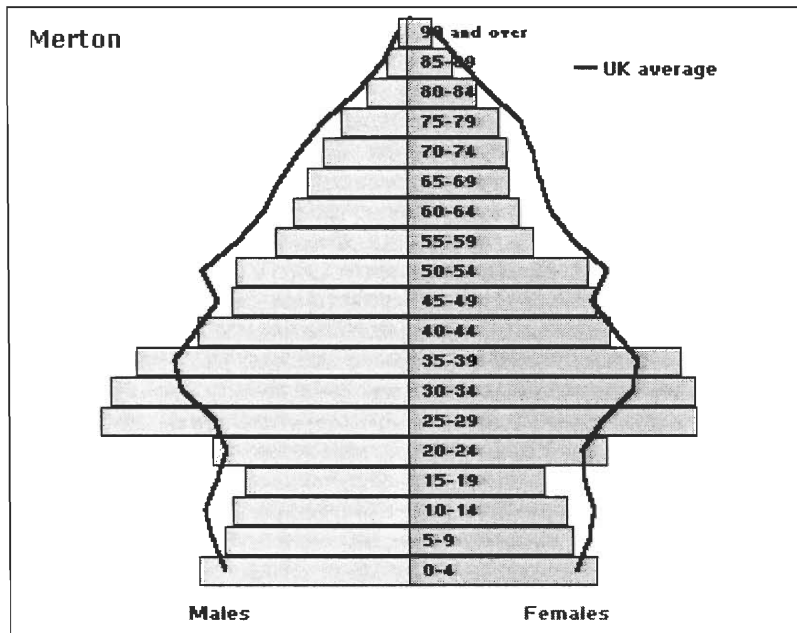
## Merton's Parks and Nature Conservation Areas



Originally printed on A3 size paper (42cm x 29.7cm)



## Appendix B: Population Census in Merton



<u>Age Range</u>	<u>Total</u>	<u>Males</u>	<u>Females</u>
0 - 4	12709	6545	6164
5 - 9	11144	5768	5376
10 - 14	10732	5523	5209
15 - 19	9585	5113	4472
20 - 24	12615	6132	6483
25 - 29	19066	9605	9461
30 - 34	18747	9329	9418
35 - 39	17395	8480	8915
40 - 44	13197	6575	6622
45 - 49	11622	5464	6158
50 - 54	11301	5364	5937
55 - 59	8271	4112	4159
60 - 64	7236	3564	3672
65 - 69	6509	3139	3370
70 - 74	5916	2626	3290
75 - 79	5087	2069	3018
80 - 84	3547	1253	2294
85 - 89	2146	622	1524
90 and over	1083	258	825
<b>Totals</b>	<b>187908</b>	<b>91541</b>	<b>96367</b>

<http://www.statistics.gov.uk/census2001/pop2001/merton.asp>

## Appendix C: Demographics of Merton

Percentage of resident population in ethnic groups:	Merton
White	75.0
Mixed	3.1
Asian or Asian British	11.1
Black or Black British	7.8

Source:2001 Census, ONS

### Employment, income support, students and qualifications Merton

Percentage of 16 to 74 year olds	Merton
Employed	65.8
Unemployed	3.3
Economically active full-time students	2.6
Retired	9.9
Economically inactive students	5.2
Looking after home/family	6.7
Permanently sick or disabled	3.1

Source:2001 Census, ONS

Ages of Merton Residents	Merton
0-4	6.76
5-7	3.54
8-9	2.40
10-14	5.71
15	1.06
16-17	2.13
18-19	1.91
20-24	6.71
25-29	10.14
30-44	26.26
45-59	16.61
60-64	3.84
65-74	6.61
75-84	4.59
85-89	1.14
90+	.57
Mean age	37

Source:2001 Census, ONS

# Merton Schools

## Primary Schools

- 1 Abbotsbury
- 2 All Saints' (C of E)
- 3 Aragon
- 4 Beecholeme
- 5 Benedict
- 6 Bishop Gilpin (C of E)
- 7 Bond
- 8 Cranmer
- 9 Dundonald
- 10 Garden
- 11 Garfield
- 12 Gorringe Park
- 13 Haslemere
- 14 Hatfield
- 15 Hillcross
- 16 Hollymount
- 17 Holy Trinity (C of E)
- 18 Joseph Hood
- 19 Liberty
- 20 Links
- 21 Lonesome
- 22 Malmesbury
- 23 Merton Abbey
- 24 Merton Park
- 25 Morden
- 26 Pelham
- 27 Poplar
- 28 The Priory (C of E)
- 29 Sacred Heart (RC)
- 30 St John Fisher (RC)
- 31 St Mark's
- 32 St Mary's (RC)
- 33 St Matthew's (C of E)
- 34 SS Peter & Paul (RC)
- 35 St Teresa's (RC)
- 36 St Thomas of Canterbury (RC)
- 37 The Sherwood
- 38 Singlegate
- 39 Stanford
- 40 West Wimbledon
- 41 William Morris
- 42 Wimbledon Chase
- 43 Wimbledon Park

## Secondary Schools

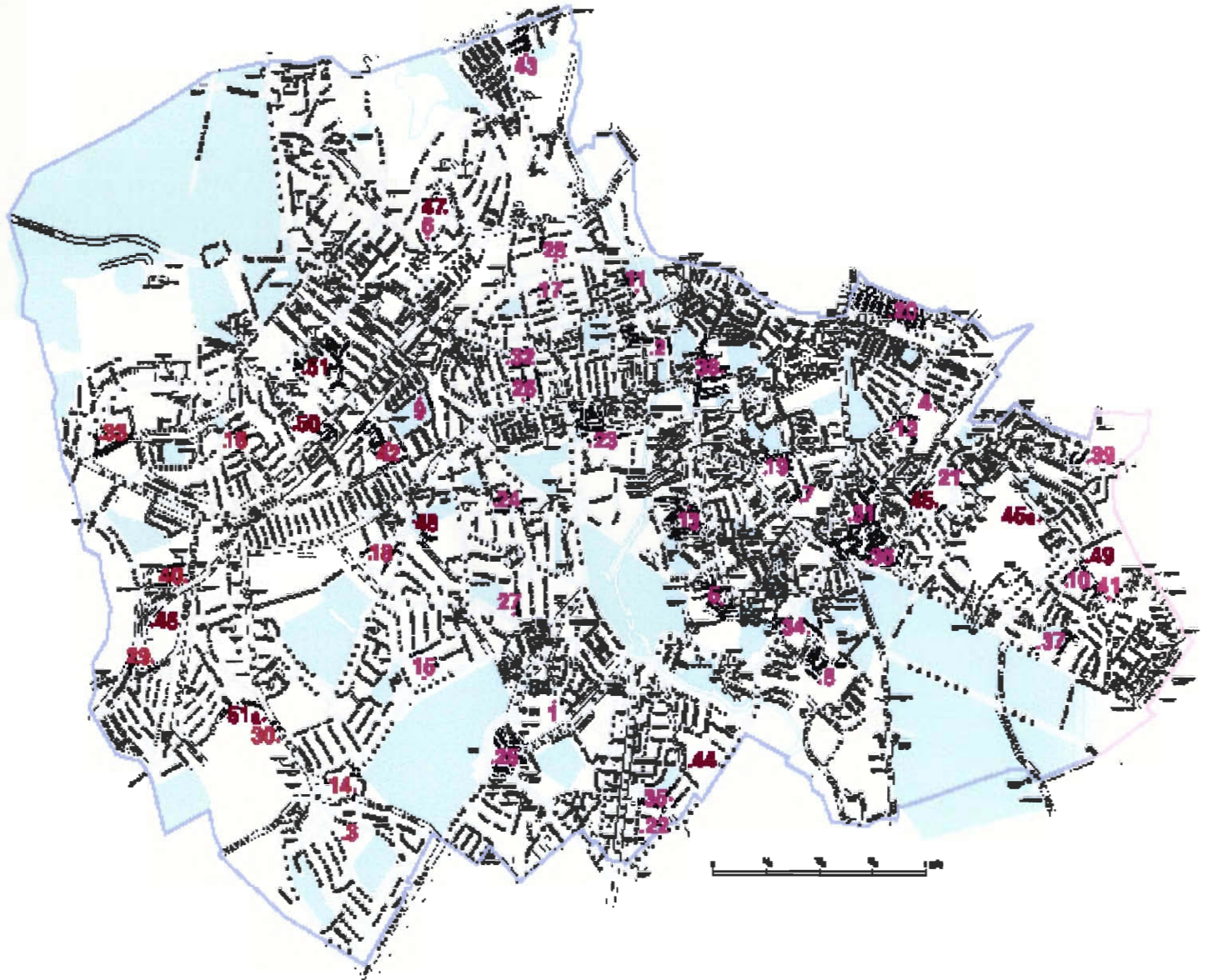
- 44 Bishopsford Community
- 45 Mitcham Vale - Acacia Road Site
- 45a Mitcham Vale - Rowan Road Site
- 46 Raynes Park
- 47 Ricards Lodge
- 48 Rutlish
- 49 Tamworth Manor

## 50 Ursuline

- 51 Wimbledon College - Loyola Centre
- 51a Wimbledon College - Camplon Centre

## Special Schools

- 52 Cricket Green
- 53 Melrose
- 54 St Ann's



## Appendix E: Local Nature Reserves Inventories

Local Nature Reserve	Year of Declaration	Size (ha)	T	W F	C	FB	P A	C P	WC	C R	PP	P	TC	B G
Bennets Hole	1993	1	X	X										
Cannon Hill Common	1998	17	X	X	X									
Cherry Wood	2000	1												
Cranmer Green	—	3	X	X		X								
Fishponds Wood/ Beverley Meads	1993	2	X	X										
Merton Green Walks	2000	1												
Morden Park	2000	18	X	X		X	X	X	X	X	X	X		
Myrna Close	1995	2		X										
Oakleigh Way	2000	1					X	X					X	
Ravensbury Park	—		X	X	X		X	X	X		X			
Sir Joseph Hood Memorial Wood	1994	2				X	X	X		X	X	X	X	X
Wandle Meadow Nature Park	1998	4												
Wandle Valley	—		X				X	X						

**T** – Notable Trees/Woodland

**WF** – Water Feature

**C** – Café

**FB** – Football

**PA** – Play Area

**CP** – Car Park

**WC** – Public Conveniences

**CR** – Cricket

**PP** – Paddling Pool

**P** - Pavilion

**TC** – Tennis Courts

**BG** – Bowling Green

## Appendix F: Mail Questionnaire

Please tick the box that best represents your household:

1. Do you go to nature reserves?  Yes  No

--If NO please go to question 3.

2a. To which nature reserves does your household go? (Tick all that apply)

- |   |  |
|---|--|
| <input type="checkbox"/> Bennetts Hole                  | <input type="checkbox"/> Myrna Close                   |
| <input type="checkbox"/> Cannon Hill Common             | <input type="checkbox"/> Sir Joseph Hood Memorial Wood |
| <input type="checkbox"/> Cherry Wood                    | <input type="checkbox"/> Oakleigh Way Railway sidings  |
| <input type="checkbox"/> Cranmer Green                  | <input type="checkbox"/> Ravensbury Park               |
| <input type="checkbox"/> Fishpond Wood / Beverley Meads | <input type="checkbox"/> Wandle Meadow Nature Park     |
| <input type="checkbox"/> Merton Green Walks             | <input type="checkbox"/> Wandle Valley (off Weir Rd.)  |
| <input type="checkbox"/> Morden Park                    | <input type="checkbox"/> Other reserve _____           |

2b. On average, how many visits does your household make to these nature reserves during the following months?

- |                          |                              |                              |                              |                                |                                       |
|--------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|---------------------------------------|
| <b>January-March:</b>    | <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 | <input type="checkbox"/> 7-9 | <input type="checkbox"/> 10-15 | <input type="checkbox"/> more than 16 |
| <b>April-June:</b>       | <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 | <input type="checkbox"/> 7-9 | <input type="checkbox"/> 10-15 | <input type="checkbox"/> more than 16 |
| <b>July-September:</b>   | <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 | <input type="checkbox"/> 7-9 | <input type="checkbox"/> 10-15 | <input type="checkbox"/> more than 16 |
| <b>October-December:</b> | <input type="checkbox"/> 1-3 | <input type="checkbox"/> 4-6 | <input type="checkbox"/> 7-9 | <input type="checkbox"/> 10-15 | <input type="checkbox"/> more than 16 |

2c. What activities does your household normally do at the nature reserves?

(Tick all that apply)

- |                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> Biking      | <input type="checkbox"/> Fishing             | <input type="checkbox"/> Relaxation     |
| <input type="checkbox"/> Dog walking | <input type="checkbox"/> Meditation          | <input type="checkbox"/> Socializing    |
| <input type="checkbox"/> Education   | <input type="checkbox"/> Reading             | <input type="checkbox"/> Walking        |
| <input type="checkbox"/> Exercising  | <input type="checkbox"/> Recreational Sports | <input type="checkbox"/> Other(s) _____ |

2d. Is your household satisfied with the facilities that the nature reserves offer?

Yes  No --If NO what improvements would you like to see?

Please specify the site(s).

---

---

--Please go to question 4.

3a. What is the most accurate reason that your household does not go to the nature reserves?

- |   |   |
|---|---|
| <input type="checkbox"/> Do not have the time | <input type="checkbox"/> No Transportation/Too far from residence |
| <input type="checkbox"/> Do not like nature   | <input type="checkbox"/> Other _____                              |

3b. What improvements would encourage your household to go the nature reserves?

---

---

**4. In which area of Merton is your household located?**

- |  |                                      |                                    |
|--|--------------------------------------|------------------------------------|
| <input type="checkbox"/> Colliers Wood | <input type="checkbox"/> Merton      | <input type="checkbox"/> Mitcham   |
| <input type="checkbox"/> Morden        | <input type="checkbox"/> Raynes Park | <input type="checkbox"/> Wimbledon |

**5. Are you involved in a 'Friends' group (i.e. Friends of Cherry Wood, Friends of Cannon Hill Common)?**     Yes     No

--If YES, which one? \_\_\_\_\_

**6. How many individuals are in your household?**

- 1       2       3       4       5 or more

**7. How many individuals in your household are in each age group?**

- |         |          |           |           |           |           |
|---------|----------|-----------|-----------|-----------|-----------|
| ___ 0-2 | ___ 5-7  | ___ 12-14 | ___ 16-19 | ___ 30-39 | ___ 50-64 |
| ___ 3-4 | ___ 8-11 | ___ 15    | ___ 20-29 | ___ 40-49 | ___ 65+   |

**8. Which choice below best represents your current field of occupation?**

- |   |   |
|---|---|
| <input type="checkbox"/> Administrative/Corporate | <input type="checkbox"/> Information Technology |
| <input type="checkbox"/> Banking and Finance      | <input type="checkbox"/> Manufacturing          |
| <input type="checkbox"/> Education                | <input type="checkbox"/> Food Services          |
| <input type="checkbox"/> Engineering              | <input type="checkbox"/> Sales and Marketing    |
| <input type="checkbox"/> Healthcare               | <input type="checkbox"/> Science and Research   |
| <input type="checkbox"/> Human Resources          | <input type="checkbox"/> Student                |
| <input type="checkbox"/> Management               | <input type="checkbox"/> Other _____            |

**9. What is your ethnic origin? (Please tick all that apply to your household)**

**White**

- British  
 Irish  
 Any other white background

**Black or Black British**

- Caribbean  
 African  
 Any other black background

**Asian or Asian British**

- Indian  
 Bangladeshi  
 Pakistani  
 Any other Asian background

**Other Ethnic Origin**

- Chinese  
 Any other background

**10. What is your average household income per year?**

- |   |   |
|---|---|
| <input type="checkbox"/> £0 - 14,999      | <input type="checkbox"/> £45,000 - 59,999     |
| <input type="checkbox"/> £15,000 - 29,999 | <input type="checkbox"/> £60,000 and over     |
| <input type="checkbox"/> £30,000 - 44,999 | <input type="checkbox"/> Prefer not to answer |

## Appendix G: Cover Letter for Mail Questionnaire

**Dear Resident of Merton,**

We are a group of exchange students from Worcester Polytechnic Institute (USA) working in conjunction with Kings College. We are here to conduct a study on the Local Nature Reserves in Merton. The purpose of the study is to gather information on the usage of the Local Nature Reserves. This information will be used by Leisure Services of the London Borough of Merton to obtain grant funding for the improvement of the Local Nature Reserves.

By filling out the enclosed questionnaire you will be providing us and Leisure Services with information that will help to make your community a better place. We greatly appreciate your support in our project.

Please answer the attached questionnaire to the best of your abilities and **return it in the enclosed envelope by April 4, 2003**. For more information on the nature reserves please visit [www.merton.gov.uk/naturereserves](http://www.merton.gov.uk/naturereserves) or contact Ruth Hutton, the Landscape and Ecology Manager on 020 8545 3658.

Maintenance and support for the nature reserves are provided in part by 'Friends' groups. If you would like to join the efforts to help maintain the Local Nature Reserves by becoming a 'Friend' please contact Chris Mountford on 020 8545 3657.

**Thank You for Your Time**

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Eric Laurendeau

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Melanie Bolduc

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Montira Satiempoch

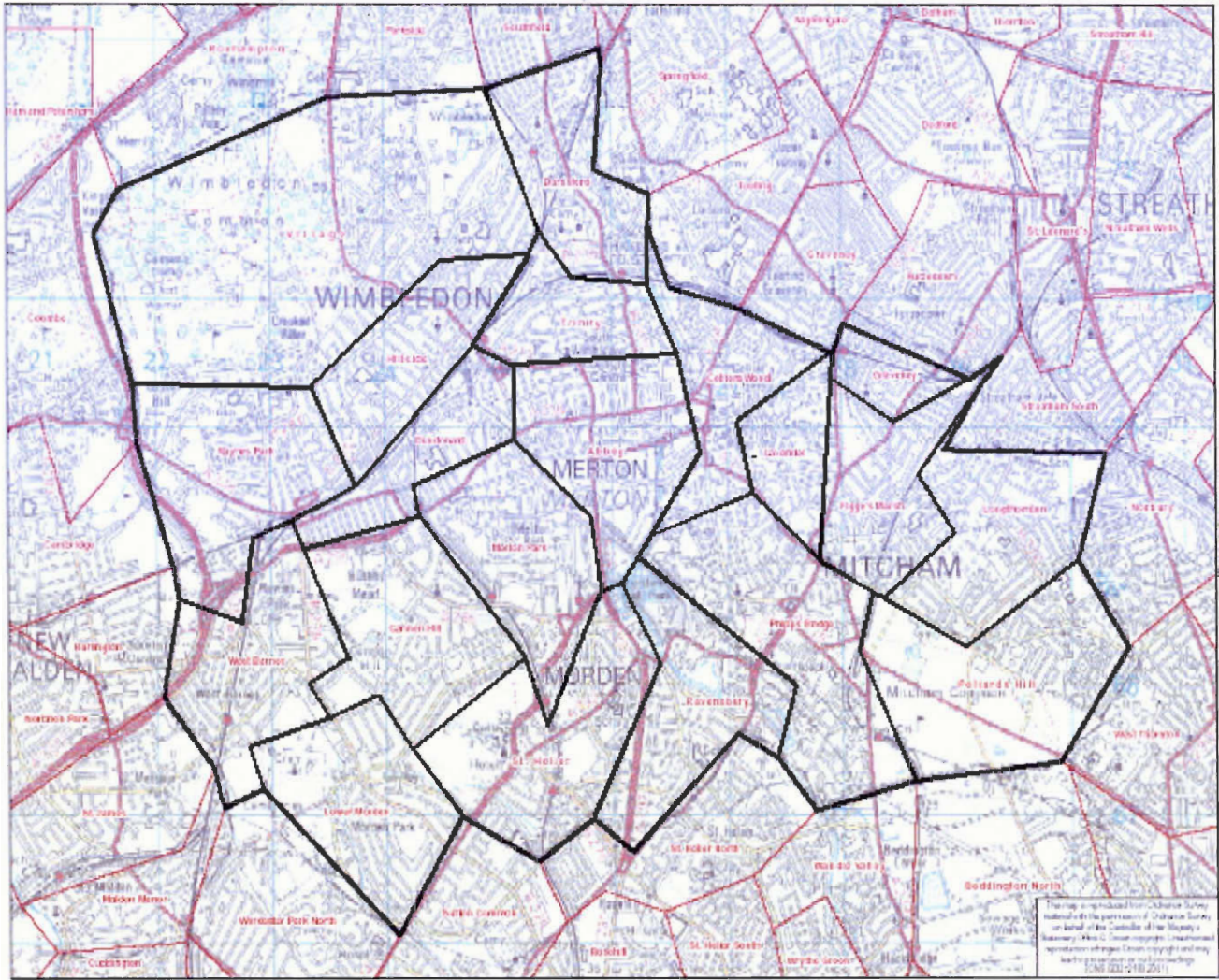
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Minakshi Guha

# Appendix H: Map of Merton with Ward Boundaries

Merton Local Authority: Ward boundaries, May 1998

visit [www.statistics.gov.uk/neighborhood](http://www.statistics.gov.uk/neighborhood)





## **Appendix I: Fax to the Local Schools**

**To: Head of the Science Dept. or Deputy Head of School,**

We are a group of exchange students from Worcester Polytechnic Institute (USA) working in conjunction with Kings College. We are here to conduct a study on the Local Nature Reserves in Merton. The purpose of the study is to gather information on the usage of the Local Nature Reserves. This information will be used by Leisure Services of the London Borough of Merton to obtain grant funding for the improvement of the Local Nature Reserves.

We have chosen your school to collect information regarding the environmental education practices and whether this includes the use of Local Nature Reserves. To gather this information we would like to speak to the person that is knowledgeable about the science curriculum studied at your school. Your response will help provide useful information necessary for the improvement of the nature reserves and increase the opportunities for outdoor education.

We will be contacting you in the near future for a possible interview with the appropriate faculty member. If you have any further questions, please contact Ruth Hutton, the Landscape and Ecology Manager on 020 8545 3658.

**Thank You for Your Time,**

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Eric Laurendeau

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Melanie Bolduc

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Montira Satienpoch

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Minakshi Guha

## Appendix J: Teacher Questionnaire

Please tick the box that best represents you:

1. Is Environmental science included as part of your curriculum (i.e. environmental biology, ecology, nature studies)?  Yes  No

2. Have you ever incorporated a fieldtrip to a local nature reserve in your curriculum?  Yes  No

--If YES, please indicate the ones that apply.

- |   |  |
|---|--|
| <input type="checkbox"/> Bennetts Hole                  | <input type="checkbox"/> Myrna Close                   |
| <input type="checkbox"/> Cannon Hill Common             | <input type="checkbox"/> Sir Joseph Hood Memorial Wood |
| <input type="checkbox"/> Cherry Wood                    | <input type="checkbox"/> Oakleigh Way Railway sidings  |
| <input type="checkbox"/> Cranmer Green                  | <input type="checkbox"/> Ravensbury Park               |
| <input type="checkbox"/> Fishpond Wood / Beverley Meads | <input type="checkbox"/> Wandle Meadow Nature Park     |
| <input type="checkbox"/> Merton Green Walks             | <input type="checkbox"/> Wandle Valley (off Weir Rd.)  |
| <input type="checkbox"/> Morden Park                    | <input type="checkbox"/> Other reserve _____           |

3. What activities do the students do at these nature reserves? \_\_\_\_\_

4. How interested would the students be in conducting environmental projects at the nature reserves?

Not at all  1  2  3  4  5 Very much

5. How important are the local nature reserves to your curriculum? (Please refer to question #2)

Not Important  1  2  3  4  5 Very Important

6. How much do you think outdoor education can enhance the students' learning experience?

Not at all  1  2  3  4  5 Very much

7. To what degree do students enjoy learning in an outdoor environment?

Not at all  1  2  3  4  5 Very much

8. How many class projects per year are conducted using the nature reserves in Merton?

0-2  3-5  6-8  9-11  12 or more

9. How many class projects per year are conducted using other nature areas?

0-2  3-5  6-8  9-11  12 or more

Which areas? \_\_\_\_\_

**10. Which nature reserves are the most beneficial to your students?**

- |   |  |
|---|--|
| <input type="checkbox"/> Bennetts Hole                  | <input type="checkbox"/> Myrna Close                   |
| <input type="checkbox"/> Cannon Hill Common             | <input type="checkbox"/> Sir Joseph Hood Memorial Wood |
| <input type="checkbox"/> Cherry Wood                    | <input type="checkbox"/> Oakleigh Way Railway sidings  |
| <input type="checkbox"/> Cranmer Green                  | <input type="checkbox"/> Ravensbury Park               |
| <input type="checkbox"/> Fishpond Wood / Beverley Meads | <input type="checkbox"/> Wandle Meadow Nature Park     |
| <input type="checkbox"/> Merton Green Walks             | <input type="checkbox"/> Wandle Valley (off Weir Rd.)  |
| <input type="checkbox"/> Morden Park                    | <input type="checkbox"/> Other reserve _____           |

**11. On average, how many fieldtrips do you take your students on during the following months?**

- |                          |                            |                            |                            |                            |                                      |
|--------------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------------------------------------|
| <b>January-March:</b>    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> more than 5 |
| <b>April-June:</b>       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> more than 5 |
| <b>July-September:</b>   | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> more than 5 |
| <b>October-December:</b> | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> more than 5 |

**12. Are you involved in a 'Friends' group (i.e. Friends of Cherry Wood, Friends of Cannon Hill Common)?**     Yes     No

--If YES, which one? \_\_\_\_\_

**13. What are the year levels of the students you teach?** \_\_\_\_\_

**14a. What improvements would you like to see at the nature reserves you visit? Please specify which ones.**

\_\_\_\_\_  
\_\_\_\_\_

**14b. What improvements would you like to see at the nature reserves you do not visit that would encourage you to go them more often? Please specify which ones.**

\_\_\_\_\_  
\_\_\_\_\_

## Appendix K: Interview Guide for Reserves

Site: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  $\frac{\text{AM}}{\text{PM}}$

1. On average, how many times do you visit this reserve a month? \_\_\_\_\_

2a. Do you visit any other reserves? Yes No If **NO** go to 3.

2b. Looking at this list can you tell me which ones?

- |   |  |
|---|--|
| <input type="checkbox"/> Bennetts Hole                  | <input type="checkbox"/> Myrna Close                   |
| <input type="checkbox"/> Cannon Hill Common             | <input type="checkbox"/> Sir Joseph Hood Memorial Wood |
| <input type="checkbox"/> Cherry Wood                    | <input type="checkbox"/> Oakleigh Way Railway sidings  |
| <input type="checkbox"/> Cranmer Green                  | <input type="checkbox"/> Ravensbury Park               |
| <input type="checkbox"/> Fishpond Wood / Beverley Meads | <input type="checkbox"/> Wandle Meadow Nature Park     |
| <input type="checkbox"/> Merton Green Walks             | <input type="checkbox"/> Wandle Valley (off Weir Rd.)  |
| <input type="checkbox"/> Morden Park                    | <input type="checkbox"/> Other reserve _____           |

2c. On average, how often do you visit this/these other reserves a month? \_\_\_\_\_

3. What activities do you normally do here [or at the other reserves]?

- |                                      |  |   |
|--------------------------------------|--|---|
| <input type="checkbox"/> Biking      | <input type="checkbox"/> Fishing             | <input type="checkbox"/> Relaxation     |
| <input type="checkbox"/> Dog walking | <input type="checkbox"/> Meditation          | <input type="checkbox"/> Socializing    |
| <input type="checkbox"/> Education   | <input type="checkbox"/> Reading             | <input type="checkbox"/> Walking        |
| <input type="checkbox"/> Exercising  | <input type="checkbox"/> Recreational Sports | <input type="checkbox"/> Other(s) _____ |

4. Are there any improvements that you would like to see at this nature reserve?

Yes "What kind of improvements?" \_\_\_\_\_

No \_\_\_\_\_

5. Are you involved in a 'Friends' group (i.e. Friends of Cherry Wood, Friends of Cannon Hill Common)?  Yes  No

--If YES, which one? \_\_\_\_\_

6. In what area of Merton do you live?

- Merton  Mitcham  Morden  Raynes Park  Tooting  
 Wimbledon  Worcester Park  Not from Merton: \_\_\_\_\_

7. What is your current occupation? \_\_\_\_\_

8. Age: \_\_\_\_\_ 9. Gender: M F

10. Ethnic Origin

- |   |                                    |  |
|---|------------------------------------|--|
| <b>White</b> <input type="checkbox"/> British | <input type="checkbox"/> Irish     | <input type="checkbox"/> Any other   |
| <b>Black or Black British</b>                 | <input type="checkbox"/> Caribbean | <input type="checkbox"/> African <input type="checkbox"/> Any other  |
| <b>Asian or Asian British</b>                 | <input type="checkbox"/> Indian    | <input type="checkbox"/> Bangladeshi <input type="checkbox"/> Pakistani <input type="checkbox"/> Any other |
| <b>Other Ethnic Origin</b>                    | <input type="checkbox"/> Chinese   | <input type="checkbox"/> Any other background  |

**11. What is your average household income per year?**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> £0 - 14,999      | 4. <input type="checkbox"/> £45,000 - 59,999     |
| 2. <input type="checkbox"/> £15,000 - 29,999 | 5. <input type="checkbox"/> £60,000 and over     |
| 3. <input type="checkbox"/> £30,000 - 44,999 | 6. <input type="checkbox"/> Prefer not to answer |

## Appendix L: Table of Suggested Improvements

Reserves	Morden Park	Cannon Hill Common	Myrna Close	Sir Joseph Hood	Beverly Meads
<b>Improvements From Interviewees</b>	Drainage in winter/ muddy	Trails- less muddy, clearer, better for wheelchairs	A cedar tree	Tennis court maintenance	More directional signs
	More benches (x3)	Less litter	Less litter	Better playground equipment	Less litter
	Railings to prevent dog loss (x3)	Less dog fouling		Fines for dog fouling	
		Clean up pond (x5)		More people, less gangs	
		Monitor graffiti			
		Reopen café (x2)			
<b>Improvements From Mail Surveys</b>	Safer footpaths	Safer footpaths		Safer footpaths	
	Dog Mess	Dog Mess (x2)		Dog Mess	
	More rubbish bins	More rubbish bins		More rubbish bins	
	Muddy path	Muddy paths		Better collection of rubbish	
	Uncut bushes	Uncut bushes			
	More Wardens patrolling	More Wardens patrolling			
	Pay to Park	Toilet Facilities (x2)			
	Ivy is killing trees	Reopen café			
	More seating arrangements	Supervised fishing			

Appendix M: Gantt Chart

ID	Task Name	Start	Finish	Duration	Mar 2003																															Apr 2003																														
					16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2														
1	Mail Surveys	3/17/2003	4/17/2003	24d	[Redacted]																																																													
2	Send	3/17/2003	3/25/2003	7d	[Redacted]																																																													
3	Collect	3/26/2003	4/4/2003	8d	[Redacted]																																																													
4	Analysis	3/31/2003	4/17/2003	14d	[Redacted]																																																													
5	School Interviews	3/26/2003	4/14/2003	14d	[Redacted]																																																													
6	Interview	3/26/2003	4/4/2003	8d	[Redacted]																																																													
7	Analysis	4/4/2003	4/14/2003	7d	[Redacted]																																																													
8	Reserve Interviews	3/17/2003	4/17/2003	24d	[Redacted]																																																													
9	Interview	3/27/2003	4/4/2003	7d	[Redacted]																																																													
10	Analysis	4/4/2003	4/17/2003	10d	[Redacted]																																																													
11	Promotion	3/17/2003	4/4/2003	15d	[Redacted]																																																													
12	Leaflets	3/27/2003	4/4/2003	7d	[Redacted]																																																													
13	'Friends' Groups	3/17/2003	4/4/2003	15d	[Redacted]																																																													
14	Writing IQP	3/17/2003	5/2/2003	35d	[Redacted]																																																													
15	Conclusions	4/22/2003	5/2/2003	9d	[Redacted]																																																													
16	Presentation	4/22/2003	5/2/2003	9d	[Redacted]																																																													

## Appendix N: User Profile

### Beverley Meads/Fishpond Wood

The data represents the opinions of 7 households and the nature reserves they visit. The data applies to Beverley Meads/Fishpond Wood, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	2	3	1	–	1
April to June	1	2	2	1	1
July to September	1	1	2	2	1
October to December	2	2	2	–	1

Table 1 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Biking	Dog Walking	Education	Exercising	Fishing	Meditation
3	1	1	2	1	1
Reading	Recreation	Relaxation	Socializing	Walking	Others
–	–	2	2	7	–

Table 2 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 7 No: 0

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
1	–	–	–	–	6

Table 3 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 7

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	1	1	1	3	1

Table 4 The data represents the number of households in each of the categories.



**7. How many individuals in your household are in each age group?**

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
1	1	1	1	1	1	2	4	1	6	3	1

**Table 5** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Information Technology</b>	1
<b>Banking and Finance</b>	1	<b>Sales and Marketing</b>	2
<b>Education</b>	2	<b>Other</b>	1

**Table 6** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	22	Caribbean	–
Irish	–	African	–
Any other white background	1	Any other black background	–
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	–
Pakistani	–		
Any other Asian background	–		

**Table 7** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	–	<b>£45,000 – 59,999</b>	1
<b>£15,000 – 29,999</b>	–	<b>£60,000 and over</b>	3
<b>£30,000 – 44,999</b>	2	<b>Prefer not to answer</b>	1

**Table 8** The data represents the households' average income per year.

## Cannon Hill Common

The data represents the opinions of 25 households and the nature reserves they visit. The data applies to Cannon Hill Common, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	9	5	2	–	3
April to June	6	9	5	1	4
July to September	5	8	6	3	4
October to December	9	7	2	–	2

Table 9 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Biking	Dog Walking	Education	Exercising	Fishing	Meditation	Painting
5	6	1	4	3	–	2
Reading	Recreation	Relaxation	Socializing	Walking	Others	
3	3	13	3	20	1	

Table 10 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

**Yes:** 16      **No:** 10

**If no, what improvements would you like to see?**

- More seating (2 household suggestions)
- Less litter
- More dog fouling bins
- Better maintenance for muddy paths (2 household suggestions)
- Cut the bushes around the paths
- Less dog mess
- Supervised fishing

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
1	3	–	13	8	1

Table 11 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

**Yes:** 4      Friends of Cannon Hill Common (3 households) and  
**No:** 21      Friends of Cherry Wood (1 household)

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Amount of household answers</b>	6	9	7	3	1

Table 12 The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
1	1	1	4	2	1	2	8	6	6	15	15

Table 13 The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	2	<b>Information Technology</b>	2
<b>Education</b>	3	<b>Retired</b>	10
<b>Healthcare</b>	3	<b>Sales and Marketing</b>	3
<b>Management</b>	1	<b>Other</b>	7

Table 14 The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	51	Caribbean	3
Irish	3	African	–
Any other white background	–	Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	–
Pakistani	–		
Any other Asian background	4		

Table 15 The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	5	<b>£45,000 – 59,999</b>	2
<b>£15,000 – 29,999</b>	6	<b>£60,000 and over</b>	1
<b>£30,000 – 44,999</b>	2	<b>Prefer not to answer</b>	10

Table 16 The data represents the households' average income per year.

## Cherry Wood

The data represents the opinions of 7 households and the nature reserves they visit. The data applies to Cherry Wood, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	1	3	–	–	1
April to June	1	2	2	–	1
July to September	–	3	2	–	1
October to December	2	3	–	–	–

Table 17 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Biking	Dog Walking	Education	Exercising	Fishing	Meditation	Painting
2	4	–	1	–	1	1
Reading	Recreation	Relaxation	Socializing	Walking	Others	
2	1	4	–	6	–	

Table 18 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 4      No: 2

**If no, what improvements would you like to see?**

- More seating
- Education/Fun activities for children
- Better maintenance for muddy paths
- Cut the bushes around the paths
- Less dog mess on footpaths

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
–	–	1	5	1	–

Table 19 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 2      Friends of Cannon Hill Common (1 household)  
 No: 5      Friends of Cherry Wood (1 household)

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Number of household answers</b>	2	4	1	–	–

**Table 20** The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
1	–	–	–	–	–	–	–	3	–	6	2

**Table 21** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Retired</b>	1
<b>Education</b>	1	<b>Other</b>	3
<b>Healthcare</b>	1		

**Table 22** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	10	Caribbean	–
Irish	1	African	–
Any other white background	–	Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	–
Pakistani	–		
Any other Asian background	–		

**Table 23** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	1	<b>£45,000 – 59,999</b>	1
<b>£15,000 – 29,999</b>	2	<b>£60,000 and over</b>	–
<b>£30,000 – 44,999</b>	1	<b>Prefer not to answer</b>	2

**Table 24** The data represents the households' average income per year.

## Cranmer Green

The data represents the opinions of 3 households and the nature reserves they visit. The data applies to Cranmer Green, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	2	–	–	–	–
April to June	–	2	–	–	1
July to September	–	2	–	–	–
October to December	1	–	–	–	–

Table 25 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Reading	Dog Walking	Relaxation	Socializing	Walking
1	1	1	1	3

Table 26 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 2      No: 0

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
1	–	2	–	–	–

Table 27 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 3

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	1	2	–	–	–

Table 28 The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
-	-	-	-	-	-	-	1	-	-	2	-

Table 29 The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Healthcare</b>	1
-----------------------	---	-------------------	---

Table 30 The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	3	Caribbean	-
Irish	-	African	-
Any other white background	-	Any other black background	-
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	-	Chinese	-
Bangladeshi	-	Any other background	-
Pakistani	-		
Any other Asian background	-		

Table 31 The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	-	<b>£45,000 – 59,999</b>	-
<b>£15,000 – 29,999</b>	1	<b>£60,000 and over</b>	-
<b>£30,000 – 44,999</b>	-	<b>Prefer not to answer</b>	2

Table 32 The data represents the households' average income per year.

## Merton Green Walks

The data represents the opinions of 12 households and the nature reserves they visit. The data applies to Merton Green Walks, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	7	3	2	–	–
April to June	4	4	2	3	–
July to September	4	4	–	3	–
October to December	8	3	1	–	–

Table 33 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Biking	Dog Walking	Education	Exercising	Fishing	Meditation
3	1	1	3	1	1
Reading	Recreation	Relaxation	Socializing	Walking	Others
2	2	9	3	11	1

Table 34 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 11      No: 1

**If no, what improvements would you like to see?**

- Create no dog areas

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
4	1	2	1	–	3

Table 35 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 12

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	3	4	3	2	–

Table 36 The data represents the number of households in each of the categories.



**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
2	1	–	1	–	–	–	4	5	3	9	3

**Table 37** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Information Technology</b>	2
<b>Banking and Finance</b>	1	<b>Retired</b>	1
<b>Education</b>	1	<b>Sales and Marketing</b>	3
<b>Healthcare</b>	2	<b>Science and Research</b>	1
<b>Management</b>	1	<b>Other</b>	3

**Table 38** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	20	Caribbean	–
Irish	–	African	–
Any other white background		Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	3	Chinese	2
Bangladeshi	–	Any other background	2
Pakistani	–		
Any other Asian background	–		

**Table 39** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	1	<b>£45,000 – 59,999</b>	3
<b>£15,000 – 29,999</b>	4	<b>£60,000 and over</b>	2
<b>£30,000 – 44,999</b>	1	<b>Prefer not to answer</b>	1

**Table 40** The data represents the households' average income per year.

## Morden Park

The data represents the opinions of 50 households and the nature reserves they visit. The data applies to Morden Park, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	21	9	4	–	3
April to June	14	18	9	2	4
July to September	12	16	10	5	4
October to December	20	11	3	–	3

Table 41 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

<b>Biking</b>	<b>Dog Walking</b>	<b>Education</b>	<b>Exercising</b>	<b>Fishing</b>	<b>Meditation</b>	<b>Painting</b>
9	13	3	7	4	2	2
<b>Reading</b>	<b>Recreation</b>	<b>Relaxation</b>	<b>Socializing</b>	<b>Walking</b>	<b>Others</b>	
8	3	22	4	41	3	

Table 42 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 37      No: 11

**If no, what improvements would you like to see?**

- More seating (3 household suggestions)
- Education/Fun activities for children
- Less dog mess
- More dog fouling bins
- More rubbish bins
- Better maintenance for muddy paths (2 household suggestions)
- Cut the bushes around the paths
- Free parking
- More bus routes
- Create 'no dog areas'
- Better bike access

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
6	5	9	13	6	10

Table 43 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a ‘Friends’ group?**

**Yes:** 2 Friends of Cannon Hill Common (2 households)  
**No:** 48

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	13	22	4	7	2

Table 44 The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
4	3	2	7	5	1	2	13	18	10	26	16

Table 45 The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	6	<b>Information Technology</b>	2
<b>Banking and Finance</b>	2	<b>Retired</b>	11
<b>Education</b>	5	<b>Sales and Marketing</b>	5
<b>Engineering</b>	5	<b>Science and Research</b>	2
<b>Healthcare</b>	6	<b>Student</b>	1
<b>Management</b>	2	<b>Other</b>	12

Table 46 The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	94	Caribbean	–
Irish	2	African	–
Any other white background	5	Any other black background	2
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	2
Bangladeshi	–	Any other background	2
Pakistani	–		
Any other Asian background	–		

Table 47 The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	7	<b>£45,000 – 59,999</b>	4
<b>£15,000 – 29,999</b>	14	<b>£60,000 and over</b>	4
<b>£30,000 – 44,999</b>	2	<b>Prefer not to answer</b>	18

Table 48 The data represents the households’ average income per year.

## Myrna Close

The data represents the opinions of 4 households and the nature reserves they visit. The data applies to Myrna Close, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	1	1	1	1	–
April to June	1	–	–	2	1
July to September	1	–	–	1	2
October to December	1	1	1	1	–

Table 49 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Education	Fishing	Relaxation	Walking
2	1	3	4

Table 50 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 4      No: 0

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
3	–	1	–	–	–

Table 51 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 4

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	–	1	1	1	–

Table 52 The data represents the number of households in each of the categories.

7. How many individuals in your household are in each age group?

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
1	–	–	1	–	–	2	2	1	2	4	–

Table 53 The data represents the number of individuals in each age range.

8. Which choice below best represents your current field of occupation?

<b>Manufacturing</b>	1	<b>Sales and Marketing</b>	1	<b>Science and Research</b>	1
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Table 54 The data represents the occupation of the person that filled out the questionnaire.

9. What is your ethnic origin?

<b>White</b>		<b>Black or Black British</b>	
British	12	Caribbean	–
Irish	–	African	–
Any other white background	–	Any other black background	–
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	1
Pakistani	–		
Any other Asian background	–		

Table 55 The data represents how many individuals are from each ethnicity.

10. What is your average household income per year?

<b>£0 – 14,999</b>	1	<b>£45,000 – 59,999</b>	–
<b>£15,000 – 29,999</b>	1	<b>£60,000 and over</b>	–
<b>£30,000 – 44,999</b>	–	<b>Prefer not to answer</b>	2

Table 56 The data represents the households' average income per year.

## Oakleigh Way

The data represents the opinions of 2 households and the nature reserves they visit. The data applies to Oakleigh Way, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	–	–	1	–	–
April to June	–	1	–	1	–
July to September	–	1	–	1	–
October to December	–	–	1	–	–

Table 57 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Dog Walking	Education	Fishing	Relaxation	Walking
1	1	1	1	2

Table 58 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 0      No: 1

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
1	–	1	–	–	–

Table 59 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 2

**6. How many individuals are in your household?**

People in Household	1	2	3	4	5 or more
Number of household answers	–	1	–	–	–

Table 60 The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
-	-	-	1	-	-	-	-	-	2	2	-

Table 61 The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Other</b>	1
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Table 62 The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	5	Caribbean	-
Irish	-	African	-
Any other white background	-	Any other black background	-
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	-	Chinese	-
Bangladeshi	-	Any other background	-
Pakistani	-		
Any other Asian background	-		

Table 63 The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	-	<b>£45,000 – 59,999</b>	-
<b>£15,000 – 29,999</b>	-	<b>£60,000 and over</b>	-
<b>£30,000 – 44,999</b>	-	<b>Prefer not to answer</b>	2

Table 64 The data represents the households' average income per year.

## Ravensbury Park

The data represents the opinions of 16 households and the nature reserves they visit. The data applies to Ravensbury Park, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	8	2	2	1	1
April to June	5	3	4	1	3
July to September	4	3	4	2	2
October to December	6	2	2	1	1

Table 65 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

<b>Biking</b>	<b>Dog Walking</b>	<b>Education</b>	<b>Exercising</b>	<b>Fishing</b>	<b>Reading</b>
1	3	1	1	2	5
<b>Recreation</b>	<b>Relaxation</b>	<b>Socializing</b>	<b>Walking</b>	<b>Others</b>	
1	9	2	14	1	

Table 66 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 12      No: 4

**If no, what improvements would you like to see?**

- River needs to be cleaned

**4. In which area of Merton is your household located?**

<b>Colliers Wood</b>	<b>Merton</b>	<b>Mitcham</b>	<b>Morden</b>	<b>Raynes Park</b>	<b>Wimbledon</b>
3	1	5	5	1	–

Table 67 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 1      Friends of Cherry Wood (1 household)

No: 14

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Number of household answers</b>	3	7	2	4	–

Table 68 The data represents the number of households in each of the categories.



**7. How many individuals in your household are in each age group?**

0-2	3-4	5-7	8-11	12-14	15	16-19	20-29	30-39	40-49	50-64	65+
2	1	–	2	1	–	3	3	9	4	6	5

**Table 69** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Administrative</b>	1	<b>Healthcare</b>	2
<b>Education</b>	1	<b>Retired</b>	3
<b>Engineering</b>	3	<b>Other</b>	7

**Table 70** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	27	Caribbean	–
Irish	2	African	–
Any other white background	–	Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	3	Chinese	2
Bangladeshi	–	Any other background	1
Pakistani	–		
Any other Asian background	–		

**Table 71** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	3	<b>£45,000 – 59,999</b>	4
<b>£15,000 – 29,999</b>	2	<b>£60,000 and over</b>	–
<b>£30,000 – 44,999</b>	–	<b>Prefer not to answer</b>	7

**Table 72** The data represents the households' average income per year.

## Sir Joseph Hood Memorial Wood

The data represents the opinions of 6 households and the nature reserves they visit. The data applies to Sir Joseph Hood Memorial Wood, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

### 2b. On average, how many visits does your household make to these nature reserves during the following months?

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	1	–	–	–	2
April to June	2	1	–	–	2
July to September	2	2	–	–	2
October to December	–	2	–	–	1

Table 73 The data represents the number of households that visit during the year.

### 2c. What activities does your household normally do at the nature reserves?

<b>Biking</b>	<b>Dog Walking</b>	<b>Exercising</b>	<b>Fishing</b>
1	3	1	1
<b>Reading</b>	<b>Relaxation</b>	<b>Socializing</b>	<b>Walking</b>
1	3	1	5

Table 74 The data represent the number of households that chose each activity (multiple answers were allowed).

### 2d. Is your household satisfied with the facilities that the nature reserves offer?

Yes: 3      No: 3

#### If no, what improvements would you like to see?

- Better maintenance for paths
- Cut bushes around the paths
- Less dog mess on footpaths
- More rubbish bins
- Improve rubbish collection
- Better bike access

### 4. In which area of Merton is your household located?

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
–	–	–	3	2	1

Table 75 The data represents the number of households in each of the areas of Merton.

### 5. Are you involved in a 'Friends' group?

Yes: 0

No: 6

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Number of household answers</b>	1	2	–	2	1

**Table 76** The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
–	–	–	2	2	–	2	1	2	2	6	1

**Table 77** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Education</b>	1	<b>Retired</b>	2
<b>Sales and Marketing</b>	1	<b>Other</b>	1

**Table 78** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	17	Caribbean	–
Irish	1	African	–
Any other white background	–	Any other black background	–
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	–
Pakistani	–		
Any other Asian background	–		

**Table 79** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	2	<b>£45,000 – 59,999</b>	1
<b>£15,000 – 29,999</b>	1	<b>£60,000 and over</b>	1
<b>£30,000 – 44,999</b>	–	<b>Prefer not to answer</b>	1

**Table 80** The data represents the households' average income per year.

## Wandle Meadow Nature Park

The data represents the opinions of 17 households and the nature reserves they visit. The data applies to Wandle Meadow Nature Park, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

**2b. On average, how many visits does your household make to these nature reserves during the following months?**

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	10	2	3	–	–
April to June	5	8	2	1	1
July to September	5	6	2	3	1
October to December	10	2	2	1	–

Table 81 The data represents the number of households that visit during the year.

**2c. What activities does your household normally do at the nature reserves?**

Biking	Dog Walking	Education	Exercising	Fishing	Meditation
5	2	1	5	1	1
Reading	Recreation	Relaxation	Socializing	Walking	Others
2	1	10	4	16	2

Table 82 The data represent the number of households that chose each activity (multiple answers were allowed).

**2d. Is your household satisfied with the facilities that the nature reserves offer?**

Yes: 14      No: 3

**If no, what improvements would you like to see?**

- More information of wildlife and maps
- More rubbish bins
- More dog fouling bins
- More seating
- Create 'no dog areas'

**4. In which area of Merton is your household located?**

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
7	1	1	1	–	6

Table 83 The data represents the number of households in each of the areas of Merton.

**5. Are you involved in a 'Friends' group?**

Yes: 0

No: 17

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Number of household answers</b>	4	5	2	6	–

**Table 84** The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
2	1	1	3	4	–	1	7	10	7	8	–

**Table 85** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Banking and Finance</b>	1	<b>Information Technology</b>	3
<b>Education</b>	2	<b>Sales and Marketing</b>	3
<b>Engineering</b>	2	<b>Science and Research</b>	1
<b>Healthcare</b>	4	<b>Student</b>	1
<b>Management</b>	1	<b>Other</b>	2

**Table 86** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	37	Caribbean	–
Irish	1	African	–
Any other white background	2	Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	2
Bangladeshi	–	Any other background	1
Pakistani	–		
Any other Asian background	–		

**Table 87** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	1	<b>£45,000 – 59,999</b>	3
<b>£15,000 – 29,999</b>	4	<b>£60,000 and over</b>	4
<b>£30,000 – 44,999</b>	1	<b>Prefer not to answer</b>	4

**Table 88** The data represents the households' average income per year.

## Wandle Valley

The data represents the opinions of 15 households and the nature reserves they visit. The data applies to Wandle Valley, but if the household visits more than one reserve then the data may apply to one or multiple reserves.

### 2b. On average, how many visits does your household make to these nature reserves during the following months?

Months	Number of Visits				
	1 to 3	4 to 6	7 to 9	10 to 15	16 and over
January to March	10	3	1	–	–
April to June	2	10	2	1	–
July to September	2	9	1	3	–
October to December	12	2	1	–	–

Table 89 The data represents the number of households that visit during the year.

### 2c. What activities does your household normally do at the nature reserves?

Biking	Dog Walking	Education	Exercising	Fishing	Meditation
6	2	2	3	1	1
Reading	Recreation	Relaxation	Socializing	Walking	Others
3	1	11	3	15	1

Table 90 The data represent the number of households that chose each activity (multiple answers were allowed).

### 2d. Is your household satisfied with the facilities that the nature reserves offer?

Yes: 11      No: 4

#### If no, what improvements would you like to see?

- More seating (2 household suggestions)
- Education/Fun activities for children
- More rubbish bins
- More dog fouling bins
- Create 'no dog areas'

### 4. In which area of Merton is your household located?

Colliers Wood	Merton	Mitcham	Morden	Raynes Park	Wimbledon
5	1	1	2	–	5

Table 91 The data represents the number of households in each of the areas of Merton.

### 5. Are you involved in a 'Friends' group?

Yes: 0  
No: 15

**6. How many individuals are in your household?**

<b>People in Household</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5 or more</b>
<b>Number of household answers</b>	5	4	3	3	–

**Table 92** The data represents the number of households in each of the categories.

**7. How many individuals in your household are in each age group?**

<b>0-2</b>	<b>3-4</b>	<b>5-7</b>	<b>8-11</b>	<b>12-14</b>	<b>15</b>	<b>16-19</b>	<b>20-29</b>	<b>30-39</b>	<b>40-49</b>	<b>50-64</b>	<b>65+</b>
3	1	1	2	2	–	–	6	9	6	4	1

**Table 93** The data represents the number of individuals in each age range.

**8. Which choice below best represents your current field of occupation?**

<b>Banking</b>	1	<b>Retired</b>	1
<b>Education</b>	2	<b>Sales and Marketing</b>	3
<b>Engineering</b>	1	<b>Science and Research</b>	1
<b>Healthcare</b>	4	<b>Other</b>	2
<b>Information Technology</b>	3		

**Table 94** The data represents the occupation of the person that filled out the questionnaire.

**9. What is your ethnic origin?**

<b>White</b>		<b>Black or Black British</b>	
British	31	Caribbean	–
Irish	–	African	–
Any other white background	2	Any other black background	1
<b>Asian or Asian British</b>		<b>Other Ethnic Origin</b>	
Indian	–	Chinese	–
Bangladeshi	–	Any other background	1
Pakistani	–		
Any other Asian background	–		

**Table 95** The data represents how many individuals are from each ethnicity.

**10. What is your average household income per year?**

<b>£0 – 14,999</b>	–	<b>£45,000 – 59,999</b>	2
<b>£15,000 – 29,999</b>	5	<b>£60,000 and over</b>	3
<b>£30,000 – 44,999</b>	1	<b>Prefer not to answer</b>	4

**Table 96** The data represents the households' average income per year.

LONDON BOROUGH OF MERTON

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Local Nature Reserves



# *Morden Park Teacher Guide*



WORCESTER POLYTECHNIC INSTITUTE AND LEISURE SERVICES

# **Teacher Guide**

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**Created on: April 2003**

**LONDON BOROUGH OF MERTON  
Education, Leisure and Libraries Department  
The Civic Centre, London Road, Morden, Surrey**

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# Introduction

One approach to making young people more concerned about the environment is by increasing their awareness of the natural world. When children are taught about something from an early age, they will be more likely to be conscious of what they have learned about. By promoting school curriculums rich with opportunities to learn about environmental sciences, the children can be made aware of nature, and this awareness can be carried with them as they grow older. “Active learning and adventure outdoors introduces young people to the environment in a way which develops understanding appreciation, awe, wonder and respect. It fosters sensitivity to the environment, helps young people to see themselves in a global context and helps to develop citizens with an awareness of the need for sustainable use of the world’s natural resources.”<sup>1</sup>

Nature reserves can prove to be very beneficial by enhancing the learning and teaching experience for both students and teachers of the local schools in Merton. School curriculums that include environmental education through field trips to Local Nature Reserves can create a more interactive learning experience. Outdoor education is a way of introducing the students to a different method of learning by moving away from the traditional classroom based setting to an open environment. This will not only create more enthusiasm for the students, but provide hands-on experience that will enable them to learn better. By allowing students to observe, understand, and experience their environment through the Local Nature Reserves of Merton, they will be encouraged to ask questions, dig into their curiosity and become more independent learners.

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<sup>1</sup> URL: [http://www.englishoutdoorcouncil.org/Values\\_and\\_benefits.htm](http://www.englishoutdoorcouncil.org/Values_and_benefits.htm)

## History

*The Park, as a piece of semi-natural encapsulated countryside in an urban area has great potential for the teaching of Natural History and Nature Conservation issues involving field visits to the site.*

The earliest historical evidence in the area relates to the Roman Stane Street, which ran through the present site of the park, but is now covered over. Later the area was part of the Manor of Morden, which is mentioned in a donation of a gift of land by Edward the Confessor to Westminster Abbey in 986. Near the centre of the park is a mound, supposed by some to be an ancient British burial mound.

During the 19<sup>th</sup> Century the area was an agricultural Estate. The 1874 Ordnance Survey map shows an ornamental pond, fed by a drainage ditch, in the south east of the site where the wet woodland is now found and the line of oak trees running south from the mound. By 1895 the dense woodland boundaries and the area of wet woodland in the south east can be seen and the Pyl Brook has been canalised. The location of Morden Park can be found in Appendix A.

## Geology and Topology

The park is situated on London Clay and slopes down to the west to the Pyl Brook. About the valley of the East Pyl Brook itself, in the low southern part of the park, are some gravels dating from interglacial times. The soil is of weathered clay and in the south west is waterlogged. This is in the region of the old ornamental lake and broken drains probably contribute to it. In the centre the artificially created Mound rises to several metres above the surrounding parkland.

## Identification of Important Features

The most important nature conservation/wildlife feature of the site is the meadow habitat. Semi-improved neutral grassland is a relatively uncommon habitat in Greater London. Such habitats have undergone serious declines at the national level in recent decades and figure prominently in the UK Biodiversity Action Plan.

Woodland, tall herb, ponds and the Pyl Brook are also valuable wildlife habitats and add to the overall diversity and importance of the site. The ponds and the Pyl Brook in particular have significant potential for enhancement.



Figure 1 A picture taken from the Morden Park Local Nature Reserve of the Mound that rests in the surrounding parkland

## **Semi-improved Neutral Grassland**

Neutral grassland covers most of the site. This was formerly managed as short-mown amenity grassland but the cutting regime has now been relaxed and large areas are now managed as wildflower meadow.

## **The Woodland**

A narrow belt of mixed native and non-native broadleaved woodland runs along the margins of the park. A small patch of wild garlic or ramsons occurs in the woodland to the north of the Pyl Brook, the south east section of the site.

Small areas of woodland occur within the central, grassland-dominated part of the site. A more extensive area of mature, English oak-dominated woodland occurs to the north of the site.

The woodland strip around the western boundary is well used by local people and a wood chip surfaced path runs for its entire length, mostly under large horse chestnuts. Ivy climbing up trees should not be cleared unless there is a real danger of the weight causing the tree to fall. This provides a valuable habitat for invertebrates (including the holly blue), a late winter food source for many birds and roosting opportunities for bats and owls.

## **Trees**

Much research work has been done in recent years on veteran trees and their importance to rare invertebrates, especially beetles, and to fungi (Read 1996). Their hollowed out interiors are also important to many invertebrates, bats, and to birds such as owls.



Seed for trees on the site, especially the large old oaks, should be collected and grown on; possibly by a local school.

There are a number of mature English oak and other trees scattered across the site. Many of these occur in lines, possibly indicating old field boundaries.

## **Dead Wood**

This is an essential habitat for many species, especially invertebrates, bats, bryophytes and fungi, and is necessary for the continued 'health' of the woodland ecosystem. Standing dead wood is also important for woodpeckers and other birds for feeding and nesting.

## **Tall Herbs**

Tall herbaceous vegetation occurs in places along woodland edges, often in mosaic with low bramble scrub. Stinging nettle and cow parsley are the most abundant species, with others including creeping thistle, hogweed, hedge mustard, common mallow, lesser burdock, and mugwort.

## **Standing Water**

Two areas of standing water exist on the site. There is a rectangular pond in the north part of the site that is currently entirely fenced off. The second pond is very small and situated next to the wet woodland on the southern edge of the pitch-and-putt course.



## **Running Water**

The Pyl Brook runs through the southern part of the site. The channel is quite narrow and confined within timber toe-boarding. The brook is heavily shaded by neighbouring woodland for most of its length, which in conjunction with the toe-boarding limits the potential for the development of marginal and aquatic vegetation.



The Pyl Brook has been canalised in the past and the banks consist of wooded toe-boards or concrete. It is a green corridor linking the site to other wildlife areas.

## **Fauna**

The animals of the site have not been recorded in any detail. It would be desirable to carry out surveys of birds and invertebrates in the near future. No comprehensive invertebrate survey has been carried out and records relate mostly to butterflies. In addition, other groups such as

amphibians and reptiles should be recorded as and when the expertise is available (e.g. students).

## **Mammals**

Grey squirrels are the most commonly observed mammals and foxes also occur. The only other mammal recorded is the 55KHz pipistrelle bat.



## **Birds**

A variety of common woodland birds were noted in the woodland parts of the site including wood pigeon, green woodpecker, chiffchaff, black bird, great tit, starling, magpie, and Carrion crow.

## **Education**

The Park, as a piece of semi-natural encapsulated countryside in an urban area has great potential for the teaching of Natural History and Nature Conservation issues involving field visits to the site. Local Schools and Colleges could be encouraged to use the site by the provision of curriculum based educational teaching material relating to the wildlife and history of the Park.



The National Curriculum includes provision for environmental education at all ages and in a wide range of subjects. Most GCSE syllabuses in science and geography require children to undertake fieldwork.

For wider environmental topics, a good source of material is WATCH, the junior branch of the Wildlife Trusts, which produces information packs on many issues. Schools, youth groups and individuals can join WATCH and will receive regular newsletter, as well as the project packs. WATCH in London is organized by the London Wildlife Trust, and produces Wild Seasons, a newsletter for schools, every term.

Local schools could be involved in the management of the site. A number of projects exist in which the pupils could become involved. The most interesting is probably the planting of oaks grown from seeds collected on the site. The children could be involved in the collection, growing and planting stages and then be able to come back in the future to see how successful it has been. Another project would be the hedge creation.

## Compartments

Compartments are areas within the Local Nature Reserves that have specific features. This chapter gives a description of each of the ten compartments found in Morden Park. A map showing the compartments and their locations is found in Appendix B.

### Compartment 1

This is the main area of neutral semi-improved grassland and is the largest compartment. It was formerly managed as short-mown amenity grassland but the cutting regime has now been relaxed and large areas are now managed as wildflower meadow. Perennial ryegrass, which is indicative of improved grassland is still dominant over extensive areas, however there are significant expanses of more species-rich typified by the presence of a variety of grasses, including the meadow grasses, Yorkshire fog, red fescue, meadow fescue and crested dog's-tail. Wildflowers include meadow buttercup, sorrel, bird's-foot-trefoil and oxeye daisy.

### Compartment 2

This is another area of neutral semi-improved grassland supporting a similar range of species to Compartment 1. It is situated on the lower slopes of the hill down to the Pyl Brook adjacent to the woodland and scrub.

### Compartment 3

An area of mixed native and non-native broadleaved woodland derived mainly from planted trees which include Turkey oak, English oak, ash, common lime, hippocastanum and grey poplar, amongst other. There is an understorey of hawthorn, holly and blackthorn. Elm suckers form thickets in places. The fiel layer is generally dominated by ivy, bramble, stinging nettle and cow parsley. Nearby, on the edge of the pitch-and-putt course, localised water-logging has occurred and a number of trees are dead or dying. Italian alder has been planted in this area.

Two small glades (sub-compartment 3a and 3b) occur in the woodland, which are dominated by nettles.

The small pond (3c) in the waterlogged area on the northern edge of the woodland contains water starwort duckweed, hard rush and figwort. The surrounding area (3d) is very wet and supports wet grassland species such as marsh foxtail, hairy sedge and yellow flag iris.



**Compartment 4**

This compartment consists of small areas of woodland which occur within the central grassland composed largely of mature English oak and horse chestnut as well as areas of young planted woodland containing trees such as silver birch, ash, field maple, wild cherry, hazel, hawthorn and other species. Sub-compartment 4e is composed of large mature oaks underplanted recently with native whips. Some of this planting has been successful but some appears to have failed. Further planting should take place using seed collected onsite, possibly involving a local school.

**Compartment 5**

This compartment consists of the historic Mound and supports and woodland habitat similar in nature to Compartment 4. Erosion is occurring due to visitors climbing the steep slopes.

**Compartment 6**

This is the area of grassland on the site of the old ILEA playing fields. The grassland is particularly diverse, with species including tall fescue, sweet vernal-grass, slender soft-brome, grey sedge, bulbous buttercup bulbosus, hawkbit, hairy tare, grass vetchling and meadow vetching. The meadow to the east of the mature oak woodland supports a generally drier and shorter grassland sward, of note for the abundance of glaucous sedge.

**Compartment 7**

An extensive area of mature, English oak-dominated woodland to the north of the site, running south from the tennis courts in the old ILEA playing fields. The trees are quite widely spaced and the woodland has the character of a parkland, with a grass dominated field layer. There are several dead trees, which provide a valuable dead wood habitat. Thickets of regenerating ash occur in places, whilst other tree species include horse chestnut and turkey oak. Patches of bramble and stinging nettle occur in the field layer, together with grasses such as rough-stalked meadow grass, cocksfoot and foxtail.

**Compartment 8**

This is the largest area of open water on the site. It is fenced off from the rest of the site and surrounded by dense shrubs and trees. It supports patches of marginal vegetation which include reedmace, yellow flag iris and hard rush. Bushes of grey willow *Salix cinerea* also occur. It appears to be rather silted up.

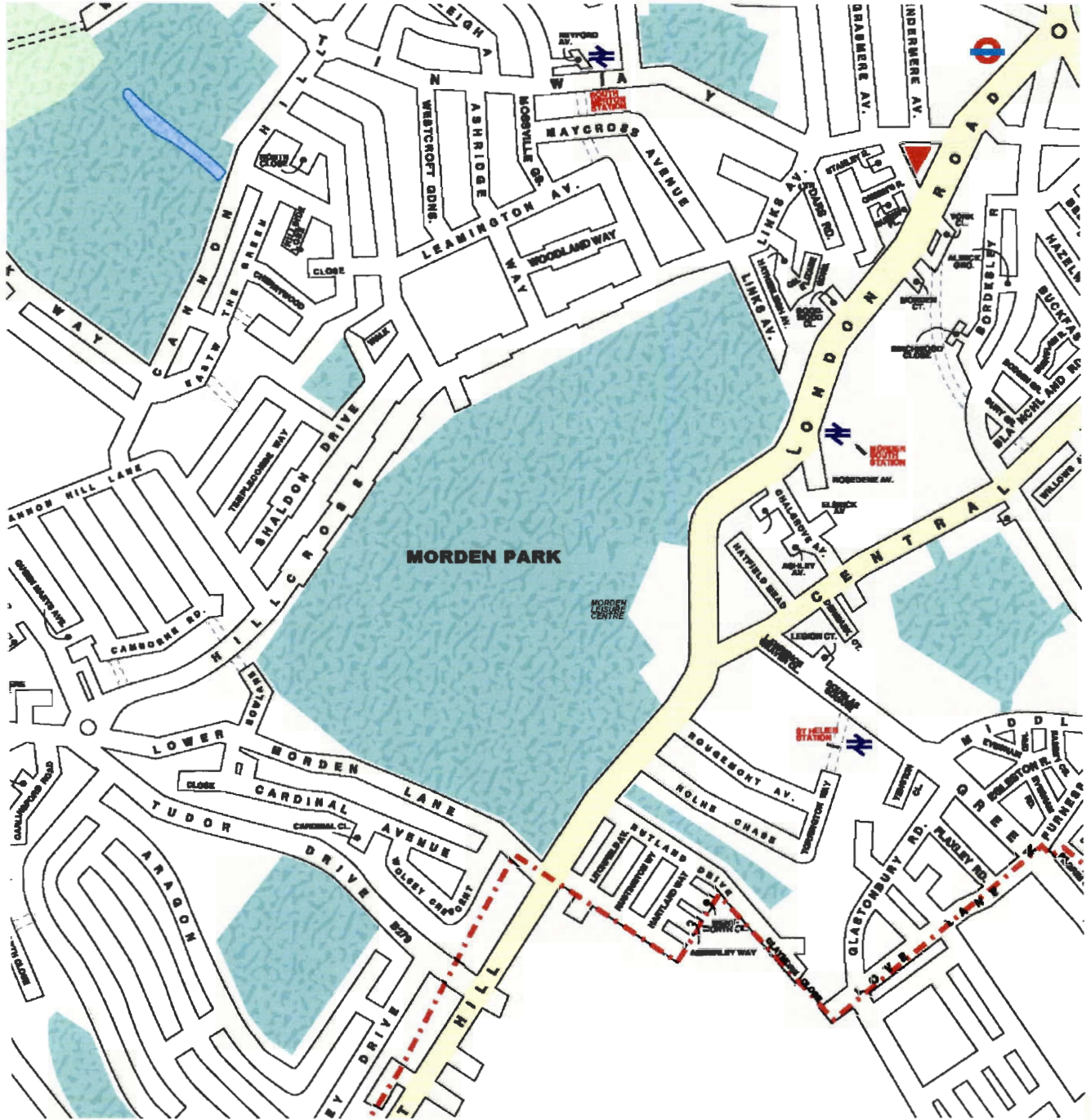
**Compartment 9**

This is the densely wooded strip on the west and east boundary of the site. The species make up is similar to Compartment 3. A line of large horse chestnuts runs along the centre for much of the length. A well used footpath with a surface of wood chips run through the site.

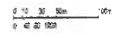
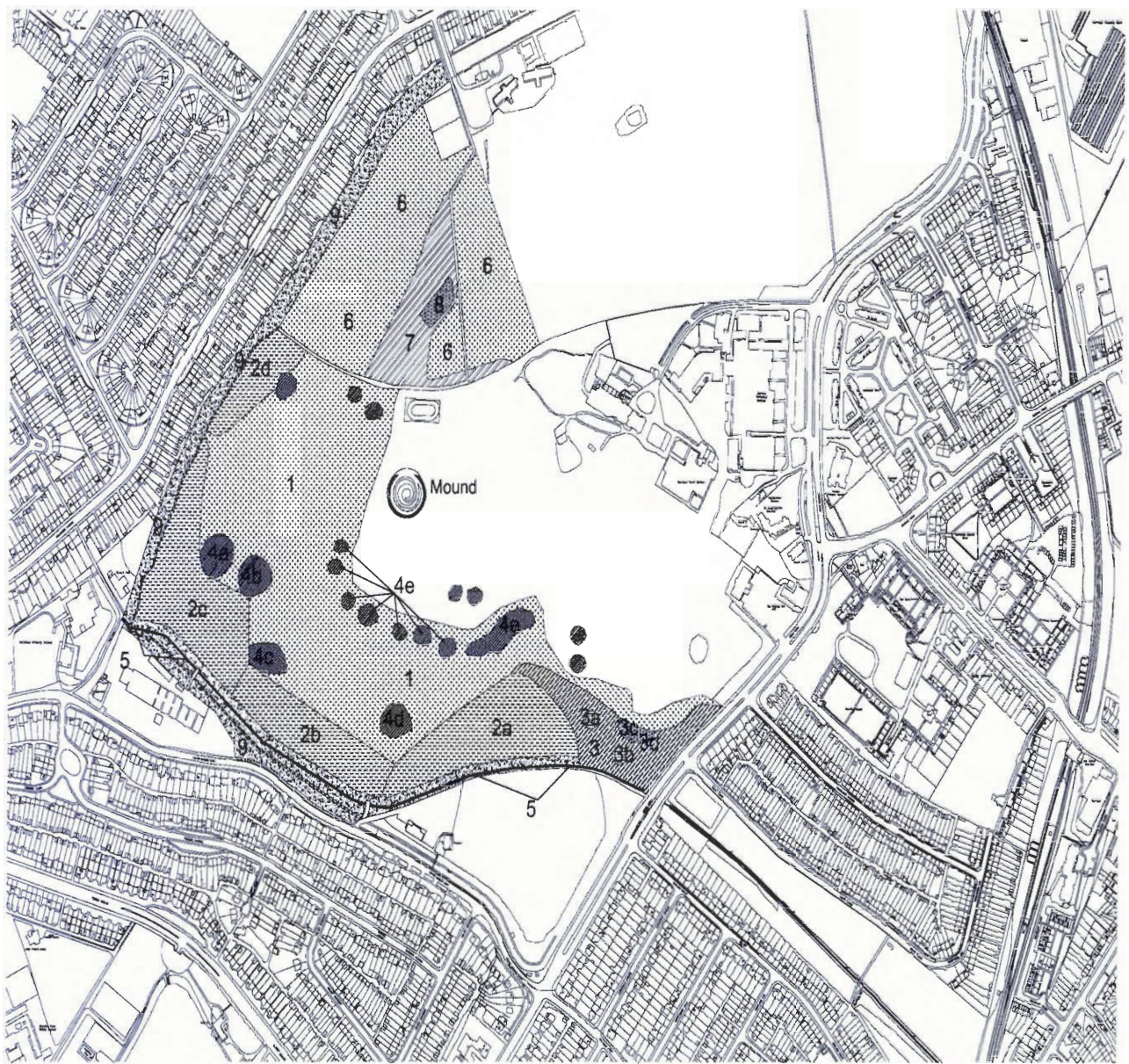
**Compartment 10**

This is the Pyl Brook, which runs through the southern part of the site. The channel is quite narrow and confined within timber toe-boarding and is heavily shaded by neighbouring woodland for most of its length. Vegetation includes occasional patches of water starwort and Canadian pondweed in the channel and fool's water-cress and flote grass sporadically on the margins.

## Appendix A: Location of Morden Park



Appendix B: Map of the Compartments



Notes					
	Compartment 1 Hay Meadow		Compartment 3c Small Pond		Compartment 6 Hay Meadow (Playing Fields)
	Compartment 2a-d Meadow on Rotation		Compartment 3d Wet Grassland		Compartment 7 Mature Oak Woodland
	Compartment 3 Mixed broadleaved Woodland		Compartment 4a-e Developing Woodland & Native Oaks		Compartment 8 Open Water
	Compartment 3a-b Glades		Compartment 5 Pyl Brook & Banks		Compartment 9 Woodland Strip

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PROJECT  
Morden Park

Drawing No.	DRG_NO
Sheet	1 of 1
Scale	1:5000
Date	August 2001
Drawn by	P Liapis



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URL: [http://www.englishoutdoorcouncil.org/Values\\_and\\_benefits.htm](http://www.englishoutdoorcouncil.org/Values_and_benefits.htm)