1.0 The Monitoring Strategy

This strategy is the results from the draft Strategies for monitoring Thames Basin Heaths from Footprint Ecology and David Tyldesley Associates, the Monitoring Strategy Workshop 13 May 2008 and the responses to the consultation (consultation period June – September 2008).

1.1 Executive Summary

The Key Elements of the Monitoring strategy are set out in Table 1.

Table 1: Reporting Process

LA – Local Authorities, GOSE – Government Office for the South East, SEERA – South East England Regional Assembly, NE PM - Natural England Project Manager, SBIC- Surrey Biodiversity Information Centre, AMP – Access Management Partnership

When	What	By Whom
Monthly	Planning Permissions and s106 agreements	LA to GOSE
6 monthly reporting to NE PM, JSPB Officer Steering Group, AMP	- Planning Permissions & s106 contribution summary - Forward Allocation of Housing - SANG visitor surveys, numbers and improvements - Visitor Numbers & Surveys from Pressure Pad Counters on SPA	GOSE to NE PM/SBIC SEERA LAs to NE PM/AMP
Annual Report to JSPB (and TBH Forum)	- Total Planning Permissions - Trends Analysis against baseline - SANGs and SPA visitor numbers (Pressure Pads) - Visitor Behaviour (New Questionnaires and Surveys) - Approx 2 LA Residents/Citizens Postal Surveys per year - Bird Surveys - Early Response to SANGS and Access Management Measures	GOSE NE PM/SBIC SBIC SBIC/LA/NEPM NE PM/SBIC/LA NE PM/SBIC NE PM
5 yearly Review to JSPB and stakeholders	- Full SPA visitor survey - Analysis of Postal Surveys - Analysis of Visitor Numbers - Analysis of Visitor Behaviour - Evaluation of SANG qualities - Evaluation of effectiveness of SANGs and Access Management Measures	NE PM/SBIC SBIC/External Contractors With JSPB and AMP

Recommendations For Thames Basin Heaths SPA Monitoring:

1. Pressure mats to estimate visitor trends over time across 60-80 points on the SPA and SANGS.
2. A baseline visitor survey of 30-50 locations across the SPA (to build on the previous 27).

3. A simultaneous count by volunteers/wardens/existing land managers across the SPA and SANGS car parks 4-6 times a year to check numbers, distribution and trends in car users co-ordinated by NE Education and Communications Officer.
4. Postal surveys using primarily Local Authority services (eg Citizen Panels) looking at open space usage. (Aiming towards 15,000 residences or 3.000 returns across the TBH area over 5 years).
5. Recording fires and other incidents through the Access Management Partnership Reports.
6. Annual bird surveys for 5 years, funded by developers.
7. Full review of project, funding levels and balance between SANGS and Access Management after 5 years.

Costings
An approximate level of likely costs for the recommended monitoring programme is given below:

Type of Monitoring	*Provisional Costing (£000)*
Capital item/initial costs	
Installation of 80 pressure mat counters (land managers – WTs contract with provider?)	55
Initial visitor numbers and questionnaire surveys with analysis across the SPA/SANGS (Co-ordinated by Project Manager done with Records Centre contracting out analysis) – includes people on the ground (data collection – analysis), collation of the evidence and analysis across 13 sites, 30-50 access points	40
Total Capital Costs	95
Yearly costs	
Full Visitor Survey on the SPA after 5 years (collected per annum)	10
Annual maintenance of pressure counters (Landmanagers paid through contract most likely to be WTs with provider).	3
Fire recording, collation and storage (AMP regular reports fed to Records Centre with Annual report co-ordinated by NE Proj Manager)	2
Site capacities initial survey and analysis (SBIC)	13
Collation and storage of records (planning decisions, visitor numbers, questionnaires, birds surveys, SANGs progress, JSPB reports, scientific evidence) - SBIC	12
Funding support for bird surveys (NE PM administered through existing contract)	5
Car park counts analysis (co-ordinated by Educ/Comms Officer, depends on volunteers and landmanagers)	2
Household postal survey on open space usuage (done through existing citizens and resident panels and/or LA avoidance strategies)	(advice from LA but suggested around £1-2k per year
Total annual Costs	£49k

2. Context for the Monitoring Strategy

The Thames Basin Heaths (TBH) Special Protection Area (SPA) was classified in 2005 to protect and manage the ecological structure and function of the area to sustain the nationally important breeding populations of Nightjar *Caprimulgus europaeus*, Woodlark *Lullula arborea* and Dartford warbler *Sylvia undata* for which the site was designated. The SPA consists of some 8275 ha, spread across 13 Sites of Special scientific Interest (SSSIs) and distributed in three counties (Surrey, Berkshire and Hampshire) and 11 local authorities.

The Thames Basin Heaths SPA is also spread across one of the most densely developed parts of southern England with an estimated population in 2006, within the 11 local authorities, of 1,205,000 people, rising by 97,100 to 1,303,000 by 2026[1]. Evidence of high levels of visiting to the TBH, and of existing urban effects on heathlands generally in southern England, led to concerns that additional development would lead to an increase in pressures. This proposed monitoring is funded from developer contributions because it is necessary to demonstrate that there are no adverse effects upon the SPA from the rising population and the proposed avoidance measures are working.

In 2005, following consultation with, among others, Local Authorities and Conservation Organistions, Natural England proposed a generic and strategic mechanism for assessing in-combination effects of house building which was incorporated into a Delivery Plan for the Thames Basin Heaths SPA [2]. The Delivery Plan proposed three broad strands for mitigating the pressures from new development: The provision of alternative open spaces for recreational use (now referred to as Suitable Accessible Natural Greenspaces or SANGS); access management to mitigate the impacts of current and future users of the SPA; and on-site management to bring the constituent SSSIs into favourable condition.

This monitoring tests the effectiveness of SANGs and Access Management, both in terms of capacity and in offering an alternative to the SPA as a visitor attraction. The concept of attracting visitor pressure to alternative, less sensitive sites is a new solution to addressing pressures of recreation on designated sites. The effectiveness of SANGs depends on putting in place features or facilities that attract the regular visitors away from the SPA.

It will also be necessary to monitor the effectiveness of the overall measures in preventing an increase in visitor pressures on the SPA and to determine whether these measures are effective in maintaining and enhancing the populations of Annex I birds. Without a structured approach any monitoring programme is likely to be inconsistent, irregular and sporadic and will not provide the results which the Joint Strategic Partnership Board, Conservation Bodies, Local Authorities and developers are looking for, to measure the effectiveness of the mitigation and avoidance measures, the provision of benefits to local communities and their value for money.

[1] Taken from the forecast by GOSE figures based on the 2003 population figures and submitted to the Assessor at the EIP in 2006/7

[2] English Nature. Thames Basin Special Protection Area: mitigation standards for residential development. May 2006

3. Approach to monitoring

The methods for data collection should be standardised and readily repeatable on the target site (SPA or SANG) to reveal changes and allow valid comparison; and the design of individual monitoring opportunities, or the summation of different data sets should allow for collection of the most robust evidence of response. Finally, the data gathered is a valuable resource that needs to be stored securely; but it must also be accessible and readily available to the widest audience, from site practitioners, to the public and not least the Joint Strategic Partnership Board.

Various surveys have been conducted already, usually directed at answering specific questions about a site or collection of sites within a given area. Thus, some TBH local authorities have commissioned visitor surveys to test the appropriateness of sites to function as SANGs. In order for this information to be of most value in comparison with other situations in other parts of TBH, or to be repeated and for results to be capable of comparison over time, it is most desirable that the type of survey and methodology follow the same standard format. Other important data sets have a much longer history, such as the long-term monitoring of Annex 1 bird numbers and distribution. Again, in order to be able to derive the maximum benefit from these surveys, and for the method to be repeatable, perhaps by different surveyors or volunteers, and to be available for statistical comparison, a common methodology must be followed.

It is also critically important that initiatives in one area do not displace visitors and cause adverse impacts elsewhere within the SPA. The impacts of access management might be detected by monitoring one site but have merely shifted the problem to another part of the SPA, in another authority. The early establishment of a single, SPA-wide approach to monitoring and the storage of data is very strongly advocated.

The effectiveness of the Interim Strategic Delivery Framework and the Local Authority Avoidance Strategies approach will be revealed by monitoring. The success of the Delivery Framework relies on the future of new development in TBH, if the statutory requirements of the SPA are to be adequately met. To be sure that the solution is in practice effective, monitoring must be in place across all authority areas in TBH.

Key Recommendations:

Strategic, comprehensive, SPA-wide application of monitoring

Standardised, repeatable methodologies

3.1 The recommended TBH monitoring programme

The purpose of a monitoring programme as:
To monitor the effectiveness of SANGS and access management in mitigating or avoiding impacts from the additional visitors resulting from an increase in housing provision, on the interest features of the Thames Basin Heaths SPA.

This requirement has several strands:

- To determine the effectiveness of SANGS in diverting visitors away from the SPA
- To determine whether SANGS can offer sufficient capacity

- To determine the effectiveness of SANGS and access management measures in maintaining and enhancing the populations of Annex I birds on the SPA

4. What to monitor

4.1 Planning and Contributions Monitoring

Currently the planning permissions and s106 agreements (including SANGs delivery) are reported to the Government Officer for the South East. The proposed monitoring will need to analyse , for each Local Planning Authority and jointly, the outcomes of planning applications and compliance with the Delivery Framework. For the Annual Monitoring report, the results from the planning permissions and s106 agreements that meet the Delivery Framework and Avoidance Strategies/'mini' pans can be provided by GOSE , whereas those planning permissions and appeal decisions that vary, will need to come separately from Local Authorities and Natural England (see below), this information will be held and analysed by the Surrey Biodiversity Information Centre and The annual monitoring report is to be co-ordinated by the Natural England Project Manager. There is a need to ensure that all TBH tariff receipts are identified and traceable through audit trails in each LPA. A standard monitoring form for reporting planning permissions and s106 agreements across the 11 local authorities, with in- house monitoring favoured by Local Authorities as the best way forward. A standard form could also be developed for the screening of non-residential developments.

Action: Local Authorities, GOSE and Natural England to co-ordinate a standard form for reporting planning permissions & s106 agreements.

4.2 Additional Reporting Required

In addition to the net new residential developments reported to GOSE that conform to the Delivery Framework and individual local authority avoidance strategies. The following will also be needed to be reported to Natural England Project Manager and included within the annual report to the JSPB:

(i) Report all relevant net developments within the 400m exclusion zone were refused planning permission or granted permission for reasons appropriate to Delivery Framework (e.g. separated from the SPA by major physical barriers) – **Action: Local Authorities in consultation with Natural England to report**

(ii) Report all Use Class C1, C2 and C3 relevant net developments that provided avoidance and mitigation measures or a contribution to them noting any exceptions because they comprised C1 excluded care establishments, or C2 and C3 proposals with no on-site staff accommodation unless compliant with the exception criteria in the Delivery Framework (see 7.1) – **Action: Local Authorities in consultation with Natural England to report decisions**

(iii) Report all cases where a proposal provided (through S106 agreements) all or part of its own SANGS or other measures and therefore a reduced or nil contribution to the standard tariff, check how they were processed, how they were assessed for partial or entire relief from general contributions and whether they were subject to Appropriate Assessment or the arrangements were considered to avoid a significant effect. –**Action: Local Authorities in consultation with Natural England to report decisions**

(iv) Report the number, nature, location and reasoning for all residential developments that were subject to an appropriate assessment, including those beyond 5km. –**Action: Local Authorities in consultation with Natural England to report decisions**

(v) Report the number, nature, location and reasoning of all non-residential proposals that were screened under the Habitats Regulations and whether they were subject to tests for likely significant effect and / or appropriate assessment or no further assessment was made. – **Action: Local Authorities in consultation with Natural England to report decisions**

(vii) Report the outcome of assessments for pre-existing permissions subject to reserved matter applications, or applications for approval under conditions precedent, or for significant variation in the 400m exclusion zone. **- Action: Local Authorities in consultation with Natural England to report decisions**

(v) Report and Check that actual and anticipated income to enable the TBH Delivery Framework with the Access Management and Monitoring Project is likely to be sufficient to cover costs or excessive in order to inform tariff reviews if required.

- Action: NE PM with Hampshire County Council

4.3 The Annual Monitoring Report will also need to consider:

(i) Potential withdrawal of tariff contributions by developers. **– Action: Report to Officer Steering Group include within Annual Report (co-ordinated by NE PM)**

(ii) Analysis that housing delivery in terms of allocations, permissions and completions are consistent with the anticipated dwellings to 2026 **– Action: SEERA to provide data**

(iii) The monitoring will also need to address the timescales of delivering SANGS. SANGS are needed in advanced of housing being occupied. The funds can only be committed once the building has commenced. The 'stream' of allocations in Development Planning Documents will need to be monitored and checked against the actual delivery of housing

and the promotion / allocation of housing in the LDFs. **– Action: SEERA to report progress with housing allocations and future projections**

(iv)The take up and progress towards issuing a draft TBH SPD will also be monitored, through LPA LDS and by analysing actual progress relative to intended progress. Impediments to delivery of an SPA wide suite of SPD will be checked and reported as necessary. -
- Action: Local Authorities and Natural England within annual monitoring report

(v) The monitoring will need to carry out a structured and rigorous audit of contributions and their outcomes. -**Action: Local Authority officers undertake role of audit, permissions and s106 agreements collated by GOSE (monthly) then submitted and analysed for annual report to the JSPB/Records Centre)**

4.4 The 5 year review will need to analyse, for each LPA, the identification, allocation and delivery of SANGS using the following methods:
(i) Analyse the appropriate spatial distribution of SANGS by size and type to meet the requirements of Delivery Framework, e.g. in respect of <10 dwellings / 10 or more dwellings, areas of exceptional need and pressure areas.
– Action: Natural England Project Manager and Surrey Biodiversity Information Records Centre with External Contractors

(ii) Evaluate the SANGS standards for quantity and quality relative to the Natural England guidelines and whether they meet the user needs
– Action: Natural England Project Manager and Surrey Biodiversity Information Records Centre with External Contractors

(iii) Ensure a structured audit for each LPA area of contributions are received and how they are held, including a review of the method and timing of payments relative to grant of permission, or commencement, or completion, or occupation and when and how they are expended
- Action: NE PM to co-ordinate with LPA (Officer Steering Group) and External Contractors

(iv) 5 year monitoring review will need to Analyse the rate of expenditure relative to dwelling completion / occupation (see Appendix 3 on occupency below) and delivery of SANGS

- **Action: Local Authorities with NE PM**

5. Visitor Monitoring on the Special Protection Area (SPA)
Key Recommendations

Establish key baseline information – on visitor impacts; and birds

Careful design of targeted monitoring – robust, repeatable, long-term

A key question to be able to answer, in assessing the success or otherwise of the Delivery Framework, hinges on the number of visitors to the SPA (and SANGS) stable, increasing or decreasing overall, and are any sites or groups of sites different from the rest?
visiting the SPA; is this static, rising or falling? There is a need for this information as a reliable figure for the number of visitors across the SPA.

There is also the need to determine and monitor the origin of visitors as this can inform mitigation provision such as the best location for Suitable Accessible Natural GreenSpaces

SANGs and the zone of influence for the SPA (currently set at 5km). Beyond basic numbers there is a key area to test and that is behaviour of visitors. For instance, a continuing increase or static level of visitors may not present such an impact on the SPA if the activity and practices of those visitors is modified.

As indicated above, a key question to address, to be able to gauge the level of current impact and how this may change with alternative provisions (eg SANGs) is that of the number of visitors to the TBH SPA. There is already a substantial body of information (in Liley et al) and this was derived from actual counts of people visiting the SPA. In this study, a total of 26 access points across the SPA were observed and all visitors counted at each point, at eight 2-hour periods throughout several days during August 2005. A total of 2856 people were counted in this survey, from which it was possible to extrapolate a yearly total of visitors for the whole SPA. This has given an estimate that can be used to measure change.

This survey should be repeated, to precisely the same format and at the same locations, at intervals, to assess any long-term trends. It only sampled 26 access points (there are perhaps nearly 700 SPA access points in total); and it was conducted only during August with an assumption made, to compute the overall annual visitor total, that the level of use remains constant throughout the year.

5.1 Visitor Counts: The use of pressure pads are accepted as the most appropriate method for collecting of visitor numbers, in light of the need for ease of installation and operation, reliability, consistency and vulnerability to theft and vandalism. These are placed underground, with the loggers and batteries also hidden below ground. They can be adjusted to the ground conditions, the memory cubes in the loggers need to be replaced and downloaded at 1-6 month intervals and the batteries will last 8 months or longer. They will record the times of visits as well as numbers. Existing visitor surveys suggest that this ratio can vary substantially from site to site and so would need to be sampled across a range of sites to ensure reliability.

On this basis, it is anticipated a total of between 60 and 80 monitoring points would be necessary to monitor visitor trends on a sample of SPA sites and SANGS sites, and would anticipate that these would be in place for at least five years (have allowed for 60-80 in the provisional costings). The precise locations of the pressure pads should be decided strategically after discussion with local site managers and landowners. This is because while local site managers and landowners will have local knowledge on which locations are best on their sites, it is also necessary to make sure that the locations are spread across the SPA and sample the full range of access points and path networks. For example, recording points will need to sample car parks of different sizes rather than just the large or medium car parks.

Where there is a need for monitoring visitor numbers for a particular purpose at a site, a new visitor information facility for example, then the most appropriate type of sensor should be used, but if this is of a different type to pressure mats then the results will not be consistent with, or be able to be incorporated into, this wider scheme.

Key Question: Where do visitors come from, who are they and how do they arrive; why do they come and how often; how long do they stay and how far do they go; where else do they go?

Visitor surveys are usually made up of two parts, observations and a questionnaire. Observations allow data to be collected on a range of observed characteristics and

behaviour including different modes of arrival, proportion of people with dogs (see visitor counts), whether dogs are on leads/under control, whether owners pick up mess after their dogs, car occupancy levels (see car counts), group size and proportion of children, ratios of those arriving in cars to those on foot/cycle/horseback etc (see car counts) and so on. For some issues such as proportion for example of those who pick up after their dogs, observations can be more accurate than questionnaires. (Usually observational data is collected by the same people conducting the questionnaire surveys, as part of the same operation).

Questionnaire surveys ask people a range of questions, and can involve locations at access points and out on site, as not all people, and especially walkers from adjoining houses, access sites from car parks. At access points, it is usual to ask people questions when they leave rather than when they arrive, as this enables them to be questioned on what routes they have taken.

Questionnaire surveys can ask a vast range of questions but will usually include questions on where they have come from (preferably post codes), what transport was used, why they have come, where they have been and what they have been doing.
It will be particularly important to obtain information on visitors post codes and on the other sites they visit off the SPA. This will enable significant switches from SPA to SANGS to be identified. Such a survey can also set base lines for visitor's knowledge of, and attitudes towards, the SPA, and these can be subsequently monitored in the light of education and information initiatives both on and off site, which are difficult to measure individually. This could include the attitudes and behaviour of dog owners and their control of their pets. They can also be asked about what they like/dislike about the site, where else they go (and the what/why/where and how questions asked again), as well as more personal questions about age, housing, employment etc. Both on the SPA and on SANGS these surveys would seek to clarify the reasons that people chose these over other sites and the factors that might persuade them to switch.

Visitor questionnaires have to be well designed, targeted and relatively short, and the questions presented in a way that does not suggest answers and is amenable to rigorous analysis of results. Count methodology also has to be consistent and comprehensive, such that all questioners are asking the same questions in the same way and within the same time periods.

A number of earlier surveys have been carried out in TBH both across the SPA, on individual SPA sites and on individual and groups of SANGS. These surveys vary widely in their depth of questioning and degree of analysis.

It is recommended that a larger and more representative base-line visitor survey be carried out on the SPA and distributed across the range of sites, and including both car and foot access points and within-site locations. It is recommended that to achieve a comprehensive coverage, 50 locations should be surveyed. A proportion of these locations could include a number of the 27 sites included in the original survey to allow some comparisons.

-Action: NE PM to co-ordinate baseline surveys on SPA with SBIC in 2010.

Surveys should be conducted over two days at each location, a weekday and a weekend day and should use tried and tested methodology based on two hour periods. It is recommended

that an initial survey be repeated after five years and depending on results, at five or ten year periods thereafter.

-Action: NE PM with SBIC to agree with TBH SPA land managers installation and data collection of pressure pad. 6 monthly and annual reporting of visitor numbers.

-Action: Will need a representative monitoring steering group from AMP & JSPB Officer Steering Group. NE PM to co-ordinate

5.2 Visitor Interviews (on SPA and SANGS)

5.2.1 On –site visitors: To determine behaviour on site or to derive further information about where visitors have come from or why they choose to visit the SPA, more direct monitoring, by observation or interview is necessary.

The 2005 TBH survey (Liley et al) counted numbers of people visiting the SPA. But the observations also enabled much more information to be collected, such as numbers of people accompanied by dogs. The use of interviews on this survey also provided the best information available for TBH on the purpose of visits, the distances travelled and means of travel, frequency of visits and whether other sites are routinely visited. Though there is a far greater investment in staff resources to conduct interviewing, whether direct labour, volunteers or contractors, there is no substitute for the detail and breadth of information that can be captured by this approach. But, partly because of the resource implications and also to avoid interview fatigue by visitors, especially at a time and place where they might not be sympathetic to questioning (perhaps leading to the risk of false information being given), care must be taken not to over-use the interview technique at least. If markedly fewer people allowing their dogs to run loose, even if the total number of people remained the same (or even increased a little), may in effect represent an improvement. Such an improvement could be revealed in the performance of the Annex 1 birds – demonstrating the often inter-related nature of the monitoring avenues.

The 2005 TBH methodology and survey points must be used in the repeat count/interview monitoring. This is because (1) it was specifically targeted
(2) Easy to compare results over time
(3) repeatable format.

All Questionnaires must use of visitors' home postcodes to provide a basis for calculating the travel distances of visitors to the heath as it was more reliable than asking distance travelled and gives a better guide for SANG provision.

As mentioned in the previous section the survey should be repeated at a further 30-50 sites in 2010 for the further establishment of the baseline in 2011 and repeated for all access points at the 5 year review.

- Action: NE PM to co-ordinate with SBIC surveys in 2010 and for 5 year review

5.3 Household Postal Surveys: Offsite interviews in addition to the on-site interview approach is that of contacting a sample (as large as feasible) at home. Most Local Authorities have existing residential surveys facilities such as Citizens Panels or similar. These panels have advantages in that most of the Local Authorities have these structures (see Appendix 2).

1. Sample size is usually more than 1000 in each local authority
2. These surveys often have good return rates
3. Inexpensive as the systems are already set up
4. Avoids on site survey fatigue.

Using Citizen Panels and similar also integrates open space provision with other priorities within Local Authorities.

Key Question: Where do people go from different parts of the SPA area and what proportion visit SPA, SANGS other open spaces or none of these?

The postal surveys provide confidence in the source of TBH visitors from the local population, the proportion within the 5km boundary, the frequency of use, the variety of open space used and Information on where people go for their open-air recreation. This will provide confidence from Developers, Local Authorities and Natural England that the tariffs are applied at the appropriate level.

A postal survey could give information on:
1. Where people across the whole local population typically go to visit all the different types of green space, including SPAs, SANGS and other open spaces. (some of which will be potential SANGS)-comprehensive picture.
2. Allow the collection of more specific data eg. pets etc.
3. Obtain more detailed information on why people visit certain sites eg site characteristics, access provision, ease of travel etc – which would aid further refinement of SANGs guidelines.
4. Collect suggestions from people about potential alternative locations that might meet their recreational needs.
5. Allows a repeat survey to monitor changes in attitude and behaviour as access management and SANGS programmes progress.

This data would be collected on two to 3 local authority areas a year (depending on LA support) with first analysis at 5 years. It is recommended that an initial postal survey be repeated every ten years.
- Action: The TBH NE project manager with the SBIC would co-ordinate a programme of surveys with the Local Authorities. Trends would be identified for both SPA and SANGs.

Where a Local Authorities does not have this facility or is unwilling to engage with this then the avoidance strategy needs to identify and resource how this evidence can be gathered. This in turn could inform the strategy for SANG provision, both in terms of location and site characteristics.
- Action: NE PM to agree change with LPA in avoidance strategy/mini plan

In order for valid comparisons to be made, between sites and/or over time, survey information must be collected in a repeatable way, using the same questions (based on NE Open Access Toolkit see standard SPA/SANG questionnaire from Footprint Ecology).

5.3 Car Park Counts
Key Question; What is the best estimate of the total number of visitors to the SPA and SANGS and is the distribution and number of parked cars changing over time?

As an additional monitoring opportunity and in order to monitor the use of cars and the capacity of car parks as well as getting some estimates of the total number of car users across the SPA and SANGS, it is suggested co-ordinated simultaneous car park counts, carried out by volunteers et al up to six times a year, together with estimates of car occupancy rates. Together with estimates of the proportion of visitors who arrive by car compared with those who arrive by other means (see later), these data will allow comparatively accurate estimates to be made of the total number of visitors to the SPA and SANGS.

Car park counts provide a very simple and potentially comprehensive monitoring of SPA visitors arriving by car. To avoid double counting or missing sites or visitors, such a count – simply of the numbers of cars in all or a sub-set of site car parks – should be co-ordinated and made at every parking spot at the same time. To capture different patterns of use (eg early morning visitors), the counts should be conducted at several set times and days of the week. The information gathered is limited, since no measure of numbers of people in each car is recorded, or whether dogs or cycles are being brought onto site, or necessarily those visitors who do not travel by car, but such a survey would be very rapid and easily repeated. It can also be accomplished to some extent in the course of routine patrols. It would reveal changes in patterns of use over time or season and if calibrated, with more detailed observations of actual numbers of people, taken at some of the sites at the same time, could be used to act as a rapid surrogate for people counts.
- Action: NE Education & Communication Officer to lead with AMP member support co-ordinated joint activity between wardens, volunteers and existing land management staff.

Car park monitoring of course is every bit as valid in checking the use of SANGs; indeed sampling both types of sites in this way could be done both simultaneously and separately, to assess whether the sum of the 2 site types equates with total single figures. This could reveal if SANGS are attracting a different, additional clientele from the SPA or if they are indeed providing a counter attraction.

- Action: NE Education & Communication Officer to lead with AMP member support co-ordinated joint activity between wardens, volunteers and existing land management staff.

5.4 Other Incidents

5.4.1 Fire

The incidence of fires is a direct result of human activities on heathland as most fires are started either accidentally or deliberately by people. Accurate recording of the number of fires using a standard recording proforma and the location and extent of fires (using GPS to measure the extent of those over 10m^2) is a straightforward measure of human impacts of heathland. Collecting this information on a standard format will allow monitoring of the frequency and distribution of fires, and will help in targeting education or preventative measures, and allow the effectiveness of these in turn, to be monitored.

Action; NE PM to record incidents in standard form from Access Management Partnership meetings for annual report

5.4.2 Vandalism, theft, dumping, alien species introduction:

There is a wide range of effects from less desirable visitors both to SPA and SANGS including vandalism, theft, dumping (including dumping and burning out cars), and introduction of alien species. Wherever sites are wardened these incidents should be recorded on a standard form and input into a database. This will, over time provide an indication of trends

and of the distribution of incidents that could help to frame counter measures. This type of monitoring can help to target appropriate responses and then monitor how effective these are.

-Action: NE Education & Communication Officer to develop education programme and record incidents from Access Management Partnership meetings for annual report

A further range of monitoring desirable for the SPA revolves around site fabric, such as the deterioration (or improvement) of paths through erosion, or enrichment by dogs; and the recording of incidents such as fire, rubbish dumping, vandalism and positive habitat management. All of these have direct relevance to the heathland and its species and some at least might additionally lead to changes in the patterns of use by people.

-Action: NE Education & Communication Officer to lead with AMP member support co-ordinated joint activity between wardens, volunteers and existing land management staff.

By recording as accurately and comprehensively as possible all of the one-off incidents over time, a log of the condition of the whole SPA and its component parts will be built up. This would be useful in revealing changing attitudes, perhaps over the life of the Development Plan, such as fewer fires or vandalism events as a result of long-term education and awareness initiatives. Mitigation measures and other initiatives to educate, control or enforce compliance with desirable behavioural norms will need to be brought into the monitoring programme and their effectiveness assessed using before and after monitoring methods to achieve this. These could range from monitoring the effects of a leaflet drop to adjoining owners about dumping garden waste over garden fences, to the introduction of warden patrols, initiatives to encourage visitors to pick up after their dogs, to enforcement of bylaws to keep dogs under control, or a video to be shown to local schools on the consequences of starting heath fires. In each case, the initiative should be monitored to assess its success and lessons learned absorbed and passed onto others.

-Action; NE Education & Communication Officer to develop education programme and record incidents from Access Management Partnership meetings for annual report

The detailed recording of the state of a sample of paths, again repeated with the same methods and at the same locations would reveal whether impacts were increasing or being reversed. The data collected could include fixed-point photographs and some simple measurements such as path width, depth of erosion, and amount of bare ground or vegetation composition.

-Action: Access Management Wardens to lead with land managers of SPA. Opportunities for volunteers co-ordinated by NE Education & Communication Officer.

Key Recommendations:

Repeat at 5-year intervals, 2005 interview of all visitors at key SPA access points, and add winter period

At key locations, install automatic counters for long-term visitor trends

Regular simultaneous car park counts for basic visitor numbers

Postal survey (questionnaire) of sample households for visiting patterns/change

Establish comprehensive site fabric and incident log

6. Visitor monitoring on Suitable Accessible Natural Green Spaces (SANGs)

The visitor features and activities that should be monitored on the SANGs mirror the monitoring requirements on the SPA heaths. The essential question to be able to answer is whether the SANGs are working effectively to help mitigate pressures on the SPA. The same information about numbers of visitors and their behaviour must be gathered and monitored over time.

Surveys: A key difference between the SPA heaths and SANGs is the likely variable establishment of SANGs. As many have some existing access this may introduce additional variability in conclusions but assessment should be done as soon as the SANG comes into operation. The methodology used for the questionnaire surveys follows that recommended for SPA-wide adoption (see standard questionnaire from Footprint Ecology).

-Action: Local Authorities to agree consistent surveys with NE PM & AMP

6.1 Visitor Counts on SANGs: The same basic level of counting visitor numbers is recommended, as for the SPA sites A standardised count should be conducted of all visitors arriving at or leaving the site through the principal access points, at set periods throughout the day, spread across both weekday and weekend periods and at the same periods of the year.

Automated counters (pressure pads) established at appropriate points at the main SANG sites at least, from the start of the time they start to function as SANGs. This will enable the collection of a valuable long-term data set, to observe trends in the use of the SANG and also to compare with other SANGs and the SPA sites. They are relatively inexpensive and give a regular picture of usuage.
-Action: Co-ordinated by NE PM, SANGS land managers reporting to data SBIC and included with annual report to the JSPB.

6.2 Household Postal Survey (see section 4.2) : The use of a postal survey and repeat monitoring, as recommended for SPA information, will automatically apply equally to SANG and SPA visitors since by its nature such a technique is not aimed at the users of any particular type of site.

Key Recommendations:

1. Repeat at 5-year intervals, interview of all visitors at key SANG access points, and add winter period

2. At key locations, install automatic counters for long-term visitor trends

3. Regular simultaneous car park counts for basic visitor numbers

4. Postal survey (questionnaire) of sample households for visiting patterns/change

7. Wildlife

Key Question: What are the numbers and distribution of the Annex I bird species breeding on the THB SPA and how are these changing over time?

Currently, virtually the whole of the SPA is surveyed every year using a network of knowledgeable volunteers to count and map the territories of the three Annex I species, nightjar, woodlark and Dartford warbler. The 3 bird species is the subject of national monitoring on a 10-year basis and this is the most consistent data set available for any SPA. This system works very well in providing an annual estimate of numbers of breeding pairs and their distribution across the SPA. This activity should be encouraged through the use of funding for training, travel expenses and an annual workshop to disseminate and discuss methods and results.

This monitoring is designed to be repeated and include the impacts of recreational activity and the impact on the SPA bird breeding.. Each component of the SPA should be monitored for breeding woodlark, nightjar and Dartford warbler on an annual basis, allowing potential benefits of Access Management and provision of SANGs to be detected and evaluated. If a relationship between bird populations and the avoidance measures can be detected more quickly than the 5 or 10 year surveys, the tariff can be adjusted accordingly.

-Action: NE PM to maintain bird survey contract with developer contributions and ensure SBIC has data (along with other Records Centre in the Region) and included within Annual Report

A range of other activities could affect bird numbers and distribution on the SPA. These include major habitat management for nature conservation (which could include tree and scrub clearance, mowing or cutting regimes, turf stripping and the introduction of grazing), or significant changes in management for visitors or users (introduction of a ranger service, change in numbers of army personnel for example) or substantial commercial management (such as forestry felling or planting). However, the SSSI condition monitoring is on a 6 year cycle (under Natural England criteria). The evidence and data from this monitoring strategy along with habitat improvements or other changes may require a more frequent condition monitoring cycle to address changing circumstances.

-Action: Natural England to maintain SSSI Condition monitoring in line with improvements to habitat and visitor/access management changes.

Key Recommendations

- Annual nesting survey of all SPA for Annex 1 birds through Developer contributions, reported annually

- Enhanced cycle of SSSI condition monitoring

8. Use of Volunteers

There are many advantages to using volunteers. A larger available workforce could be of great value if much information has to be collected in a short timescale or at the same time slots, such as visitor survey or car park counts. Involvement of a wider section of the local population to help in this way, either for occasional specific monitoring tasks, or as part of a longer-term commitment with a “Friends” or local support group, will help to foster ownership of the Delivery Plan strategy and build pride and care for the SPA.

There will usually be a need for training to be provided, especially for instance with the use of volunteers in any direct engagement with visitors, as in interviews. The Natural England Access Monitoring Toolkit is a useful guide to the skills and techniques that will be needed.

As information is gathered and analysed, ensure shared with volunteers and staff before conclusions are publicised.

-Action: NE Education and Communications Officer to co-ordinating volunteer groups with existing SPA Land managers.

Key Recommendations:

Encourage and grow local volunteer or Friends groups

Train & support volunteers and involve in surveys & workshops

9. Storage/handling of records

Key Question: What is the best way of handling, storing and analysing data from the TBH monitoring project?

All data from a monitoring scheme will need to be collected promptly, checked and properly stored before collation and long-term storage. It will also need to be analysed as soon as possible after collection and the results disseminated. Elements of training and supervision, data storage and analysis will need to be done by External Contractors.

There will be a need to organise the installation and servicing of pressure pads. The landowners/managers will be responsible for the counters and the collection of data will be held by landmanagers and the Surrey Biodiversity Information Centre.

-Action: Analysis co-ordinated by NE Project Manager with SBIC.

Monitoring is an absolute requirement of the Delivery Plan approach in order to show that the effective mitigation of impacts on the SPA is in place. The reliable storage of monitoring data is therefore a key consideration. The most cost effective solution would be to utilise an existing data handling facility. The Surrey Biodiversity Information Centre is willing to hold and manage the Thames Basin Heaths SPA information on behalf of the Regional Biodiversity Records Centres.

The monitoring process for the Delivery Plan approach itself will evolve through the life of the delivery framework and the South East Plan. Reviews of monitoring to ensure that lessons are learned and methods and altered, each year with a major review and reporting at the 5-year interval.

10. Summary of key principles for the monitoring strategy
Key Recommendations

Appointment of strategic/SPA-wide team to co-ordinate monitoring

Long-term, secure data storage at appropriate Records Centre

Professional analysis of data

Share results at workshops & conferences

Regular review of monitoring

10.1 Summary of recommendations

1. Pressure mats to estimate visitor trends over time across 60-80 points on the SPA and SANGS
2. A baseline visitor survey of 30-50 locations across the SPA (to build on the previous 27) in 2010
3. A simultaneous count by volunteers/wardens/existing land managers across the SPA and SANGS car parks 4-6 times a year to check numbers, distribution and trends in car users co-ordinated by NE Education and Communications Officer
4. Postal surveys using mainly existing LA services looking at open space usuage. Aiming towards 15,000 residences or 3.000 returns across the TBH area over 5 years.
5. Recording fires and other incidents through the Access Management Partnership
6. Annual bird surveys for 5 years funded by developers
7. Full review of project, funding levels and balance between SANGS and Access Management after 5 years.

11. Costings

An approximate level of likely costs for the recommended monitoring programme is given below:

Type of Monitoring	**Provisional Costing (£000)**
Capital item/initial costs	
Installation of 80 pressure mat counters (land managers – WTs contract with provider?)	55
Initial visitor numbers and questionnaire surveys with analysis across the SPA/SANGS (Co-ordinated by Project Manager done with Records Centre contracting out analysis) – includes people on the ground (data collection – analysis), collation of the evidence and analysis across 13 sites, 60-80 access points	40
Total Capital Costs	95
Yearly costs	
Year 5 Questionnaire survey on the SPA (collected per annum)	10
Annual maintenance of pressure counters (Landmanagers paid	3

through contract most likely to be WTs with provider).	
Fire recording, collation and storage (AMP regular reports fed to Records Centre with Annual report co-ordinated by Proj Manager)	2
Site capacities initial survey and analysis (Record Centre)	13
Collation and storage of records (planning decisions, visitor numbers, questionnaires, birds surveys, SANGs progress, JSPB reports, scientific evidence) - Records Centre	12
Funding support for bird surveys (NE administered through contract)	5
Car park counts analysis (co-ordinated by Educ/Comms Officer, depends on volunteers and landmanagers)	2
Household postal survey on open space usuage (done through existing citizens and resident panels and/or LA avoidance strategies)	(advice from LA but suggested around £1-2k per year)
Total annual Costs	£49

Appendix 1. Summary of recommended monitoring

R - Rangers; AMP – Access Management Partnership, V - Volunteers; C – Contractors; NE – Natural England

Objective	Purpose	Method	Priority	Agency
Visitor numbers	-Repeatable assay of total visitor numbers to SPA/SANG -Long-term info on visitor trends on key sites -Total car-borne visitor numbers -Calibration to relate cars to visitor number	-Head count of people at key access points, set range of times, winter/summer -Automatic continuous counter – pressure pads -Simultaneous car counts at main car parks -Car occupancy	1 1 1 1	R/C R/C R/V R/V
Visitor patterns	-Reason for visit; frequency; use of alternative sites or SANGS; distance walked on site; dog numbers -Origin/distance to site	-Questionnaires/interviews on site/postal -Post code data	1 1	C/R/V C
Visitor pressures	-Number/frequency of fires; area burnt; season -Log vandalism; rubbish; motor cycles; dogs, confrontations	-Record of all fire events -Record of all site incidents	1 1	R(AMP) R (AMP)
Visitor attitudes	-Reaction to initiatives – education; signs; leaflets; school visits	Questionnaires/interviews on site	2	C/R
Visitor behaviour	-Changes after on-site events – habitat mgt; new car park charges; wardening	-Observation on site -Interviews	1 2	R/V R/V/C
Birds	-Number of Annex 1 birds	-Annual surveys of breeding Annex 1 birds on some SPA sites;	1	V/R/NE
SSSI/SPA condition	-Relate habitat condition to management and strategy initiatives	-As standard NE SSSI cycle, but more frequent to check progress more closely	1	NE

Appendix 2

Local Authorities with Citizen Panels

Citizens Panels are made up of local residents (between 1000-2000), in some cases volunteers can join, in other s there is random selection.

Local Authority	Citizen Panel	Randomly selected or Membership for Residents	Comments
Woking	Yes (1400)	Can Join	
Wokingham	Yes (1800)	Random	
Waverley	No		
Bracknell	Yes (?)		Mentioned in Executive
Rushmoor	Yes	Can Join	
Hart	Yes (300)	Can Join	
Guildford	Yes (1300)	Random	
Elmbridge	Yes (1300)	Can Join	
Runnymede	No		
Surrey Heath	Community Panel (1400)	Can Join	Have done partnership consultations (Contact Joanne Hardy)
RBWM	Viewpoint Panel (1800)	Can Join	

Appendix 3: Research Proposed which falls outside developer funding (post consultation)

1. Proposed through Natural England and others) National Research Open Access: Dog fouling and picking up by owners, and dogs not under proper control can be easily monitored using volunteers. These are problems where simple monitoring programmes can test a range of initiatives to change people's behaviour, and where such changes will have real benefits in terms of the conservation of wildlife, public health, the enjoyment and safety of other users.

One study on the TBH suggests that only about 10% of people pick up after their dogs even when notices ask them to do so. This is an area that lends itself to testing a range of initiatives and carrying out simple and effective monitoring.
Action: Seek funding where opportunities arise RSPB, Wildlife Trusts and NE (and AMP)

2. What level of flushing rates of nesting nightjars is caused by dogs and can initiatives with dog owners change these. **Action Seek funding where opportunities arise RSPB, WT and NE (and AMP)**

Appendix 4: Note for Strategy on Occupancy of Dwellings

It is recommended that the monitoring checks dwelling 'completions'. Completion may be more easily traced via planning department records than occupancy.

NB Completion is the termination of any prospect of a review of the permissions when undertaken under regulations 50 and 55.

In terms of blocks of flats, for example, completion is usually a single date, whilst first occupancy of the individual dwellings could involve multiple dates over many months, possibly years. It has been noted that current monitoring of occupation of dwellings is time-consuming because agents and developers are not reliably reporting occupation, even where they are required to under the terms of agreements. This leads to officers having to spend significant time 'chasing' people to establish occupancy dates. There is a natural disinclination to expedite the occupancy notice if it is linked to the payment of contributions, whereas notice of completion is a statutory notice. The critical issue is the total housing stock, a proportion of which is always unoccupied. If a future analysis was to examine the differences between the pre-existing housing stock and the post South East Plan housing stock, based on occupation records, it would not be comparing like with like. Monitoring completions would appear to be preferable.

In reality there will be short time-lapses for reporting, so the report on the first six months of operation would be unlikely to be submitted to the JSP Board until, say, month seven. The JSP Board itself may not meet to consider it until month seven or eight. This is not considered to be a constraint on the effectiveness of monitoring or a reason to adjust to longer or shorter reporting timescales.

Some authorities have devised a way of ensuring that developments cannot be occupied until the local planning authority has provided written authorisation, by including a clause that requires the local planning authority to inform the developer when and how the contributions collected at the commencement of development have been spent on SANG measures, and then includes authorisation to occupy the new dwellings on this basis. This does help to ensure that the SANG provision or enhancement is in place prior to occupation. There are however a number of concerns regarding this approach. It does introduce an extra burden of work for the local planning authority officers, and also perpetuates the current problem of only spending contributions money on small scale and quickly implemented SANG enhancement work in order to meet the commitment to respond to the developer, rather than focusing on some of the much needed larger scale SANG projects.