Mayesbrook Park Adapting to Climate Change
Project Monitoring Strategy

OVERVIEW

The Mayesbrook Park Adapting to Climate Change project has multiple aims to improve the: riparian environment; terrestrial ecology; visitor experience of the park; and overarching theme of adapting the park to climate change. This monitoring strategy sets out a range of targets for each of these four themes so that the success of the project can be assessed in a clear, scientific and transparent way. All targets have been identified using SMART criteria; Specific, Measurable, Achievable, Relevant, Time based. These targets were agreed by the project Steering Group and have been designed to incorporate PRAGMO[1] methodology where appropriate.

The Mayesbrook adapting to climate project is being delivered in discrete phases. This strategy relates primarily to Phase 1 which includes river restoration, habitat creation and general landscape improvements. It also includes targets for the community engagement project, 'Wild at Heart' which is being delivered in the park concurrently. Phase 2 will include improvement of the lakes and building a visitor centre and the strategy includes some recording of baseline data to assist in monitoring Phase 2 in the future. The document is split into the following 3 sections.

I. **Monitoring Targets**
   Identifies the overall aims for each theme and list individual targets that will demonstrate how the aims have been realised. The targets are analysed in how they can be measured including existing data and data to be recorded. They are prioritised in terms of cost, achievability and relevance. Furthermore identifies periodic reviews ('living' document) to describe progress in respect to establishing whether the stated data is being collected (appropriate and timely manner).

II. **Data Collection Operations**
   Provides a breakdown of the monitoring activities to be undertaken and identifies the targets that they contribute to measuring. The targets themselves are frequently interrelated and thus one monitoring operation may contribute to the measurement of several targets e.g. surveying riparian aquatic vegetation quality will show both climate change resilience and improvements in the aquatic environment.

III. **Monitoring Action Plan**
   Sets out the programme of monitoring actions to be undertaken where agreed with the project monitoring partners.

Delivery of the strategy will be overseen by a Monitoring Co-ordinator to ensure the individual monitoring operations are undertaken and data collected in line with the strategy. This strategy covers the time period 2011 – 2013 however funding is only confirmed until September 2012.

The next stage of the process would be the production of a monitoring report where the data collected will be analysed with respect to each theme and target.

Monitoring suggested for 2014 and onwards is stated within this report but this is to be confirmed nearer the time in some instances. Written confirmation will be required by those organisations involved in carrying out monitoring actions to confirm their commitment to delivering these as stated herein.

PLEASE NOTE: Where ☺ is shown in the Target/Why column of the listed monitoring targets (Section I), please contact Nick Elbourne (RRC) to inform him of any data collection activities planned, **at least one month prior to undertaking the monitoring** in order to ensure the effective coordination of all monitoring activities.

[1] River Restoration Centre (2011). Practical River Restoration Appraisal Guidance for Monitoring Options, 309pp.

I. MONITORING TARGETS

THEME 1 CLIMATE CHANGE

***Overall aim to**: demonstrate how an urban park can be adapted to the impacts of climate change and help build resilience to climate change for the wildlife and people who use the park and the wider landscape*

Overall targets to show how:

- natural environment solutions can help adapt an urban park and its surrounding to the impacts of climate change
- an urban park can be managed in a way to help wildlife adaptation to climate change
- the park can help increase resilience to climate change in communities surrounding the park

Target/Why	What	When	Who	How	Data	Cost	Priority		June 2012 Review	September 2012 Review
1.1 Reduction in fluvial flood risk Demonstrate that the construction mirrors the design ☺	Evidence of flood storage e.g. - Increase in storage capacity following restoration works (ha^2)	Post construction. - As-built survey (Autumn/Winter 2011) as plant growth can be simulated - Repeat survey in three years post (2014 TBC)	SFRM2 consultant TBC – Flood Risk Mapping/Modelling	Measure/estimate of volume storage in floodplain by calculating capacity	Existing - Project earth works design survey and Environment Agency flood model (Supporting data) EA baseline data level data from Oct 2007 about sluice (open or closed) in (30min) intervals & water levels read by sensor (metres). Telview is the old system. RTS is the new one since Feb 2011 - to provide before/after data	Trained surveyor (consultant) TBC – if 3-5 days, ~5-10k (RRC est.)	High		***Data received:*** As-built Levels survey for reaches 1 and 3 (Quartet Design, Autumn 2011). AS-built ISIS Hydraulic model and report (Atkins, Spring 2012) Ad-Hoc photographs of Mayesbrook in flood from EA and LBBD ***Not received, or to follow up:*** Collate baseline data for EA routine monitoring point D/S of Mayesbrook Park ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Monitoring point D/S of Mayesbrook Park requested – will be sent to RRC by end of September 2012. ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
	- Photographic demonstration of actual floodplain storage during events - Reduction in flood incidence in residential areas downstream over the next three years	On an ad-hoc basis and assess in 2014 after three years On an ad-hoc basis to identify impact of restoration works, and assess in 2014 after three years	LBBD – A2N Ranger	Ad hoc photography following flood events (if possible) Record flood incidences as they occur (data records)	Existing - Only anecdotal if available	LBBD – A2N Ranger/ No additional				
1.2 Ensuring usability during extreme heat conditions	Measure by proxy from canopy cover Use satellite photography to compare to pre- project landscape.	2, 3 & 5 years post completion – 2016	LBBD – Park development	Comparing satellite photography from before the scheme to 5 years post-project.	Existing - Satellite photo	In-kind	Medium		***Data received:*** Pre-project satellite photography ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None since June 2012 review ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target

Target/Why	What	When	Who	How	Data	Cost	Priority		June 2012 Review	September 2012 Review
1.3 Increase resistance of natural environment to drought ☺	Visual observation – an increase in diversity and heterogeneity of habitats which provide refugia to aquatic & terrestrial species – e.g. rough grass/ponded areas/ backwaters / niches/ refuges etc	Four times per year; one in each 'season' until end of A2N Ranger project (Sept 2013) – start in Autumn 2011	LBBD A2N Ranger	Fixed point photographic evidence of habitat patches - before & after photographs of habitat type and extent in aquatic, riparian & terrestrial areas	Existing – Fixed point photography	LBBD – A2N Ranger/ No additional	High		***Data received:*** Fixed point photography surveys – Spring and Autumn 2011. *Note: Spring 2012 series not collected - issue with LBBD staffing noted* RHS, Biotope mapping, RCS data – May 2012 ***Not received, or to follow up:*** Find out if terrestrial survey/s will/have been undertaken ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Fixed point photography surveys from February 2012 and July 2012. *Note: Spring 2012 series not collected - issue with LBBD staffing noted* RHS, Biotope mapping, RCS data – May 2012 LBBD – Water assessment and invertebrate sampling August 2012 ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
	Data observation – An increase in diversity and heterogeneity of aquatic habitats and species	- New surveys in Spring 2012 and 2014. - Environment Agency to create a retrospective biotope map for existing data where one does not exist already	- Environment Agency - LBBD (see data column) - RRC (see How column)	Aquatic riparian habitat mapping (RHS, Biotope mapping, RCS) – RRC pass data onto Green Infrastructure for Greater London through Environment Agency service level agreement	Existing – Environment Agency baseline data from 2008 & 2011, plus Urban River Survey, 2009. LBBD - Records kept on BARS as part of B&D BAP	In-kind				
	Visual observation - Increase in the extent of semi- natural habitat	2, 3 & 5 years post construction – 2016	LBBD – Park Development	Satellite imagery (see target 1.2)	Existing - Satellite photo	In-kind				
	Data observation – An increase in diversity and heterogeneity of terrestrial habitats and species	Post-construction. Number of repeat surveys to be confirmed, and when in due course.	Trained surveyor	Terrestrial surveys	Existing – only anecdotal evidence	TBC				
1.4 New park infrastructure embeds climate change adaptation and mitigation in its design	Ensure principles for climate change adaptation and mitigation are embedded in any decisions and plans for new infrastructure	During works, post construction and ongoing for 3 years (until 2014)	LBBD & Mayesbrook steering group partners –LBBD – Park Development to lead on this	Review any plans for new surfaces, building and other infrastructure to ensure they follow climate change principles for park transformation	Existing - Plans and proposals, and GreenSpace climate change report	Natural England in-kind	High		***Data received:*** None ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
1.5 Community resilience to climate change	- Improvement in community resilience to climate change measurable include: - Increasing social capital in communities - Developing core skills	During works, post construction and ongoing for 3 years From August 2011 until end of A2N Ranger project (Sept 2013) From July 2011 until end of A2N Ranger project (Sept 2013) From August 2011	London Sustainability Exchange – funding still unconfirmed (as of September 2011) LBBD – A2N Ranger LBBD – A2N Ranger	New user survey for park, focus groups, interviews, questionnaires, visitor comment book Eight hours of volunteering opportunities a week Monthly park friends	Existing – No data on community resilience to CC. Existing – none. Start with A2N Ranger project. Existing – none.	£37,580 current M&E costs of whole community resilience to climate change project LBBD – A2N Ranger/ No additional LBBD – A2N	Medium		***Data received:*** None ***Not received, or to follow up:*** Collate user surveys, volunteer data, evaluation forms and related data from LBBD for this objective ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** All events, ethics diversity and school visits evaluation including attendance records for friends groups, community days and outdoor education figures including feedback from teachers up to August 2012. Transcribed anecdotes to follow. ***Not received, or to follow up:*** Not required

Target/Why	What	When	Who	How	Data	Cost	Priority		June 2012 Review	September 2012 Review
	in individual peers & coordinated action by community groups - Improving quality of life for individuals and the community as a whole	until end of A2N Ranger project (Sept 2013)	LBBD – A2N Ranger	group meeting Ongoing feedback/evaluation from every event/activity using evaluation forms	Start with A2N Ranger project. Existing – none. Start with A2N Ranger project	Ranger/ No additional LBBD – A2N Ranger/ No additional				***Status: (10.9.12)*** On target
1.6 Community awareness of climate change	Demonstrate the number of people actively engaged in climate change activities & events in the park Delivery of 3 Eco-school taster workshops by July 2012 Delivery of Outdoor Classroom sessions from January 2012 to local schools (number depending on resources, TBC).	Post construction and ongoing 3 years/ until end of A2N Ranger project (Sept 2013) Sept 2011 – July 2012 January 2012 until end of A2N Ranger project (Sept 2013)	London Sustainability Exchange – funding still unconfirmed (as of September 2011) or LWT/ LBBD – A2N Ranger LBBD – A2N Ranger LBBD – A2N Ranger	Activity monitoring forms, collation of data (using event evaluation forms). 3 Eco-school taster workshops delivered to 3 neighbouring schools - Dorethy Barley, Manor Junior and Monteagle (Yr 4 & 5). All schools to be registered as Eco-schools and working towards their bronze award by July 2011 Outdoor Classroom session in sustainability offered to local schools	Existing - Data from Natural Connection project Existing – none. Start with A2N Ranger project Existing – none. Start with A2N Ranger project	LBBD – A2N Ranger/ No additional LBBD – A2N Ranger/ No additional LBBD – A2N Ranger/ No additional	Medium		***Data received:*** None ***Not received, or to follow up:*** Collate user surveys, volunteer data, evaluation forms and related data for this objective ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Events, ethics diversity and school visits evaluation including attendance records for friends groups, community days and outdoor education figures including feedback from teachers. Transcribed anecdotes to follow. ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
1.7 Park management plan explicitly considers climate change and plans for adaptive management	To ensure adaptive management is embedded into park management plan (to include habitat data) Indicators include: - programme of habitat and species monitoring - evaluation of adaptation responses	Post construction and ongoing 3 years until 2014, with performance reviewed on an annual basis.	LBBD – Park Development	Annual performance review of park management practices Possible citizen science project (still to be confirmed as of September 2011)	LBBD - Records kept on BARS as part of B&D BAP. Evaluation to be fed back into review of management plan	No additional – part of in-house Management Plan	High		***Data received:*** None ***Not received, or to follow up:*** Requires monitored data to be reviewed ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Requires monitored data to be reviewed ***Status: (15.6.12)*** On target
1.8 Demonstrate the fauna uptake / utilisation of additional habitat created in park	To show the uptake of habitat spaces in the park by bird species (abundance and diversity)	Quarterly surveys from October 2011 - repeated Jan, April, July and so on for the duration of the	LBBD – A2N Ranger volunteers / school groups / special interest and activity groups	30 minute point survey from 4 locations.	Existing – anecdotal records	LBBD – A2N Ranger/ No additional	High		***Data received:*** Bat survey data Aquatic macroinvertebrate: kick-sample and surber	***Data received since last review:*** Bird survey data for Oct 2011, Jan/Feb 2012 and August 2012

Target/Why	What	When	Who	How	Data	Cost	Priority		June 2012 Review	September 2012 Review
		A2N Ranger project							measures - May 2012	Water survey (invertebrates) – August 2012
☺	To show the uptake of habitat spaces in the park by bat species (abundance and diversity)	Bi-annual survey from October 2011 Repeated in April 2012 & continued for duration of the A2N Ranger project	- LBBD – A2N Ranger & IUCN SSC expert	Transect line walked with bat detectors	Existing – historic records; evidence of pipistrelles in the Environment Agency bat survey (2010)	£200 per year			*Note: Fish surveys put back to 2013 given heavy rainfall* ***Not received, or to follow up:*** Bird survey data ***Status: (15.6.12)*** Outstanding actions	***Not received, or to follow up:*** Not required – sample not collected as originally set out but EA data appropriate ***Status: (10.9.12)*** On target
	To show the uptake of habitat spaces in the park by aquatic macro-invertebrate species (abundance and diversity)	Quarterly surveys from Oct 2011 - repeated Jan, April, July for duration of A2N Ranger project	LBBD – A2N Ranger	6 locations TBC. 3 net samples at each site. Standard kick-sample BMWP approach.	No existing data	LBBD – A2N Ranger/ No additional				
	To show the uptake of habitat spaces in the park by aquatic macro-invertebrate species (standard kick-sample Environment Agency biological indicators)	Spring and Autumn 2012, 2013 & 2014	Environment Agency	Three-minute kick sample at one site in all 4 reaches following standard EA methodology described in technical reference manual (formerly BT001) for invertebrate monitoring in rivers.	Existing – Baseline macro-invertebrate data in 2008 and (2009 in Urban River Survey)	In-kind				
	To show the uptake of habitat spaces in the park by aquatic macro-invertebrate species (Surber measures)	Spring 2012 and 2014	Environment Agency	Surber-sampling in all 4 reaches – when a sample is placed where there is one specific habitat type present	Existing – Baseline survey data, 2008	In-kind				
	To show the uptake of habitat spaces in the park by fish species (abundance and diversity)	Spring 2012 and 2014	Environment Agency	Electro-fishing- fixed point abundance survey method in all 4 reaches. Samples to be taken at one site in each reaches; aim to repeat 2008 survey	Existing - Baseline, one off point abundance survey, April 2008	In-kind				
1.9 **Good ecological condition (or status) of brook, floodplain and lakes**	Improvement in the water and sediment quality at sampled sites following restoration.	Quarterly surveys from October 2011 - repeated Jan, April, July and for the duration of the A2N Ranger project	LBBD – A2N Ranger	6 locations TBC, 3 net samples at each site. Repeat approach taken in baseline surveys to ensure repeat data.	Existing - Baseline survey on water and sediment quality (Queen Mary, University of London, 2009)	LBBD – A2N Ranger/ No additional	High		***Data received:*** None ***Not received, or to follow up:*** Still not confirmed details ***Status: (15.6.12)*** Priority	***Data received since last review:*** Water survey (invertebrates) – August 2012 ***Not received, or to follow up:*** Not required – sample not collected as originally set out but other data collected ***Status: (10.9.12)*** On target
☺	Improvement in the nitrate, pH, coliform and phosphate values following restoration (as a measure of ecological condition)	Quarterly surveys from October 2011 - repeated Jan, April, July and for the duration of the A2N Ranger project	LBBD – A2N Ranger	6 locations TBC. Repeat approach taken in baseline surveys to ensure repeat data	Existing - Baseline survey (Queen Mary, University of London, 2009 & Environment Agency, 2010)	LBBD – A2N Ranger/ No additional (labour time). Estimated £250 for testing strips				

Theme 2 NATURAL ENVIRONMENT / AQUATIC

***Overall aim to**: demonstrate WFD improvements to river corridor, aquatic organisms, lakes monitoring (pre-phase 2 baseline water and sediment quality) using PRAGMO*

Overall targets to:

- improve the overall biodiversity of the brook in line with WFD
- link geomorphological and habitat changes to changes in the ecology e.g. for macro-invertebrates and fish species
- demonstrate river corridor, aquatic organisms lake monitoring –pre-phase 2 baseline water and sediment quality

Target / Why	What	When	Who	How	Data	Cost	Priority		May 2012 Review	September 2012 Review
River corridor monitoring										
2.1 Improve cross and long sectional variability and diversity ☺	To assess changes to geomorphic cross section (visual and date). The following are the measurable indicators: - Topographic variability (height from datum) - Cross sectional diversity (habitats & channel features) - Increase in naturalness of the river and floodplain profile (cross-section and long profile) - Meet the target of habitats set out in earthwork designs	Four times per year; one in each 'season' until end of A2N Ranger project (Sept 2013) – start in Autumn 2011 As built – Autumn 2011 Repeat in Spring 2012, Autumn 2012 & Spring 2013.	LBBD – A2N Ranger Quartet Design (As-built); NE, RRC (post)	Fixed point photography GPS – transect survey across pre-determined number of cross-sections and long profile to: - ensure suitable coverage of the bed, banks and floodplain - repeat of pre/as-built cross-section transects	Existing – Fixed point photography Existing - Quartet Design cross section and earthwork designs	LBBD – A2N Ranger/ No additional No additional cost (part of MSc study)	High		***Data received:*** Fixed point photography surveys – Spring and Autumn 2011. *Note: Spring 2012 series not collected - issue with LBBD staffing noted* As-built level surveys for reaches 1 and 3 (Autumn, 2011 for reaches 1 and 3 from Quartet Design). Post-project transect surveys – May 2012 ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** Fixed point photography surveys from February 2012 and July 2012. *Note: Spring 2012 series not collected - issue with LBBD staffing noted* NE (RRC) cross-section surveying in reaches 3 and 4 only ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
2.2 Increase the range, variability and number of habitats present in the brook ☺	- Demonstrate that flow diversity & extent of different flow types has increased in-stream - Demonstrate adjacent wetland areas & extent of wetland habitat types have been created - Demonstrate that habitats (e.g. riffle-pool sequences) have been created & are maintained where set out in the	Spring 2012 and 2014	Environment Agency	River Habitat Survey (RHS) and River Corridor Survey (RCS) for all four reaches. Standard methodology to be used for all surveys	Existing – RHS and RCS baseline data; surveys in 2008 and 2011 (using standard methodology). (Supporting data) Quartet design cross section and earthwork designs	In-kind	High		***Data received:*** RHS and RCS data – May 2012 ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target

Target / Why	What	When	Who	How	Data	Cost	Priority		May 2012 Review	September 2012 Review
	earthwork designs									
2.2B Compare Urban River Survey data with River Habitat Survey data (research)	Compare RHS and URS survey data	Every 4 years – 2013 provisionally (TBC)	Queen Mary's Uni Student – MSc project	Urban River Survey	Existing - Baseline URS for all 4 reaches carried out in growing season (June – Sept) 2009	£3k estimate	Low		***Data received:*** None *Note: URS to be collected by QMUL student – June/July 2012* ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None received however it has been collected. Gemma Thompson (QMUL) undertook URS in July 2012 with Lucy Shuker (QMUL) ***Not received, or to follow up:*** Not required at this stage, however will need to collect Gemma's data when processed. EA provided. ***Status: (10.9.12)*** On target
2.3 Improvement in in-stream and riparian habitat (biotope-level) ☺	- Demonstrate an increase in habitat heterogeneity - Increase abundance of, and diversity in types of (native) riparian vegetation	Spring 2012 and 2014	Environment Agency	The biotope map will be created for all four reaches, and it will overlay the RCS map to indicate whether the target has been achieved	Existing – Biotope surveys. Biotope maps to be traced over existing RCS where required	In-kind	High		***Data received:*** Biotope survey – May 2012 ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
2.3b Eradication of non-native/ invasive flora within the river corridor ☺	Species to look out for and mark down include: - Floating pennywort - Water primrose - New Zealand pygmywort (crassula) - Japanese knotweed - Himalayan balsam - Giant hogweed	Spring 2012 and 2014 Ad-hoc visual observation for the duration of the A2N Ranger project	Environment Agency LBBD – A2N Ranger	River Corridor Survey will identify all main plants and any invasive species Observe identification sheets using DEFRA guidance https://secure.fera.defra.gov.uk/nonnativespecies/index.cfm?sectionid=47	Existing – Invasive species reported absent in all reaches in Urban River Survey, 2009 Existing – anecdotal evidence	In-kind LBBD – A2N Ranger/ No additional			***Data received:*** RHS and RCS data – May 2012 ***Not received, or to follow up:*** Ask Ranger if any invasive species observed ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
Aquatic organisms										
2.4 Monitor improvements in the invertebrate communities, and in association with biotopes (habitats)	- Improve diversity and density of macro-invertebrate communities - Increase the richness of macro-	Spring & Autumn 2012, 2013 and 2014 (immediately post works not necessary as not representative)	Environment Agency	Three-minute kick sample in all 4 reaches following standard Environment Agency methodology described in	Existing – Baseline macro-invertebrate data in 2008 and (2009 in Urban River Survey)	In-kind	High		***Data received:*** Aquatic macroinvertebrate: kick-sample and Surber measures – May 2012 ***Not received, or to***	***Data received since last review:*** LBBD water survey (invertebrate) – August 2012 ***Not received, or to follow***

Target / Why	What	When	Who	How	Data	Cost	Priority		May 2012 Review	September 2012 Review
☺	invertebrate communities present - Provide evidence of macro-invertebrate communities in association with biotope (habitat) units (link to 2.1) - Demonstrate an increase in diversity (type) and number (abundance) of macro-invertebrates over a shorter/ more frequent period	Spring 2012 & 2014 Quarterly surveys from Oct 2011 - repeated Jan, April, July for duration of A2N Ranger project	LBBD – A2N Ranger	technical reference manual for invertebrate monitoring in rivers. Surber-sampling in all 4 reaches – when a sample is placed where there is one specific habitat type present 6 locations TBC. 3 net samples at each site. Standard kick-sample BMWP approach.	Existing – Baseline macro-invertebrate surber data in 2008 No existing data	LBBD – A2N Ranger/ No additional			***follow up:*** Not required ***Status: (15.6.12)*** On target	***up:*** Not required ***Status: (10.9.12)*** On target
2.5 Increase fish populations in brook by 2013 ☺	To see if the density and diversity of fish and the retention of fish has increased in all 4 reaches.	Spring 2012 and 2014	Environment Agency	Electro-fishing- fixed point abundance survey method in all 4 reaches. Samples to be taken at one site in each reaches; aim to repeat 2008 survey	Existing - Baseline, one off point abundance survey done April 2008	In-kind	Medium		***Data received:*** None *Note: Fish surveys put back to 2013 given heavy rainfall* ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
2.6 MTR (macrophyte - aquatic plant) survey – [WFD indicator] ☺	Quantitative survey of flora in river corridor to show: - an increase in the abundance and diversity of native macrophytes - improvements to meet WFD targets (diatoms data)	- Macrophytes Summer 2012 and 2014 - Diatom (WFD): Spring and Autumn 2012 and 2014	Environment Agency Environment Agency	100m survey stretch to standard Environment Agency methodology	Existing – RCS surveys may be gleaned to act as baseline data. Existing - Diatom samples taken in Urban River Survey, 2009.	In-kind	Medium		***Data received:*** MTR survey info to be gleaned from RCS survey – May 2012 ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
Water and sediment quality										

Target / Why	What	When	Who	How	Data	Cost	Priority		May 2012 Review	September 2012 Review
2.7 **Improve water quality & sediment quality** ☺	Demonstrate a reduction in coliform levels & nitrates and phosphates by 2014	Summer and Winter 2012 & 2014	Queen Mary, University of London	Sediment samples- using Lune Corer to replicate previous sampling approach	Existing - Baseline survey (Queen Mary, University of London, 2009 & Environment Agency, 2010)	No additional	High		***Data received:*** None ***Not received, or to follow up:*** Still not confirmed details ***Status: (15.6.12)*** Priority	***Data received since last review:*** Environment Agency data on water and sediment quality – August 2012 Not received however data has been collected. QMUL student Gemma Thompson has collected water quality data to replicate previous QMUL samples. Collected data in September 2012. ***Not received, or to follow up:*** Not required at this stage, however will need to collect Gemma's data when processed. EA provided. ***Status: (10.9.12)*** On target
Lake monitoring – Pre-phase 2 baseline										
2.8 **Improve lake water and sediment quality and prevent eutrophic algal blooms** ☺	Coliform levels, nitrates and phosphates in lake Detailed post works survey	Quarterly surveys from October 2011 - repeated Jan, April, July &for the duration of the A2N Ranger project Phase 2 monitoring strategy	LBBD – A2N Ranger Student MSc project - prior to Phase 2 works TBC	6 locations TBC (part of Target 1.9) Sediment surveys	Existing - Historical 1998 survey data. MSc 2009 study 'Feasibility assessment & a development proposal for an urban fishery' Existing – survey data.	LBBD – A2N Ranger/ No additional Phase 2 only	Medium (Phase 2)		***Data received:*** None ***Not received, or to follow up:*** Still not confirmed details ***Status: (15.6.12)*** Priority	***Data received since last review:*** None – lake sampling put back as phase 2 works funding unconfirmed ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
2.9 **Aim to improve marginal habitat around lakes as over-grazing by geese has led to an impoverished boating lake**	Improvement in marginal habitat around boating lake (following the proposed provision of reedbeds)	Prior to commencement phase 2 works estimated 2015 (suggested 2015) (Post-works survey to be detailed in phase 2 monitoring strategy)	Student MSc project - prior to Phase 2 works TBC	Baseline study of marginal and in-lake habitat surveys	Existing - Lakes are included in 2010 Phase 1 habitat survey with species listed in a target note. Submerged plants not surveyed.	£1k, (could be done as part of the wider park plant survey work)	Low		***Data received:*** None ***Not received, or to follow up:*** Not required until Phase 2 ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required until Phase 2 ***Status: (10.9.12)*** On target

Theme 3: NATURAL ENVIRONMENT / TERRESTRIAL

***Overall aim to**: increase terrestrial biodiversity of Mayesbrook Park to increase resilience to climate change*

Overall targets to:

- increase and enrich key habitats, acid grassland and woodland
- increase BAP species.
- link environmental changes in terrestrial environment within the park to improved ecosystem service provision and greater resilience, and adaptation to climate change for terrestrial organisms

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	
3.1 Protect and enhance acid grassland habitat	- Maintain the existing area of acid grassland maintained (pre-restoration coverage) - Visual observation of the grassland habitat area to confirm that the pre-restoration area has been maintained	During, post construction and ongoing every 2 years until 2014 Four times per year; one in each 'season' until end of A2N Ranger project (Sept 2013) – start in Autumn 2011	LBBD - Park Development/ incorporate into management plan or trained surveyor required (TBC) LBBD – A2N Ranger	Construction phase works and ongoing management Fixed point photography	Existing - Baseline data from phase 1 habitat survey, 2010 Existing - Fixed Point Photography	LBBD staff time LBBD – A2N Ranger/ No additional	High		***Data received:*** Fixed point photography surveys – Spring and Autumn 2011 ***Not received, or to follow up:*** None ***Status: (15.6.12)*** On target	***Data received since last review:*** Fixed point photography surveys from February 2012 and July 2012. *Note: Spring 2012 series not collected - issue with LBBD staffing noted* ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
3.2 Increase diversity of meadow grassland	Create diverse meadow grassland (including acid grassland) designed to provide nectar sources for pollinators and food plants for invertebrates	Post construction and ongoing 5 years (2016)	LBBD - Park Development / incorporate into management plan or trained surveyor required	To incorporate into management plan	Existing - Phase 1 survey, photos and management records	LBBD staff time	High		***Data received:*** None ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
3.3 Protect and enhance woodland habitat	- Increase area of woodland from the recorded pre-restoration area (to be achieved through a tree planting project with Manor Infant School in Sept 2011) - Visual observation of the woodland habitat area to confirm that the pre-restoration area has been maintained	During, post construction and ongoing every 2 years until 2014 Four times per year; one in each 'season' until end of A2N Ranger project (Sept 2013) – start in Autumn 2011	LBBD - Park Development (/ LBBD – A2N Ranger/ LBBD – A2N Ranger	Record and monitor number of trees planted, and area of tree (woodland) cover Fixed point photography	Existing - Phase 1 habitat survey. Data to go to GiGL. Existing - Fixed Point Photography	LBBD staff time LBBD – A2N Ranger/ No additional	High		***Data received:*** Fixed point photography surveys – Spring and Autumn 2011 ***Not received, or to follow up:*** Tree survey ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Tree survey to be undertaken following a big planting event in Autumn 2012 as pre-project woodland cover % likely not yet achieved ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	
3.3b Woodland enhancement	Indicators of good woodland management. – Increase range of sizes and ages of trees - Increase deadwood retention Target habitat is: - Good edge habitat - Good understory glades, i.e. light within canopy	Post construction and ongoing every 2 years until 2014	LBBD - Park Development	Within the management plan performance	Existing - Survey of woodland plantations; photos	LBBD staff time	Low		***Data received:*** None ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
3.4 Protect existing native scrub corridors and patches	Retain & replace existing native scrub corridors along river & patches within park Retain and enhance the quality of existing native scrub corridors and patches (indicators of good scrub management)	During & post construction & ongoing 5 years (2016)	LBBD - Park Development	Within the management plan performance	Existing - Post completion survey of scrub and photos	LBBD staff time	Low		***Data received:*** None ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
3.5 Enhance deadwood habitat - creation of a deadwood nature trail near to the railway line	To confirm the completion of a new deadwood habitat for wildlife – loggeries	To be completed by July 2012	LBBD – A2N Ranger, LWT and local school children	Post completion surveys of loggeries	Existing – None	LBBD – A2N Ranger/ No additional	Medium		***Data received:*** None ***Not received, or to follow up:*** Not to be completed until July 2012 ***Status: (15.6.12)*** On target	***Data received since last review:*** None – meeting arranged for 12.9.12 to discuss the plans for the deadwood habitat. This is likely to take place within the next year (Heidi Mansell, LBBD) ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
3.6 Protect and enhance bird populations	Increase in the total abundance and number of different species (diversity) of birds including BAP species	Quarterly surveys from October 2011 - repeated Jan, April, July &for the duration of the A2N Ranger project	LBBD – A2N Ranger volunteers/school groups/special interest and activity groups	Post completion bird surveys – non-scientific - 30 minute point survey from 4 locations	Existing – Local Nature Reserve management plan and anecdotal records	LBBD – A2N Ranger/ No additional	High		***Data received:*** None ***Not received, or to follow up:*** Bird surveys ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Bird survey data for Oct 2011, Jan/Feb 2012 and August 2012 ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	
3.7 **Protect and enhance habitat for bats** ☺	Monitor indicators of good bat habitats to ensure that there are: - Large mature trees for roosting - Corridors for travel - Good scrub for forage - Good abundance of invertebrates - Ensure the installation of bat boxes to Natural England Guidelines, for example, ensure park lighting is bat-friendly	During & post construction and ongoing for 5 years (2016)	LBBD - Park Development	Within the management plan performance	Existing - Phase 1 habitat survey - baseline	LBBD staff time	Medium		***Data received:*** None ***Not received, or to follow up:*** Not required ***Status: (15.6.12)*** On target	***Data received since last review:*** None ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target

Theme 4: PEOPLE

Overall aim to: *increase the* whole communities' value and use of their local park

Overall target to:

- reduce barriers to enjoying Mayesbrook park such as fear of crime
- provide measurable benefits such as education (inc Climate Change) and increased physical activity
- link environmental activities and events for people within the whole park to improved ecosystem service provision

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	September 2012 Review
4.1 **More people using the park for longer, and more often**	- Number of visitors - Survey - gather data on new visitors & duration of visit - Any data required to be gathered for A2N bid	Pre, during and post construction & ongoing 5 years until 2016	LBBD – A2N Project Ranger/ LBBD - Park Development	Attendee records for events, activities and volunteer sessions	Existing - Baseline data of user survey gathered in 2009	LBBD – A2N Ranger/ No additional	High		***Data received:*** None ***Not received, or to follow up:*** Collate related data for this objective ***Status: (15.6.12)*** Outstanding actions	***Data received since last review:*** Events, ethics diversity and school visits evaluation including attendance records for friends groups, community days and outdoor education figures including feedback from teachers. Transcribed anecdotes to follow. ***Not received, or to follow up:*** Not required ***Status: (10.9.12)*** On target
4.2 **Increase diversity of park users**	Monitor diversity of park users by collecting data through the Quarterly events programme produced throughout the year (approx 25 events per quarter) to target: - 16 – 24 & + 65s year olds - Socio economic groups D-E - Minority ethnic groups - Other Marginal groups	Duration of A2N project (April 2011-Sept 2013) on a quarterly review basis.	LBBD – A2N Ranger/ LWT	LWT/Ranger data gathering from A2N monitoring; - Quarterly events programme delivery and data - Walking for health project delivery and data - LWT volunteering, flexible learners & other volunteer projects delivery and data - visitor survey data	Existing - Baseline data of user survey gathered in 2009	LBBD – A2N Ranger/ LWT staff time/ No additional	Medium			
4.3 **Increase engagement in physical activity. (This outcome is also measured for CSPAN).**	Monitor engagement in physical activity by collecting data through the Quarterly events programme produced throughout the year (approx 25 events per quarter)	Duration of A2N project (April 2011-Sept 2013) on a quarterly review basis.	LBBD – A2N Ranger/ (LWT)/ Possible commitment of LBB&D sport development team for adiZone	Quarterly events programme produced throughout the year (approx 25 events per quarter) Data gathering following delivery of: - Quarterly events programme - Walking for health project - Natural play activities - Activate/ Wild London programme; - Volunteering; - Eco-therapy-type activities	Existing - Baseline data of user survey gathered in 2009	LBBD – A2N Ranger/ LWT staff time/ No additional	Medium			

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	September 2012 Review
				- Cycling disability events - AdiZone monitoring						
4.4 Increase engagement in outdoor education (climate change)	- Monitor engagement in outdoor education (climate change) by collecting data through the Quarterly events programme produced throughout the year (approx 25 events per quarter) - Engage with 500 children over the period of the project	Duration of A2N project (April 2011-Sept 2013) on a quarterly review basis. Schools education programme to be developed by January 2012 to deliver February 2012 onwards.	LBBD – A2N Ranger/ LWT	Data gathering following delivery of: • Eco-school events • school visits • scouts/guide visits • faith group visits • guided walks • themed events/ talks • NEETs	Existing - Natural connections data – Studio 3 Art & LWT projects	LBBD – A2N Ranger/ No additional	Medium			
4.5 Improve customer (park user) satisfaction and park safety	- Increase in satisfaction of local community & park users	Pre, during and post construction and ongoing for 5 years (2016)	LBBD - Park Development	Post completion questionnaire to local residents (follow up to original questionnaire)	Existing - Consultation questionnaire report (Quartet Design, 2009).	LBBD Staff time	High			
	- Demonstration in satisfaction of local community & park users	Monthly delivery of events and data collection between July 2011-Sept 2013	LBBD – A2N Ranger	Delivery and data from: - Friends Group monthly meetings - Community day/s - Ongoing feedback/ evaluation from every event/activity using evaluation forms - Consultation page on website	Existing - None. Start with the A2N Ranger project	LBBD – A2N Ranger/ No additional				
	- Study user survey data to see it there has been an improvement in park user satisfaction	TBC	Queen Mary, University of London	Student MSc study (TBC)	Existing - Baseline data of user survey (Queen Mary, University of London, 2009)	No additional				
	- Reduction in crime statistics	Pre, during and post construction and ongoing for 5 years (2016)	LBBD - Park Development	SNT/LBBD crime statistics	Existing - SNT / LBBD crime statistics	LBBD staff time				
4.6 Increase participation in volunteering	Provide eight hours of volunteering opportunities every week to increase the number of participants.	Duration of A2N project (April 2011-Sept 2013)	LWT/LBBD – A2N Ranger	Tuesday & Thursday sessions from 10am to 2pm, Record attendee figures	Existing - Pre-works data , LWT & LBBD records	LBBD – A2N Ranger/ No additional	Low			

Target/Why	What	When	Who	How	Existing Data	Cost	Priority		May 2012 Review	September 2012 Review
4.7 Ensure stories are gathered about the development of Mayesbrook	To demonstrate the legacy of the Mayesbrook project to ensure that people are involved in the process.	Duration of A2N project (April 2011-Sept 2013)	LWT/Ranger (LBBD – A2N) All Mayesbrook partners to take images when they visit sites	- Community Day - Photographs/videos of events e.g. walking for health groups, faith groups & minority/ethnic groups. - Video interviews with site users & those attending events. - Qualitative and anecdotal 'evidence' gathered ad hoc e.g. before & after film footage, interviews with site users/staff, letters, emails, photos	Existing – - Emails/letters from public to LBBD - Existing photos from events & site visits (all partners) - Video footage from consultation & launch events (Alex /RSA)	LBBD – A2N Ranger/ No additional	Medium			

II. DATA COLLECTION OPERATIONS

Operation	Details	Delivery	Cost	Target
Measure geomorphic cross sections/ transects of realigned brook	Compare built scheme with proposals. Re-modelling exercise Differential GPS survey of the bed, banks and floodplain	Trained surveyor (consultant); Quartet – contract administration MSc (Nick Elbourne, RRC)	TBC n/a In-kind (MSc)	1.1 2.1
Fixed point photography	100+ photo positions to be repeated on completion and at yearly intervals for 5 years	Baseline completed (RRC) Repeat surveys – A2N Ranger	£2k (spent) In kind	1.3 (existing data) 1.3, 2.1, 3.1, 3.3
Satellite image mapping	Google images before and after	LBBD – Park Development	In-kind	1.2, 1.3
Record of when lakes were used for flood storage	Data from sluice Baseline from Oct 2007 and data collection to continue indefinitely	Environment Agency Sensors automatically log water level data & indicate whether sluice is open or closed	In kind	1.1
Habitat monitoring – aquatic vegetation	Record increase in diversity of habitats in riparian zone through aquatic/marginal (transects) Check for invasive species Lakes survey	EA Biotope mapping /RHS/RCS MSc (Nick Elbourne) Trained surveyor (consultant) EA/LBBD – A2N Ranger LBBD – A2N Ranger/Phase 2 Management Plan	In kind In kind In kind In kind In kind	1.3, 2.2, 2.3, 2.6 2.1 1.1 2.3b 2.9
Habitat monitoring – aquatic fauna	Fish surveys Aquatic macro invertebrates	EA EA/LBBD – A2N Ranger	In kind In kind	1.8, 2.5 1.8, 2.4
Habitat monitoring – terrestrial vegetation	Terrestrial repeat phase 1 and the creation of woodland and deadwood habitat	Trained surveyor	TBC	1.3, 3.1, 3.2, 3.3, 3.3B, 3.4, 3.5 (survey)
Habitat monitoring – terrestrial fauna	Bird surveys Bat surveys	LBBD – A2N Ranger LBBD – A2N Ranger	In kind In kind	1.8, 3.6 1.8, 3.7
Water & sediment quality assessment	Annual samples from 6 points in the river & 4 points in lakes Coliform, nitrates and phosphates	LBBD – A2N Ranger Queen Mary, University of London	£250 TBC	1.9 2.7, 2.8
Write management plan	Include climate change adaptation, include LNR designation, include Green Flag & Safer Parks awards Check for invasive species	LBBD – Park Development	n/a	1.3, 1.4, 1.7, (3.3b) 2.3b
Study of community's awareness & resilience to climate change	Range of surveys across 3 yrs	LCCP & LSX – funding dependant	£37,580	1.5, 1.6
Visitor survey	Annual spot surveys of park users to assess opinions, activities & demographic breakdown of park uses	LBBD – A2N Ranger / Park Development	n/a	4.1, 4.2, 4.3, 4.5
Visitor number counts	Monthly	LBBD – A2N Ranger	n/a	4.1, 4.2
Education visit numbers	Record number & demographic breakdown of education visits	LBBD – A2N Ranger	n/a	4.4
Crime statistics	Annual statistics from Police	LBBD – Park Development	n/a	4.5
Volunteer numbers	Annual number of volunteer days	LBBD – A2N Ranger	n/a	4.6
Peoples stories	Anecdotal collection of comments, video clips, sound bites to help evaluate success of project	LBBD – A2N Ranger LWT, Project Manager, Project Partners	n/a	4.7
Management of monitoring process				
Monitoring co-ordinator	Overseeing delivery to ensure monitoring operations take place & collating outputs	River Restoration Centre (RRC)	£4,000 (Year 1)	All
Monitoring reports	Evaluation of monitoring outputs & writing of reports: • Post project completion 2013 • Update 2016	TBC	TBC	All

III. MONITORING ACTION PLAN (As of February 2012)

Task	Monitoring Strategy Targets	Pre-2011 data	Data held by RRC																					Data to be collected															2014- (please specify)	Responsible Agency (Assistance)
			Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13		
Volunteer opportunities	**1.5, 4.6**																																							A2N
Mayesbrook Park friends meetings	**1.5, 4.5, 4.6**																																							A2N
Flood incidence record & photography	**1.1**																																					Ongoing management of Park	A2N
Review plans and proposals	**1.4**	**Landscape designs 2009**								Note: No data associated with this objective																												Ongoing management of Park	LBBD
Pass data on to GIGL/ BARS/ LBBD BAP	**1.3, 1.7**									Note: No data associated with this objective																												Ongoing management of Park	LBBD/EA (TBC)
Feedback from every event and activity	**1.5, 1.6, 4.5**	**Oct-09 (Community Consultation Report)**																																						A2N
Attendance records from every event	**4.1**	**Park usage data (Jan-Aug-09); QMUL baseline user survey & Becca Shears MSc 2009**																																						A2N
Non-native observation (ad-hoc)	**2.3b**									Note: No data associated with this objective																												Ongoing management of Park	A2N
Quarterly events programme (approx. 25 events/activities per quarter)	**4.2, 4.3, 4.4**																																							A2N/LWT
Stories, letters and memories (anecdotal and qualitative data)	**4.7**	**Jul-09 & Sept-10 (Natural Connections Creative Signage Project Reports 1&2)**																																						All project partners (A2N/LWT lead)
Flood Risk mapping and modelling	**1.1**	**Sept-10 (Flood Risk Assessment)**																																					Repeat in Autumn/ Winter 2014	TBC
Eco-school workshops	**1.6, 4.4**																																							A2N
Fixed Point Photography	**1.3, 2.1**	**Jacobs photos 2008**																																						A2N
Geomorphic surveying and cross-sections of the brook and floodplain	**2.1**	**Jacobs cross-sections 2008**					QD X-sections and earthwork designs																																			NE (RRC)/ LBBD/EA assistance
Creation of deadwood habitat	**3.5**									Note: No data as meeting to be held in September 2012 to discuss																															A2N/ LWT
Bird surveys	**1.8, 3.6**																																							A2N
Biotic index	**1.9**																																							A2N
Nitrate, pH, coliform and phosphate testing (brook, ponds and lakes)	**1.9 (2.8)**																					River only																		A2N
Nitrate, coliform and phosphate (lakes)	**2.8 (1.9)**																																							A2N
Aquatic macroinvertebrates	**1.8, 2.4**	**Apr-08; Oct-09**																																							A2N
Bat surveys	**1.8, 3.7**																																							A2N/ IUCN SSC Expert/ AF (LBBD)
Outdoor classroom'	**1.6**																																							A2N
Biotope mapping	**1.3, 2.3**	**Apr-08**																																					Spring 2014	EA
River Habitat Survey	**1.3, 2.2**	**Apr-08**																																					Spring 2014	EA
River Corridor Survey	**1.3, 2.3b**	**Apr-08**																																					Spring 2014	EA
Terrestrial surveys	**1.3, 1.8, 3.1, 3.2, 3.3, 3.3b, 3.4**	**Aug-10 (Contaminated assessment); Aug-10 (Park wide habitat survey) - not held**																						T	B	C														LBBD/ TBC
Aquatic macroinvertebrates (3-min kick sample)	**1.8, 2.4**	**Apr-08; Oct-09**																																					Spring and Autumn 2014	EA
Aquatic macroinvertebrates (Surber sampling)	**1.8, 2.4**	**Apr-08**																																					Spring 2014	EA
Electro-fishing	**1.8, 2.5**	**Mar-08 (Jul-08)**																																					Spring 2014	EA
MTR survey - macrophytes	**2.6**	**Apr-08**																																					Summer 2014	EA
Diatoms survey	**2.6**																																						Spring and Autumn 2014	EA
Water and sediment quality sampling	**2.7**	**QMUL data & Becca Shears MSc 2009 (metals, phosphates, coliforms); 2010 data**																				EA		QMUL															Summer and Winter 2014	QMUL
Surveying of lakes	**2.9**	**May-01 & Nov-04 (MGMT Plans); May-08; Oct-09 (Fish survey); Natalie Stockes MSc macroinverts and Philippos Petrou MSc fisheries (both lake 2009)**																																					TBC (2015 suggested)	TBC
Urban River Survey	**1.3, 2.2B**	**May-10**																				QMUL																	TBC (2013 suggested)	TBC
Satellite imagery	**1.2, 1.3**	**Pre-project**																																					TBC (2015 suggested)	LBBD

Please note: The A2N Ranger Project runs until Sept 2013

Available but not held by RRC/ held by RRC | Data held by RRC | Data to be collected