VALE OF THE WHITE HORSE DISTRICT COUNCIL
UPPER THAMES MAJOR RESOURCE DEVELOPMENT
EVALUATION OF LEISURE AND RECREATION IMPACT

Introduction

1) This document comprises an evaluation of the leisure and recreation impact of the reservoir project proposed by Thames Water on land to the west of Abingdon in the Vale of the White Horse district of Oxfordshire (the Upper Thames Major Resource Development).

2) The evaluation is based upon the material presented in the *'Stage 2 Preferred Scheme and Design Options Report - Volumes 1 and 2'* and *'Options Assessment: Conservation, Access and Recreation - Version 4'*, released by Thames Water on 6th January 2007 as the second phase of its consultation on the proposed project. The stated purpose of this element of consultation is 'to enable the local community and other stakeholders to identify issues and influence the proposals for conservation, landscape, buildings and the provision of recreational facilities'.

3) In addition, the material presented by Thames Water has been compared with data collected from a number of existing reservoir sites, to verify the basis upon which assumptions about the levels and types of use have been made.

4) Consultation has been undertaken with a range of potential recreational users.

5) The evaluation covers the following subject areas:

   a) Description of the overall project proposals.

   b) Description of the recreational use options.

   c) Analysis of comparator facilities and sites.

   d) The views of recreational interests.

   e) Evaluation of the proposed provision for leisure and recreation.

   f) The potential economic impact of the project.

The overall project proposals

6) ***Introduction:*** Thames Water's proposals for the Upper Thames Major Resource Development are set out in Thames Water's *'Stage 2 Preferred Scheme and Design Options Report - Volume 1'* (January 2007). The overall project proposals currently comprise the following:

   a) A fully bunded, pumped storage reservoir with an operating capacity of 150 million cubic metres.

b) The water area of the reservoir would occupy 670 hectares at top water level.

c) The crest of the embankment would be 16m to 25m above ground level.

d) Operational structures on the site would include one main inlet-outlet towers and two outlet-only towers

7) Subject to obtaining the necessary formal consents, work on constructing the reservoir would commence in 2010, it would take eight years to complete, two years to fill and would therefore become fully operational in 2020.

The recreation options

8) ***Introduction:*** The options for the recreational use of the reservoir are contained in Thames Water's *'Stage 2 Preferred Scheme and Design Options Report - Volume 1'* and *'Options Assessment: Conservation, Access and Recreation - Version 4'* (January 2007). The material presented in the report is summarised below.

9) The Design Options Report states that 'the new reservoir would have the potential to support a wide range of recreational uses, ranging from low-key quiet activities to major sporting events. However, the selection of an acceptable range of new uses needs to take several factors into account. The Water Industry Act (1991) requires Thames Water to give consideration to the provision of recreation and other leisure facilities for the benefit of the inhabitants of the area, provided that do not conflict with the primary purpose of the reservoir to provide water. Local land use policies and the physical constraints of the site would mean that certain uses might be acceptable, whereas others would not'.

10) ***The range of possible uses:*** Thames Water based its assessment of the recreational use options on the outcomes of two consultative exercises:

a) The response to a report it commissioned in 1998 called *'Planning for Future Water Resources - Environmental Assessment: Draft Scoping Report for Consultation'*. Contributions were received from 'a range of local, regional and national interests' and Thames Water states that 'this feedback has provided the starting point for looking again at the range of possible uses that might be acceptable at the new reservoir'.

b) Advice received at a 'Visionary Workshop' in October 2005, attended by 'experts covering a wide range of issues'.

11) ***Principles guiding the identification of acceptable uses:*** The 'Visionary Workshop' identified the following principles:

a) All uses should be realistically affordable and able to be given consent and provided on the site.

b) A site as large as the one identified should be able to accommodate both a wide range of visitor-based recreational activities and low-key informal provision.

c) The reservoir outer embankment and surrounding area are more important in considering recreation provision than the crest and water.

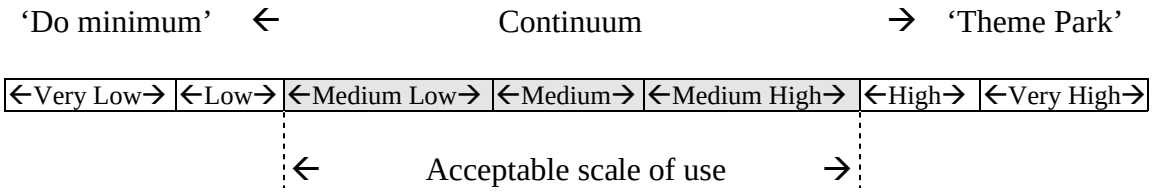
d) The reservoir site sits in tranquil countryside and its design should reflect this.

e) The reservoir should be an exemplar for sustainability, with particular emphasis on biodiversity, health and recreation, sustainable access and movement, reduced energy consumption and positive land management.

f) Education should feature prominently.

g) The design and operation should be flexible to allow for the future requirements of a changing society.

12) The range of possible types of use was summarised as a continuum represented in the diagram below:



13) The acceptable scale of use defines the acceptable range from which specific potential uses can be identified. The extremes of the continuum were discounted on the following basis:

a) ***The 'Do minimum' range:*** This was discounted because of:

- The requirement in land use planning policy to, as a minimum, replace or compensate for the loss of any current recreational uses of the site.

- The duty placed on Thames Water by the Water Industry Act to consider making provision for recreation in relation to all its functions.

b) ***The 'theme park' range:*** This was discounted because:

- The type of intensive recreational uses represented by the term 'theme park' would not be consistent with established land use planning policy that seeks to protect the amenity and tranquil character of the area.

- It was evident from the consultation carried out that uses of this sort would not be acceptable in the locality.

14) ***Possible uses:*** A ‘full list’ of 115 potential uses was drawn up, followed by a ‘shorter list’ of potentially acceptable uses, by applying the following criteria:

a) Compliance with land use planning policy.

b) Anticipated local need.

c) Significant environmental and/or social impacts.

d) Health and safety risk.

e) Technical feasibility.

f) Thames Water's management, operational and aftercare considerations.

g) Cost.

h) The principles established to guide the identification of acceptable uses.

15) The potential recreational uses on the 'full list' that were not shortlisted are detailed in Appendix D of the *'Stage 2 Preferred Scheme and Design Options Report - Volume 1* and are reproduced in the table below, together with the reasons for their rejection and a commentary on the validity of the reasoning:

Use	***Reasons for rejection***	***Commentary***
Golf course	Thames Water policy will not allow this use; golf courses are intensive water users. The land take of a golf course would not leave enough land for required mitigation measures. Drayton Park Golf Club is within 2km of the site, so there is no local need for a future golf course.	The reasoning is sound.
Sub-aqua/ snorkelling/ free diving	Swimming in the reservoir would not be allowed for health and safety reasons.	The reasoning is sound.
Rowing course	Rejected due to lack of demand for a development of this type, given the proximity of the site to rowing courses on the River Thames at Eton, Reading and Oxford. In addition, rowing courses require motorised support craft; these will not be allowed on the reservoir for water quality reasons.	• The nearest purpose built rowing course is at Dorney, near Eton, around 40 miles from the site so the proximity statement is incorrect. • Electric or gas powered support craft are permitted on some reservoirs, so water quality would not be compromised. • However, rowing courses require an area of 2,300m x 120m x 1.5m deep and the reservoir would not be configured to meet these needs.
Jet Skiing	Motorised craft would not be allowed on water quality grounds.	The reasoning is sound and in addition, noise generation would conflict with other users.
Swimming pool	This use would be contrary to planning policy (policies at national, regional and local levels require development of this nature to be situated in existing centres); such uses are most practicable and best suited to urban areas.	The reasoning is sound.
Marina on the reservoir	This is technically unfeasible due to reservoir drawdown.	The reasoning is sound.

Use	*Reasons for rejection*	*Commentary*
Water park	Rejected due to planning policy (policies at national, regional and local levels generally require large leisure development that attracts a large number of people to be focused in existing centres) and the potential environment impact of such a development (both in traffic generation and landscape terms).	The reasoning is sound.
Rifle club	The use of live firearms would conflict with other users of the site, therefore it will not be allowed for health and safety reasons.	A rifle range would be a self-contained facility with a secure perimeter located in a remote part of the site and would therefore not necessarily conflict with other users, although noise generation would be a factor.
Dry Ski Slope	The angles of the embankment would not be steep enough for this type of activity to be practicable.	The angles required for a dry ski slope vary between 10% for a nursery slope, through to 20% for a main slope and it therefore seems unlikely that at least part of the outer embankment would not be suitable. The nearest similar facilities are in High Wycombe and Bracknell (around 40 miles away) and so a slope would serve a wide catchment. Noise generation would be minimal.
White water canoe course	Rejected due to a perceived lack of demand for a development of this type, linked to the risk of operational failure.	There are several examples of canoe slalom courses using artificial water courses, primarily in lowland areas where the demand is highest. All are well used and the closest similar facility is at Shepperton in south-west London (around 50 miles away). There are no previous instances of 'operational failure'. It may be technically feasible to incorporate such a facility into the outflow weir, or the open channel for auxiliary drawdown and this option ought to be explored further.

16) The activities that should be considered further for inclusion are therefore as follows:

a) Dry ski slope.

b) Artificial canoe slalom course.

17) The potential uses identified on the 'shorter list' are detailed in the tables below, which is reproduced from Appendix E of the *'Stage 2 Preferred Scheme and Design Options Report - Volume 1'*. Because the potential scope of some activities can vary, their appropriateness within the acceptable spectrum will also vary and where this is the case, an appropriate scale is proposed for each scenario.

a) ***Education:***

Definition of use/facility	***Medium low***	***Medium***	***Medium high***
Visitor Centre	Information boards.	A district/county facility.	A regional facility.
Education	Local education information boards.	Educational display and room associated with a district/county visitor centre.	Large educational display and rooms, possibly with a conference facility.
Research	Field observations.	Hut or huts to store field monitoring equipment. 20 car park spaces.	More extensive built facilities, with potential for simple laboratories. 40 car park spaces plus 4 coach spaces.
Outdoor educational and science water park (relating to the hydrological cycle).	Not appropriate.	Part of an exhibition in the visitor centre.	Outdoor educational water science park.
Heritage/archaeological centre.	Information boards.	Part of an exhibition in the visitor centre.	Separate facility.
Wildlife and nature, local school study centre	Not appropriate.	Facilities suitable for one class.	Facilities suitable for two classes.

b) ***Nature and landscape:***

Definition of use/facility	***Medium low***	***Medium***	***Medium high***
Water garden	Not appropriate.	Free entry, low key.	Entry payment with possible limited retail.
Water feature	Reservoir itself.	Reservoir itself and small cascade down outer slope.	Reservoir itself and major fountain.

c) ***Sport:***

Definition of use/facility	***Medium low***	***Medium***	***Medium high***
Water sports clubhouse	No additional facilities above boat slip and jetty	A local/district facility. Small clubhouse with associated boat storage and enhanced boat-launching facilities. Suitable for club regattas.	A district/county facility. Larger clubhouse with associated boat storage, repair and enhanced boat-launching facilities. Suitable for county/sub-regional regattas.
Sailing	No sailing	General club use with some club regattas.	Higher intensity of general club use, with some county/sub-regional regattas.
Windsurfing	No windsurfing	General club use with some club regattas.	Higher intensity of general club use, with some county/sub-regional regattas.
Canoeing	No canoeing	General club use with some club events.	Higher intensity of general club use, with some county/sub-regional events.
Land-based formal outdoor sports (e.g. pitches, climbing provision etc.).	No provision	Limited provision.	More extensive provision.

d) ***Access and recreation:***

Definition of use/facility	***Medium low***	***Medium***	***Medium high***
Car park provision for informal recreation	Three car parks with capacities of 20-50 each	Two car parks with capacities of 20-50 each, plus visitor centre parking for 300 cars (+ 400 overflow spaces) coach parking and 300 boat spaces.	Two car parks with capacities of 20-50 each, plus visitor centre parking for 300 cars (+ 400 overflow spaces) coach parking and 300 boat spaces.
Parking to support built/other facilities	None additional to the above	Visitor centre, water garden, water sports and events parking for 300 cars (+ 400 overflow spaces) coach parking and 300 boat spaces.	Visitor centre, outdoor educational science park, heritage centre, water garden, water sports and events parking for 600 cars (+ 500 overflow spaces) coach parking and 500 boat spaces.
Events area	Not appropriate	Small area set aside for infrequent events.	Area designed for larger numbers of people and/or more regular events such as local concerts and festivals.
Passenger ferry (electric powered)	Not appropriate	Not appropriate	Would share water sports jetty.
Coarse and game fishing (settling ponds or reservoir)	Stocked settling ponds.	Stocked settling ponds with anglers' hut.	Stocked settling ponds with anglers' hut, parking and bait shop.
Cycle hire	Provision of cycle paths only.	Provision of cycle paths and space for a structure to store cycles for hire.	Provision of cycle paths and space for a building for cycle hire.
Bridleways	Provision of replacement bridleways	Provision of extended bridleways network.	Provision of extensive bridleways network.
Pony trekking	Not appropriate	Horse hire for trekking, local level.	Horse hire for trekking, district level.
Equestrian centre	Not appropriate	Stables and outdoor facilities, 20 stables, formal lessons only. 20 car parking spaces (provided as part of the overall parking to support built/other facilities).	Stables and outdoor facilities, 40 stables, formal lessons only, possibly formal events.

e) ***Art and culture:***

Definition of use/facility	***Medium low***	***Medium***	***Medium high***
Sculpture	Limited number of pieces.	Permanent sculpture trail, potentially around crest.	Permanent sculpture trail, potentially around crest, with possible visiting exhibition events.
Artists' studio	Not appropriate	In association with the sculpture trail and nature study centre, very limited small scale serviced huts, prearranged access only.	In association with the sculpture trail and visitor centre, limited number of studios with public access and retail opportunities.

18) ***Spatial scenarios:*** A spatial representation of the possible distribution of individual uses around the site was also produced. The three scenarios developed above ('medium low', 'medium' and 'medium high') were applied in the context of a site divided into four quadrants to illustrate how the different uses could be accommodated. The quadrant characteristics are as follows:

a) ***North-east:*** This quadrant would be the focus of activity in connection with the operational reservoir (pumping station, water treatment works, auxiliary drawdown channel etc.). The roads built for construction access would be adapted to give access to these facilities, providing connection to the A34 without passing through existing settlements. Road access, plus the relative proximity of Abingdon and the ability to provide sustainable transport links using the auxiliary drawdown corridor, make the north-east quadrant the most suited to more intensive forms of activity.

b) ***South-east:*** This quadrant is characterised by mainly arable farming, extending up to the edge of Steventon village. Landscape qualities are diminished by overhead power lines and a large electricity sub-station. The Hanney to Steventon road is the principal public highway. This would be realigned as part of the reservoir construction, with potential for the severed portion to be used for local access to the base of the reservoir embankment. The proximity of Steventon village has led to the embankment being located westwards and also to the introduction of earth (screening) mounds, either as extensions to the embankment or detached from it and closer to Steventon.

c) ***South-west:*** This quadrant contains smaller scale landscapes, particularly around the disused canal, where hedges, scrub and localised copses provide a greater degree of enclosure than elsewhere. Habitats of locally recognised status would be retained. This area would be affected by the realignment of the Hanney to Steventon road and the diversion of the Cow Common Brook around the west side of the reservoir. The northern part may be required for additional flood compensation. The proximity of East Hanney village has resulted in the embankment being located eastwards and the adoption of a series of fringing earthworks. The introduction of more intensive forms of recreation activity would run counter to this strategy.

d) ***North-west:*** This quadrant is the most rural, containing no settlements and few dwellings. The land is flat, fairly open and mainly under arable usage with scattered copses. The project proposals respect these conditions, proposing shallow slopes to the outer embankments, so that arable farming can extend up much of the slope. The area west of the embankments would be significantly altered, to provide for the Cow Common Brook diversion and the extensive areas of flood compensation required. Temporary settlement ponds required during construction would also be located here. These ponds could be retained and subsequently used as the basis for new habitats. The combination of these tranquil qualities and proposed water-related functions mean that the introduction of more intense forms of recreation provision would be both difficult and inappropriate.

19) ***Distribution of uses:*** The proposed distribution of uses within the site takes account of the likely characteristics of the four quadrants, as well as the following design principles:

a) The individual requirements of each use.

b) The inter-relationship with other uses.

c) Land use planning policy, notably protecting the amenity of local residents.

d) Existing and proposed landscape and ecological characteristics.

e) The technical requirements of the reservoir itself.

20) In some instances locational requirements contradict the design principles and compromise solutions are therefore proposed. On example is sailing, where the facilities would ideally be located in the south-west quadrant, to take advantage of prevailing winds. However, such a location would be likely to generate unacceptable traffic impacts, so the facility is proposed in the north-east quadrant, where road access would already be available from the A34 via the A415.

21) Landscape, nature conservation and access features incorporated into all three scenarios are as follows:

a) ***Beaches, coves and associated promontories:*** These could be located near to East Hanney, Steventon and Drayton. Access to the water's edge would be mainly at the beaches and coves, with selective access elsewhere by paths. Swimming would not be permitted for health and safety reasons.

b) ***Areas of specific habitat creation:*** Habitat creation, notably wetland and damp meadows to the west of the site would be linked to the flood storage area. The relative tranquillity of the western edge of the site would be retained in all three scenarios. The size of the site makes it possible to maintain intimate and tranquil areas within all scenarios.

c) ***Rights of way:*** An extensive network of new bridleways, footpaths and cycle paths, connecting with existing routes outside the site and the surrounding settlements. The six-kilometre crest top route could from part of the Oxfordshire cycle network, with access to the crest via a variety of routes and gradients, providing access for all.

22) ***The 'medium low' scenario:*** The key features of this scenario are as follows:

a) Uses would be spread fairly evenly across the site.

b) Three areas of local parking provision would be made in the vicinity of the three coves, each with provision for 20 to 50 vehicles.

c) Local scale facility provision would be made, acting at most as a sub-district resource for local people.

d) Built development would be restricted to a minimum.

e) Low levels of traffic generation are expected.

f) Information boards would be provided.

g) No water sports would be permitted on the reservoir itself.

23) ***The 'medium' scenario:*** The key features of this scenario are as follows:

a) The activities at this scale would be more focused within certain areas, although uses such as walking and cycling would still be well spaced throughout the site.

b) The focus on built development would primarily be in the north-east corner and could incorporate a visitor centre, local events area and water gardens, a watersports clubhouse and storage for up to 300 boats.

c) Certain watersports would be allowed on the reservoir, although not motorised activities due to water and noise pollution.

d) Car parking would be provided in two areas in the north-east corner. 75 spaces (plus 400 overflow) would be located near the events area and 225 spaces by the visitor centre.

e) A school study centre in the south-west corner could be based in an existing building or one required for reservoir construction purposes. Parking provision for two coaches and 20 cars would be made adjacent to the building.

f) A pony-trekking centre in the north-west corner could be based in an existing building or one required for reservoir construction purposes. Parking provision for 20 cars would be made adjacent to the building.

g) The overall scale of provision would act as a district or county resource.

24) ***The 'medium high' scenario:*** The key features of this scenario are as follows:

a) The range of activities and facilities would not differ widely from the 'medium' scenario, but the scale of uses will differentiate the two scenarios.

b) Facilities in the north-east corner could include a visitor centre, including retail and refreshments and facilities for educational visits to the site.

c) The north-east corner could also incorporate a heritage/archaeological centre, a larger events area, water gardens, an outdoor educational science park and facilities for angling and water sports.

d) The pony-trekking centre from the 'medium' scenario would be re-located in the north-east quadrant and become an equestrian centre.

e) Car parking would be provided in two areas in the north-east corner, with 300 spaces (plus 500 overflow) between the events are and water garden and 300 spaces near the visitor centre. There would also be parking for 500 boats on site.

f) The area of built development in the south of the site could provide facilities for pre-booked educational visits, nature study and research and artists huts, together with associated parking facilities for four coaches and 40 vehicles.

g) The scale of facilities would act as a resource for Oxfordshire and the surrounding counties.

25) ***Delivery of recreation provision:*** Four options for providing the facilities and activities have been identified. These would be selected on a case-by-case basis for each type of provision, rather than being applied across the site as a whole:

a) Thames Water to build and subsequently run the facilities.

b) Thames Water to build the facilities and then franchise their operation to an external specialist provider.

c) Thames Water to allocate the land and lease it for the construction and operation of the facilities by an external specialist provider.

d) Thames Water to allocate land for potential future use.

26) ***Usage capacity management:*** One issue that the options for providing facilities and activities does not address is the ability (or otherwise) of whoever is responsible for running provision, proactively to manage (and if necessary to contain) visitor numbers. Thames Water's options report does not address this issue, but a synopsis of the measures available and an analysis of their likely effectiveness at the Upper Thames reservoir is listed below:

a) ***Scale of provision:*** Thames Water has rightly anticipated that the scale and range of activity provision will have some influence over the number of visitors, but this can only be an effective factor if managed in combination with some of the more proactive management measures below.

b) ***Pricing:*** Pricing can be an effective means of managing demand, both by setting charges at a level which deters potential usage, or by peak and off-peak pricing regimes that help to dissipate the periods of highest demand. However, there are sensitive policy issues about effectively admitting visitors on the basis of their ability to afford high charges.

c) ***Marketing:*** The extent to which the provision is publicised will affect demand levels to some extent, although the project is likely to have a high media profile in any event and will be physically very visible, so not marketing the facilities per se is unlikely to retard demand significantly.

d) ***Restricted access:*** In theory, Thames Water has the option to restrict or completely prevent access to some or all of the facilities to manage visitor numbers at the site. This might take a number of forms, including:

- Physical barriers to access.
- Limitations on opening hours.
- Capacity caps on some activities, managed either through a 'membership' or permit scheme, limiting the numbers of people who can access each activity, or through limiting any further access on occasions when stated capacities are reached.

In practice, restricting access to the site is problematic from two standpoints:

- Public rights of way cannot be obstructed or access denied.
- Thames Water has a legal obligation under the Water Industry Act to make provision for recreation and limiting access to recreation provision might breach this obligation.

Analysis of comparator provision and sites

27) ***Introduction:*** We established the scale and types of recreation provision at other reservoir sites in England, to provide some context for the Upper Thames reservoir proposals. The provision is summarised in the table below, with the Thames Water proposals ('medium high') included for comparison. The reservoirs included are:

a) ***Rutland Water:*** Dominating the unitary authority of Rutland, at 1,255ha., this reservoir is the largest by surface are in England. It was created by damming existing watercourses and as such sits in a naturally contoured landscape. Recreation provision is delivered by several organisations including Anglian Water, voluntary sector clubs and commercial providers.

b) ***Grafham Water:*** Located in west Cambridgeshire, close Huntingdon and the A1 trunk road, at 600ha. it is closest in size to the Upper Thames reservoir (proposed 660ha.). It too was created by damming existing watercourses and as such sits in a naturally contoured landscape. Recreation provision is also delivered by several organisations including Anglian Water, voluntary sector clubs and commercial providers.

c) ***Carsington Water:*** The reservoir is 400ha. in size, located in Derbyshire and is managed by Severn Trent Water. It is in a relatively rural location close to the Peak National Park, between Ashbourne, Wirksworth and Belper and is served only by a 'B' road. It too was created by damming existing watercourses and as such sits in a naturally contoured landscape. Most recreation provision is delivered directly by Severn Trent, although some activities are franchised.

d) ***Pitsford Reservoir:*** The site is near Northampton and at 738ha. is the third largest in England. It too was created by damming existing watercourses and as such sits in a naturally contoured landscape. Most recreation provision is delivered directly by Anglian Water, although some activities are franchised.

e) ***Farmoor Reservoir:*** At 154ha., Farmoor is the smallest of the comparator reservoirs, but also the most local, being located just west of Oxford. It is mostly bunded, although its southern edge merges with the slope of the natural landscape. Recreation provision is delivered by Thames Water and local clubs.

Provision	***Rutland Water***	***Grafham Water***	***Carsington Water***	***Pitsford Reservoir***	***Farmoor Reservoir***	***Upper Thames***
Public access	●	●	●	●	●	●
Disabled access	●	●	●	●	●	●
Picnic areas	●	●	●	●	●	●
Visitor centre	●	●	●	●		●
Catering	●	●	●	●		●
Retail outlet(s)	●	●	●			●
Education centre	●	●	●			●
Cycling and bike hire	●	●	●	●		●
Residential accommodation	●	●				
Nature reserve	●	●	●	●	●	●
Angling	●	●	●	●	●	●
Fishing tackle shop	●	●		●		●
Sailing/windsurfing	●	●	●	●	●	●
Canoeing	●		●	●	●	●
Horse riding	●	●	●			●
Triathlon	●					

Sources: Anglian Water, Severn Trent Water and Thames Water websites.

28) ***The nature and scale of provision:*** The nature of provision of recreation facilities and scale ancillary provision such as car parking was examined at Rutland Water, Carsington Water and Grafham Water, the three comparator reservoirs with a range of facilities that most closely matches the Upper Thames proposals. The information was collated from site visits to each reservoir and is summarised below:

a) ***The nature of built provision:*** This is set out in the table below:

Site	***Description of provision***
Rutland Water	• Egleton bird watching centre (includes shop and education centre). • Lyndon nature reserve visitor centre • Normanton church museum • Rutland Sailing Club • Rockblok Climbing Centre • Rutland Watersports Centre • Butterfly and aquatic centre • Castaways restaurant and Water's Edge café bar • 4 refreshment kiosks • Drought garden and arboretum • Bike hire centre
Carsington Water	• Visitor/education centre • Watersports centre • Wildlife centre • Zoom indoor play area • Retail outlets (outdoor clothing, food and optics) • Mainsail restaurant and Waterside café
Grafham Water	• Grafham Water Centre (education and outdoor activities) • Grafham Sailing Club • Fishing lodge • Cafeteria • Bike hire centre

Sources: Anglian Water and Severn Trent Water websites and site visits.

b) ***The scale of parking provision:*** This is set out below. In most cases the number of spaces was estimated since most car parks do not have marked bays:

Site	***Name of car park***	***Description of provision***
Rutland Water	• Egleton bird watching centre • Lyndon nature reserve • Normanton car park • Rutland Sailing Club • Sykes Lane car park • Whitwell car park • Barnsdale car park	• 50 hard and 50 grass car spaces • 100 hard surfaced car spaces • 675 hard surfaced car spaces • 120 hard surfaced car spaces • 1,000 hard surfaced car spaces • 350 hard surfaced car spaces • 550 hard surfaced car spaces ***TOTAL: 2,895 car park spaces***
Carsington Water	• Visitor centre car park • Watersports centre car park • Millfields car park • Sheepwash car park	• 600 hard surfaced car spaces • 100 hard surfaced car spaces • 200 hard surfaced car spaces • 100 hard surfaced car spaces ***TOTAL: 1,000 car park spaces***
Grafham Water	• Mander car park • Marlow car park • Plummer car park • Sailing club car park • Grafham Water Centre	• 500 hard surfaced car spaces • 400 hard surfaced car spaces • 150 hard surfaced car spaces • 100 hard surfaced car spaces • 100 hard surfaced car spaces ***TOTAL: 1,250 car park spaces***

Source: Site visits.

c) ***Provision for sailing boats:*** Hard standing areas for the storage of sailing boats are provided at all three reservoirs as follows:

- ***Rutland Water:*** 400 boat spaces at the sailing club and 200 at Whitwell Creek - Total 600.

- ***Carsington Water:*** 300 boat spaces at the watersports centre.

- ***Grafham Water:*** 500 boat spaces at the sailing club.

29) ***Summary:*** The main points to emerge from the examination of comparator facilities are as follows:

a) The proposed range of activities at the new reservoir is comparable with that of similarly sized reservoirs elsewhere.

b) The only provision not proposed for the Upper Thames reservoir that is incorporated in other major reservoirs is on-site residential accommodation and provision for triathlon (swimming, cycling and running).

c) None of the other reservoirs makes provision for motorised watersports.

d) Proposed car parking provision of 1,200 car parking spaces under the 'medium high' scenario at the Upper Thames reservoir (600 main spaces, 500 overflow spaces and two local car parks with up to 50 spaces), is comparable to the provision at Carsington Water and Grafham Water. At Carsington Water, 1,000 spaces is adequate to cope with peak daily visitor numbers of 7,000 on the basis that:

- Each car has an average of 3 occupants.

- The average visit duration is 3 hours (hence each space can accommodate an average of 3 cars during the peak period between 09.00 and 18.00).

- A small proportion of visitors arrive by coach, minibus or public transport, which further eases pressure on car parking spaces.

e) Proposed provision of 500 boat storage spaces is comparable to the provision at Rutland Water and Grafham Water, both of which host regional sailing academies.

26) ***Usage figures:*** Data on visitor numbers at reservoirs is difficult to obtain from the water companies for several reasons:

a) Public access to most of the reservoirs is unrestricted and therefore there is no means for recording the numbers casual users who visit to walk, cycle or picnic.

b) Some usage figures are recorded for people who pay to use those activities for which a charge is levied. However, in some instances payment involves an annual or seasonal membership fee that does not record frequency of usage.

c) Because of the mix of directly delivered (by the water company) and franchised provision by different external organisations, information on individual types of use is often fragmentary.

27) Due to the above factors, the only usage information that could be obtained in relation to the above sites is as follows:

a) Carsington Water (with an almost identical range of recreational activities to those proposed for the Upper Thames reservoir) attracted 1,000,000 visitors in 2004 and 850,000 in 2005, with visits during the peak (summer) period, totalling around 7,000 per day.

b) In 2005/6, Severn Trent Water recorded 3,346,317 visitors at all its reservoir sites with recreational access, an increase of 12,317 over the previous year.

c) In 2005/6, more than 10,000 people attended beginner's courses for watersports at Anglian Water's reservoirs.

d) 30,000 people per annum visit the museum in Normanton Church alongside Rutland Water.

28) ***Summary:*** Whilst existing usage data for reservoirs is fragmentary, the only comprehensive set of site usage figures (for Carsington Water) illustrate the magnitude of use that recreational use that large reservoirs can attract, with a similar range of activities to that proposed for the Upper Thames reservoir. It should be noted that road links with Carsington Water are significantly poorer than for the site near Abingdon, where access for users via the A34 and A415 might facilitate even greater usage.

The views of recreational interests

29) ***Introduction:*** To establish the views of organisations with an interest in recreation provision at the proposed reservoir, consultation was initiated with the following organisations:

a) Sport England (South-East).

b) The Royal Yachting Association (Thames Valley region).

c) Canoe England.

d) British Horse Society.

30) The following sections summarise the responses received.

31) ***Sport England:*** Sport England's has not yet responded formally to consultation on the proposed reservoir and based its comments on the policies contained in its *'Planning Bulletin 9 - Planning for Water Sports'* (2001) as follows:

a) ***Sustainable development:*** Sport England will support and promote the use of natural resources for sport in a way that meets sustainable development objectives. It considers that development proposals for sport should be based on the 'best available place' principle. This involves a planned approach to the provision and protection of sites and facilities, including the assessment of the impact of any sports use and a commitment to appropriate management measures.

b) ***Conflict resolution:*** Sport England wishes to protect, improve and bring into use new resources for water-based sport. To reduce potential conflicts between the sports use and the environment and between different users through good management practice and by the use of codes of conduct.

32) ***Royal Yachting Association (Thames Valley):*** The RYA's Regional Secretary made the following points in a written submission:

a) ***Involvement to date:*** The RYA is aware of the Thames Water consultation and attended both the stage one and two exhibitions in Abingdon. However, its views and those of the local sailing clubs have not yet formally been sought, although they have been told what is happening and invited to attend the exhibitions.

b) ***Potential for sailing:*** The RYA regards the new reservoir as 'a major opportunity for sailing. If built this will be one of the best inland waters for competitive sailing and windsurfing in the country. It will also be a very pleasant place for recreational sailing'.

c) ***Scale of use:*** The RYA does not believe that restricting the sailing use of the reservoir to anything below the 'medium high' option is practical. 'If sailing is allowed on the reservoir there is going to be irresistible pressure to hold what we regard as major events on the water. Even the smallest local club is not going to be able to resist such pressure over the years and a commercial operator is going to find it very frustrating'. It would be best therefore to build in the capacity for such events from the beginning.

d) ***Impact of larger events:*** The impact of larger sailing events should not be great. 'A large national event is unlikely to involve more that 100 boats for a weekend, or approximately 100 cars arriving in a gentle stream and leaving at the end of the weekend over a period of around half an hour. Most events will be much smaller (approximately 30 boats)'. Sailing events of any scale tend not to attract spectators in any numbers and so additional traffic generation is likely to be negligible.

e) ***Economic benefits:*** 'The local economy has much to gain from larger sailing events, as non-local participants will be looking for somewhere to stay and will probably be looking for an evening meal. Parents and partners may choose not to stay all day at the venue and will look for alternative activity around the reservoir and in the surrounding countryside'.

f) ***Location:*** The RYA believes that there is 'a major strategic problem' with the suggested location of the sailing facility in the north-east quadrant of the reservoir and states the following:

- 'Even Thames Water admits that the location is 'sub-optimal' in their study. The proposed access will require vehicles arriving from the south – which would be the majority in the case of sailing – to travel an extra 6-8miles up to Abingdon and back on the access road from the A415. With the nearest railway station at Didcot it also adds to the environmental impact of anyone attempting to use public transport to get to the sailing facility'.

- The RYA believes that siting the sailing club on the south side of the reservoir with access through Steventon 'would overcome these difficulties and enable Steventon Village to enjoy the economic benefits of the sailing club and that the traffic generation would not be a significant factor'.

- 'Siting the sailing club on the south edge of the reservoir would also have safety benefits in that it would be moved away from the lee shore. This would mean that sailing and windsurfing would not be as hazardous and not require as large a harbour area as the concept drawings show, since they would only be required for safety craft rather than dinghy/windsurf launching. The concept drawing shows a cove and small car park in the area we are suggesting. Creating a club facility in this area would require very little adaption of this concept'

- 'Such a site would also mean that the dinghy parking areas are not near the public visitor centre and should reduce the chance of casual theft or accidental damage to members craft. Remember that these can be expensive and delicate racing machines'.

g) ***Operation by a club:*** On other reservoirs a mix of sailing activities is typically provided, including learn to sail/windsurf courses, recreational/club sailing and events. In many instances, a small chandlery provides for equipment needs. The income from all these sources is vital to sustain a viable sailing club and therefore the preferred operational arrangement would be for all these elements to be delivered by a club, rather than some aspects being franchised to other operators on the site.

h) ***Multi-use potential:*** Depending upon the design of the facility and the acuity of the management, a sailing club could make provision for other uses, such as:

- Catering provision for walkers and cyclists.
- Cycle hire in conjunction with the chandlery.
- Canoeing could take place as part of the teaching regime.
- The teaching facilities might be used for conferences related to sailing.

i) ***A sailing clubhouse:*** Notwithstanding the potential for some multi-use, the sailing clubhouse should be kept separate from a public visitor centre because:

- The presence of sailors in wet kit does not combine well with the public.
- Sailing being weather dependent needs to have access to shore facilities at short notice in the case of bad weather, so needs to be able to control such facilities.
- There is a need for security of sailors' equipment that may not be present in a more public setting.

j) ***Conclusions:*** The RYA believes that 'there is a great opportunity for this to be a significant sailing centre and to put the Vale on the map. We believe that the traffic generation from sailing will not be significant and that there is a local economic benefit to be gained from operating the sailing centre as a major regatta centre as well as a local club'.

33) ***Canoe England:*** Canoe England expressed no specific views about the project proposals, but the following general points are based upon its *'Facilities Strategy 2006 - 2013'* (2005) and can be summarised as follows:

a) ***Canoe disciplines:*** Canoeing embraces a number of different disciplines as follows, each of which has its own specific facilities needs:

- ***Canoe sailing:*** Racing is held on the sea, estuaries, reservoirs and lakes, but coaching is best done on inland waters.
- ***Freestyle:*** Competitions and training takes place on white water and weirs.
- ***Marathon:*** Racing and training takes place on courses between 6 and 320 kilometres, with water still, moving, rough or a combination of the three.
- ***Canoe Polo:*** Matches and training primarily use indoor swimming pools or enclosed still water facilities.

- ***Canoe slalom:*** Training and competition takes place on fast-flowing rivers, weirs, or artificial 'white water' courses.

- ***Sprint canoeing:*** Distances raced include 200m, 500m, 1,000m, 6,000m and 10,000m. Flat water is required.

- ***Surf canoeing:*** As the name suggests, surf canoeing is an entirely maritime-based activity.

- ***Wild water racing:*** Training and competition takes place on fast-flowing rivers, weirs, or artificial 'white water' courses.

b) ***General priorities:*** The general priorities for facility provision are:

- To increase the number of new white water or moving water facilities to serve the main centres of population.

- To establish Strategic Training Centres for each discipline in each region.

c) ***Conclusions:*** The extent to which the project could provide for the needs of canoeing will depend in large part on the feasibility of establishing a white, or moving water facility. The possibilities are as follows:

- ***Still water only:*** Canoe sailing, sprint and marathon canoeing could make use of the reservoir itself.

- ***Still and white water:*** In addition to canoe sailing, sprint and marathon canoeing, freestyle, canoe slalom and wild water racing could be accommodated on an artificial white water course.

34) ***British Horse Society:*** The BHS's Oxfordshire Access and Bridleways Officer made the following points in a written submission and subsequent telephone conversation:

a) The creation of the reservoir would mean the loss of the existing bridleways network under the footprint of the scheme and the BHS would expect as a minimum that 'an alternative network of at least the same length, usefulness and amenity value should be provided'.

b) The BHS believes that there is a good case for actually enhancing the network, consistent with the provisions of the Oxfordshire Rights of Way Improvement Plan. This should include improved connectivity with existing and new rights of way in the surrounding area, to facilitate non-vehicular access to the site.

c) Whilst bridleways are multi-user routes (also enjoyed by walkers and cyclists), problems do periodically arise, especially on more intensively used routes, for example when horses are startled by fast-moving cyclists. For this reason, the dedication of some lengths of trails for horse riders only would be beneficial.

d) One well-established equestrian centre, the Malthouse Training Centre, will be displaced by the reservoir proposals. This currently hosts many events for local clubs as well as providing lessons and stabling for horses. The provision of alternative facilities of this nature, as proposed under the trekking centre and equestrian centre options at the site, could meet some of the uses displaced from the existing operation, but a more detailed feasibility study would be required to determine the precise scale and content of provision.

35) ***Summary:*** The views of recreational interests can be summarised as follows:

a) ***Sport England:*** Sport England has no specific policy stance on the project at present.

b) ***Royal Yachting Association:*** The RYA is strongly supportive of sailing on the reservoir, on at least the 'medium high' scenario, but believes that the sailing clubhouse would best be located in the south-east quadrant, with access from Steventon. It is also supportive of all sailing operations being franchised to a club.

c) ***Canoe England:*** Several canoeing disciplines could benefit from the provision of the reservoir itself, with additional use facilitated by the creation of an artificial white water course in the open channel for auxiliary drawdown.

d) ***British Horse Society:*** The BHS would expect as a minimum that an bridleways network of at least equivalent quality and utility should be provided, to replace the routes that would be displaced by the reservoir. The provision of other equestrian facilities could meet some or all of the needs currently served by the Malthouse Training Centre, but this should be subject to a more detailed feasibility study.

Evaluation of the proposed provision for leisure and recreation

36) ***Introduction:*** This section comprises an evaluation of the proposed provision for leisure and recreation at the proposed Upper Thames reservoir, based upon the foregoing material. It covers:

a) The principles guiding acceptable uses.

b) The range of possible uses.

c) Excluded potential uses.

d) The usage scenarios.

e) Potential usage levels.

f) Management of usage levels.

g) The spatial scenarios.

h) Delivery/management options.

i) The views of recreational interests.

37) ***The principles guiding acceptable uses:*** Most of the principles are sound, however the statement that 'the reservoir outer embankment and surrounding area are more important in considering recreation provision than the crest and water' underplays the significance of the site for watersports.

38) ***The range of possible uses:*** The terminology selected for the named stages in the spectrum of usage is questionable, with the phrase 'theme park' carrying loaded connotations that imply an Alton Towers scenario and dose not accurately reflect the next tier of activities above 'medium high'. In fact, the 'high' and 'very high' usage that the term is intended to cover could equally well apply to high volume recreational uses like walking, which will have a relatively limited impact on the site and its surrounds.

39) ***Excluded potential uses:*** Examination of recreational uses on the 'full list' compiled by Thames Water suggests that it would be appropriate to include a dry ski slope and artificial canoe slalom course on the 'short list' for further consideration.

40) ***The usage scenarios:*** Of the usage scenarios presented ('medium low', 'medium' and 'medium high'), examination of the range of recreational uses at comparator reservoirs and consultation with potential user interests at the proposed site, suggests that the 'medium high' scenario most closely reflects the likely demand and need.

41) ***Potential usage levels:*** There is no evidence that projected levels of use have been produced by Thames Water. However, it is important to note that Carsington Water, with a similar range of facilities but inferior road access arrangements, attracts up to 1,000,000 visitors per annum (peaking at around 7,000 visitors per day). The Upper Thames reservoir would therefore need to ensure that sufficient infrastructural provision is made to accommodate usage of at least this magnitude, in particular road access and car parking. It is unclear on what basis the current proposals in this regard have been developed.

42) ***Management of usage levels:*** Whilst some measures (e.g. pricing levels, access restrictions etc.) could be applied to restrict visitor numbers if usage levels at the site exceed planned levels and cause problems, in practice these are likely only to have a limited effect on demand.

43) ***The spatial scenarios:*** The options for distributing recreation facilities and activities around the reservoir are for the most part sensible and logical. The only points at issue are:

a) The proposed location of a sailing club facility in the north-east corner, which is acknowledged as sub-optimal in relation to launching into the prevailing wind. The RYA believes that a sailing facility should be located in the south-east quadrant, with separate road access from Steventon (possibly along the line of the current East Hanney to Steventon road).

b) The proposed provision of beaches in several of the quadrants, whilst visually attractive may be at odds with the prohibition on swimming in the reservoir and require management supervision during the summer months.

44) ***Delivery/management options:*** Examination of the management regimes at comparator sites suggests that all four of the options proposed by Thames Water for managing recreation activity, from direct provision through to franchising arrangements work well and are best applied on an activity specific basis. This is likely to involve a mix of delivery/management by voluntary clubs and commercial providers.

45) ***The views of recreational interests:*** The governing bodies of sailing, canoeing and horse riding are all broadly positive about the potential of the site to meet the needs of their respective activities, subject to provision being made equivalent to the 'medium high' end of the usage spectrum.

The potential economic impact of the project

46) ***Introduction:*** With the project proposals at such a preliminary stage at the moment, it is not possible to assess the economic impact of the project in any detail. However, as a prelude to more detailed calculations in the future, this section identifies:

a) The factors that will influence the economic impact.

b) Data from studies in Rutland (an area dominated by Rutland Water) on the local economic impact of tourism.

c) Attendance figures from a range of existing leisure and recreation sites featuring countryside and water facilities, to provide some comparisons, including trend data on visitor numbers.

47) ***Factors influencing the economic impact:*** The development of a project with the recreational use envisaged has the potential to have a significant local economic impact. The precise magnitude of the impact will depend upon the following variables, the outcomes of which have yet to be determined.

a) ***The scale and type of provision:*** At present a range of recreational use options are being considered, varying in scope and intensity from 'medium low' to 'medium high'. The eventual mix and scale of selected uses will have a key influence on the overall economic impact.

b) ***User numbers:*** There are no stated estimates of likely attendance figures at this stage, largely due to the prior need to determine the scale and type of recreation provision.

c) ***Charging policy:*** There is no indication at this stage over the charging policies and levels that might be levied on users. At other sites, some of the options applied are as follows:

- No charge for general access.
- No charge for access to most parts of the site, but fee paying permit access to selected areas (e.g. nature reserves).
- Vehicle parking charges in lieu of an access fee (either fixed or time-related).
- Annual or season ticket arrangements for general access or specific activities for regular users.
- Specific daily or sessional charges for selected activities (e.g. fishing).

d) ***Charging levels:*** The level of charges levied will depend on a number of factors, including the overall quality of provision, the extent of local competition and any policies on discounts for specific groups.

e) ***Secondary spend opportunities:*** In addition to charges for the primary recreational uses of the site, secondary spend on food and beverages, catering and souvenirs will depend upon the eventual extent and quality of provision on site.

f) ***Management arrangements:*** The precise mix of commercial and voluntary sector management is yet to be determined and individual providers will have different charging regimes.

g) ***Staffing arrangements:*** The nature and extent of staffing levels will depend upon all of the above factors. Voluntary sector providers may deliver some services using volunteers rather than paid staff.

h) ***Patterns of use:*** Most use of recreational facilities at reservoirs involves day trips originating from home, with an on-site duration of three to six hours. However, there is potential for some events to be accommodated at the proposed reservoir, some of which (e.g. weekend regattas) might involve the need for overnight stays. At Rutland Water and Grafham Water, some basic on-site accommodation is provided, but elsewhere, local hotels and bed and breakfasts benefit from this. Whilst it has yet to be determined the extent to which events will be allowed and if so with what frequency and limits on visitor numbers, there are potential benefits to the local economy from this.

48) ***Data on the impact of tourism on the Rutland economy:*** There is no available data on the precise impact of reservoir-related recreation on local economies. However, given the predominance of Rutland Water as a feature within the wider unitary authority of Rutland, tourism and economic impact data for that area provides at least some guideline figures. The source of the data is the *'Rutland Tourism Blueprint 2005 - 2008'*:

a) Rutland has more than 2,000,000 day and overnight visitors per annum, collectively spending in excess of £70 million.

b) 90% of visits are by day visitors.

c) Spend per head by 'day countryside visitors' averages £16.68 and accounts for total expenditure of around £15.5 million per annum.

d) A tourism-related workforce of 3,500 people is employed in 550 mostly small, privately owned businesses.

e) The attributes of Rutland Water are at the heart of a promotional strategy for the area with five themes - water, heritage, countryside, tranquillity and cuisine.

49) ***Attendance figures:*** The following attendance figures for leisure and recreation attractions involving countryside and water sites were compiled by Visit England:

Site	***2001***	***2002***	***2003***	***2004***	***2005***
Upper Derwent Reservoirs (Yorks)	1,500,000	1,500,000	-	1,750,000	2,000,000
Fairlands Valley Park (Herts)	1,000,000	1,000,000	1,250,000	1,250,000	1,250,000
Willen Lake and Park (Bucks)	-	-	1,000,000	1,000,000	1,000,000
Rother Valley Country Park (Yorks)	540,000	500,000	763,033	742,250	945,832
Carsington Water (Derbys)	750,000	800,000	-	1,000,000	850,000
Bradgate Country Park (Leics)	475,000	850,000	850,000	850,000	850,000
Moors Valley Country Park (Devon)	720,000	750,000	750,000	770,000	770,000
Chevin Forest Park (Yorks)	250,000	250,000	250,000	250,000	627,780
Rufford Country Park (Notts)	690,000	-	650,000	-	600,000
Lickey Hills Country Park (Worcs)	500,000	550,000	550,000	550,000	550,000
Weald Country Park (Essex)	350,000	500,000	500,000	500,000	550,000

Source: *'Visitor Attraction Trends England 2005'* Visit England (2006).

50) The visitor numbers generally show an upward trend over the five year period and the overall figures bear comparison with some major visitor attractions such as the Eden Project (1,177,189 visitors in 2005), Westminster Abbey (1,027,835) and London Zoo (841,586).

51) Whilst it is premature to estimate the full extent of the economic impact of the project, it is clear from attendance levels at existing countryside and water facilities that several sites comprise major visitor attractions. The Upper Thames reservoir proposals have the potential to perform a similar function, even at the level of the 'medium high' scenario.

Summary and conclusions

52) The recreational use options for the proposed Upper Thames reservoir presented by Thames Water, generally provide a reasonable basis for examining the potential of the project in this regard. However,

a) Some of the potential activities initially discounted are worthy of reconsideration, in particular a dry ski slope and an artificial canoe slalom course.

b) Whilst the spatial scenarios provide a useful means of zoning activities, the location of the sailing facilities should be reconsidered on safety and access grounds.

53) The absence of any stated recreational usage projections by Thames Water, either overall annual figures or peak daily rates, makes it difficult to see how the demand for on site car parking provision and the traffic impact on local roads can have been assessed. Thames Water should be pressed for their projections and their underlying assumptions, to enable a more detailed assessment of this aspect to be made at a subsequent stage of the consultation.

54) The range of leisure and recreation uses proposed is generally concomitant with the scale and mix of provision at other major reservoirs. The limited data that exists on the recreational usage of reservoirs suggest that the sites have become major visitor attractions. Given the relatively good transport links, it would be reasonable to assume that the Upper Thames reservoir would also attract significant numbers of primarily day visitors, at least on a par with the 800,000 to 1,000,000 annual visitors to Carsington Water, with related benefits for the local economy.