

Luxulyan Valley

Conservation Management Plan - Text



Cornwall Heritage
Trust



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Scott Wilson
15th Floor
McLaren Building
46 The Priory Queensway
Birmingham
B4 7LR
United Kingdom

Tel 0121 2123035

www.urs-scottwilson.com

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Summary

Luxulyan Valley is located in mid-Cornwall to the north east of St Austell. The valley is included in the Cornwall and West Devon Mining Landscape World Heritage Site as area 8i. The valley is important as the only WHS area which exemplifies the industrial entrepreneurship of a single individual responsible for the creation of one of the more significant infrastructure structures in the region.

The valley contains a number of nationally and regionally designated heritage and natural environment assets including the Treffry Viaduct a Scheduled Ancient Monument, a site of Geological or Geomorphological importance, areas of ancient broad-leaved woodland and species of nature conservation importance.

The aim of the conservation management plan (CMP) is to provide policy recommendations to maintain and enhance the significance of The Luxulyan Valley by means of informed management. The policies address the main issues that have been identified in respect of the conservation and retention of assets of both a heritage and nature interest.

The heritage assets principally comprise a non-ferrous mining infrastructure comprising leats and tramways. The leats were constructed to provide a source of power for tin and copper mines the most notable being the copper mine at Fowey Consols to the south east of the valley. The first of the tramways was built by Joseph Treffry in 1837 to connect his mines and other interests to the wharves at Pons Mill from where they were carried by canal to the port at Charleston. By 1847 Treffry's tramway had been extended to Newquay on the north Cornwall coast crossing the River Par by means of the spectacular Treffry viaduct, the first to be built in Cornwall.

The valley is also known for its picturesque qualities and ecological interests which have been long recognised. In 1847 Nicholas Kendall set about the construction and engineering of his Long Drive or Velvet Path an 8 mile drive through the east side of the valley taking in the sights and sounds of the new

industrial landscape in a culturally significant attempt at displaying the sublime against the natural beauty of the valley.

A site of such complexity and with such overlapping values as this is not without its issues and these are fully explored in the CMP. As in all instances where nature has taken its hold, one of the key issues is to balance the conservation needs of the heritage assets with those of the natural environment. These issues are particularly apparent in consideration of a means to best preserve and maintain the tramway and leats from sometimes damaging vegetative incursion.

The valley is rightly so a valued asset for the local community and visitor providing opportunity for a number of leisure uses as well as community involvement and public education. These uses however need to be carefully balanced with a need to manage historic as well as natural environment assets so as to sustain the significance of the valley, the tranquillity and natural qualities of which are vulnerable to a growth in such activities.

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We should also like to thank Paul Mason and the Friends of Luxulyan Valley for their assistance in preparation of the plan and in understanding the ecological and natural environment importance of the valley and for their insights contributing to the vulnerability and issues sections of the CMP.

This Conservation management Plan was prepared by Andrew Harris of URS Scott Wilson (Heritage) with assistance from Barry Woodfin (audience development) and Paul Gregory (ecology). The project was managed by Andrew Harris with assistance from Tim Williams.

1 Introduction

1.1 Background

- 1.1.1 This Conservation Management Plan (CMP) has been prepared on behalf of Cornwall Council and Cornwall Heritage Trust. The CMP is required to provide policy recommendations to help maintain and enhance the significance and character of the Luxulyan Valley by means of a process of informed management.
- 1.1.2 The Luxulyan Valley forms part of the Cornwall and West Devon Mining Landscape World Heritage Site (hereafter referred to in short as the Cornish Mining WHS). The Cornish Mining WHS was inscribed in 2006. World Heritage Sites are locations of 'Outstanding Universal Value' and there is acceptance that these sites are special and a requirement that they be conserved, managed and protected. The Cornish Mining WHS is made up of 10 locations throughout Cornwall and West Devon of which Luxulyan Valley along with the associated site at Charlestown is one part.
- 1.1.3 The Luxulyan Valley retains an industrial and natural heritage of international and national importance. The diverse range of natural and heritage assets include tramways, leat systems, a picturesque ride known as the Velvet Path and more recent china clay workings all set within a mature wooded valley important both for its broad-leaved semi-natural woodland and other ecological assets and designations.
- 1.1.4 The valley's mining heritage represents principally the physical manifestation of one man's vision to establish a tramway and leat system enabling exploitation of the valley's mineral resources. In the end Joseph Treffry (1782-1850) was to provide a transport

infrastructure connecting by canal Par Harbour on the south coast to Ponto Mill at the southern end of the valley and thence by tramway through the valley all the way to Newquay on the north coast. .

- 1.1.5 Evidence of Treffry's enterprise remains throughout the valley including the engineering masterpiece that is the Treffry Viaduct which carries both his tramway and leat system high above the River Par. The viaduct is a Scheduled Ancient Monument. Other remains include the Fowey Consols Leat which powered the Fowey Consols mine one of the more productive in Cornwall employing at its height 1,600 men. The Carmears Leat supplied water to power the wheel which drove the Carmears Incline hauling wagons from the canal at Ponto Mill up into the valley. As well as evidence of transport infrastructure the valley retains evidence for the extractive industries including the more recent industries associated with the processing of china clay.
- 1.1.6 The valley fell into disuse by the mid 20th century and its potential as a site of industrial significance has been appreciated following extensive survey work by the Cornwall Archaeological Unit in 1988.
- 1.1.7 The viaduct is owned by the Cornwall Heritage Trust and the valley is now mostly owned by Cornwall Council. The valley is managed by The Luxulyan Valley Partnership a working party of stakeholder groups comprising Cornwall Council, the Friends of Luxulyan Valley and the Cornwall Heritage Trust.

1.2 Study area

- 1.2.1 The Luxulyan Valley is located in mid-Cornwall 7.5 miles north east of St Austell. The valley extends from Luxulyan in the north to Ponto Mill in the south. The valley lies wholly within the

Cornish Mining WHS area (Area 8i) which also includes Prideaux Wood to the south west, the Charlestown Leat and Fowey Consols to the south east (Fig 1).

- 1.2.2 The area defined by the client brief for inclusion in the CMP lies wholly within Area 8i of the Cornish Mining WHS but its extent is broadly determined by the boundary of public ownership including the Treffry Viaduct which is owned by Cornwall Heritage Trust (Fig 2).

1.3 The Conservation Plan

Aims and client brief

- 1.3.1 The aims of the CMP are to provide a baseline framework and policies to help maintain and enhance the significance of the valley. The plan is also to assist in the development of future projects that conserve, enhance and interpret the natural and historic assets.
- 1.3.2 The client's brief sets out a number of requirements of the Conservation Management Plan and these are summarised to include
- A resource audit
 - A statement of significance
 - The recommendation of a conservation philosophy
 - The preparation of conservation policies that protect and promote significance
 - To make recommendation for works to sustain or better reveal heritage values,

- To explore opportunities for audience development and, in respect of any proposed works for instance to the leats;
- To assess the impact of the works and to propose a mitigation strategy

Scope

- 1.3.3 This plan provides the baseline evidence in respect of the historical and natural significance of the valley and addresses certain key issues such as access, interpretation and audience development. The plan is provided to help inform current management decisions particularly in respect of current works for repair of the leats and viaduct.

Methodology

- 1.3.4 There is already a large body of information in respect of the cultural heritage and natural environment values of The Luxulyan Valley. In accordance with the client's brief much of the baseline evidence has been assembled utilising and drawing upon existing research and surveys, particularly the survey report and research prepared by The Cornwall Archaeological Unit (CAU 1988), the Luxulyan Valley Project Ecological Survey (1988) and the Updated ecological assessment of 2004. Other sources in respect of the baseline evidence are listed in the bibliography and include documents prepared in conjunction with the WHS inception process.
- 1.3.5 This wealth of written information has been used in conjunction with a series of site visits enabling an understanding of the site and the preparation of a resource audit and gazetteer of assets of cultural heritage significance. For reasons of safety, including the fact that much of the fieldwork was undertaken during a particularly wet February and March following the floods of November 2010, some of the mines and adits particularly those in

North Wood were not inspected. However detailed information on these features including site plans and photographs is presented in a geotechnical survey report prepared by F Sherrell Ltd (1997).

1.3.6 Other data and information to inform both the baseline study and to assist in devising a conservation strategy has been obtained from a series of stakeholder consultation meetings including a public stakeholder event.

1.3.7 The formulation of policy recommendations has been undertaken in consideration of current planning policy, regional strategies and existing conservation and management strategies for the Cornish Mining WHS including; the Luxulyan Valley Management Plan (2007), the Cornwall and West Devon Mining Landscape WHS Management Plan 2005-2010 and the Cornwall and West Devon Mining Landscape WHS Interpretation Strategy 2005.

1.3.8 World Heritage Sites are recognised as being of international importance and the universal significance of the Cornwall and West Devon Mining Landscape is identified in the WHS documentation. Nationally and internationally, World Heritage Sites are of very high significance and in order to assist in the preparation of a management strategy whereby that significance can be sustained or enhanced, it is necessary also to be able to recognise the individual significances of each asset that makes up the WHS. Individual assets will have values which will vary in the degree to which they contribute to the significance of the WHS.

1.3.9 Advice as to what makes up significance is set out in *Conservation Principles* (EH 2008) under the heading Understanding Heritage Values (30-60). This sets out the 4 key values that make up significance encompassing:

- Evidential value – the potential of a place to yield evidence about past human activity,
- Historical value – the ways in which past people, aspects of life or events can be connected through a place to the present,
- Aesthetic value – the ways in which people derive sensory stimulation in a place i.e. through design or fortuitous evolution; and
- Communal value – the meaning of a place to people who relate to it.

1.3.10 These values are to be used in determining the significance of individual assets within the CMP area and each are then graded on the basis of the following 5-point scale (Table 1):

Table 1 Factors in determining the significance of heritage assets

Grade	Attributes
Very High	Designated heritage assets such as a SAM or other national or regional nature conservation designation which has values that are fundamental to the significance of the WHS
High	Assets that are of exceptional quality in their fabric or historical association that contribute to the significance of the WHS
Moderate	Assets that are of special interest that have important qualities in their fabric or historical association that relate to the significance of the WHS
Low	Assets of modest quality that have intrinsic historical interest
Not significant	Assets that have no architectural or historic interest or detract from the significance of the WHS

Structure

- | | | | |
|--------|---|--------|---|
| 1.3.11 | The CMP has been prepared in accordance with best practice and broadly follows the format as recommended in the HLF document 'Conservation Management Planning' taking into account the specific requirements of the client's brief. . | | |
| 1.3.12 | The Conservation Management Plan for the Luxulyan Valley comprises a number of separate though related documents. The core part of the plan comprises the text, illustrations and a gazetteer of key assets. This information is presented in three separately bound volumes. | 1.3.16 | A Statement of Significance is an important part of any CMP and at Section 4 the baseline evidence and other material factors are taken into account in the preparation of statements of significance that consider not only the Universal Value of the Luxulyan Valley but the significance of those key heritage and natural assets that contribute to its overall values. |
| 1.3.13 | Additional documents have also been prepared in respect of the condition and engineering of the leats and viaduct. <u>The structural Engineering report</u> (URS Scott Wilson May 2011) details the structural condition of the structures and appraises options for their repair. Whilst the <u>Condition Survey</u> report (URS Scott Wilson and Architecton, May 2011) presents a methodology and strategy for repair. These two separate reports and the CMP have a close inter-relationship particularly in respect of the recommendations and actions proposed in the condition survey. | 1.3.17 | The vulnerability of these key assets is examined in section 5 and the issues that arise further considered in section 6 which addresses such matters as condition, current and potential future uses and the need to balance nature conservation with the needs of the heritage asset. Consideration of these matters arises from consultation or discussion with a number of stakeholder groups or individuals and draws upon evidence of condition etc noted during the course of site survey and walkover. Section 6 also considers those issues that arise from the recommendations for repair and intrusive works to the leats and viaduct that are recommended in the Condition Survey report. |
| 1.3.14 | The CMP provides a basis for management decisions to be made in respect of those actions recommended in the condition survey. | 1.3.18 | A key part of the requirement of the CMP is to provide a strategy for audience development and this issue and issues related to it are considered as a separate topic in Section 7 and appendix 1. This section presents the evidence base for current use of the valley and examines market conditions and local and regional context. This section of the CMP provides an assessment of audience development opportunities and is a scoping of the types of development options that could be considered as a means of improving learning, participation and conservation. |
| 1.3.15 | The baseline evidence which sets the context of The Plan is set out in Section 2 of the CMP 'Cultural heritage' and Section 3 'Natural Environment'. These elements of the CMP draw upon previously published material including archaeological reports and ecological surveys and seek to provide the context for consideration and development of the management plan. The cultural heritage section provides a summary of the historical evidence for the use and development of the valley from its earliest days through to the 19 th century and disuse and provides | | |

1.3.19 The policy context of the CMP is set out in section 8 and considers national and regional objectives for conservation of the natural and built environment. The section addresses policy specifically in respect of the Cornish Mining WHS and of the Luxulyan Valley in particular.

1.3.20 An analysis of all the issues identified forms the basis upon which the management approach is presented at Section 9, this section makes recommendation for the management of both the historic and natural resource and establishes a conservation philosophy to be adopted for the conservation of heritage assets and a plan for the conservation of ecological values.

1.3.21 Policy and recommendations are set out at section 10. This section brings together the various elements of the CMP and provides a series of policy statements and recommendations to be considered in the management of the valley so to sustain and enhance both its historic and natural qualities and at the same time developing opportunities for greater public engagement and access.

Gazetteer of Assets

1.3.22 The description of field remains contained in section 2 of the CMP is based upon field observation and draws upon the researches of the CAU study of 1988. The order of description of the assets is broadly chronological. In respect of the linear features such as the leat systems and tramways the description takes as a starting point the head of the asset and describes individual aspects of the asset as they would be encountered along the route of the asset to its terminus. In respect of the Carmears Tramway the point of origin is taken as Ponts Mill and the route is therefore described south to north.

1.3.23 A more detailed description of the asset, its condition, significance and proposed conservation approach is contained in the separately bound gazetteer that accompanies this document. Figures in bold text refer to the gazetteer entry and represent a unique number identifier for the asset which is annotated on the accompanying location plans. For purposes of cross-reference the gazetteer also includes the CAU identifier.

1.3.24 Significance is assessed according to the methodology set out in section 1 of this report. Statements on condition refer to a casual observation and are not based on any specific survey or investigation unless stated. The gazetteer also recommends a conservation approach to the asset and this is based according to the conservation philosophy that is developed later within this document. In many instances it is sufficient to note that the condition of the asset needs to be monitored, this does not imply any current threat but is included simply as a means by which regular inspection of the asset is recommended as the principal management tool to ensure that heritage values are retained.

Orientation

1.3.25 The River Par takes a sinuous course through the valley on a generally north west to south east direction. For purposes of the study and for ease of description the valley is assumed on a north south orientation. In this case the leats and Carmears incline are described as being on the east side of the valley. The Trevanney china clay works and Charlestown leat are therefore on the west side of the valley. Luxulyan is to the north and Ponts Mill to the south.

2 Cultural heritage

2.1 Introduction

- 2.1.1 The industrial heritage of the valley comprises evidence of a complex and extensive system of leats and tramways and other infrastructure that attests to the entrepreneurship and endeavours of Joseph Treffry an early 19th industrialist. These remains were incorporated into a picturesque landscape developed and engineered by Nicholas Kendall during the mid and later 19th century (Fig 3) and later were either abandoned or adapted as part of an early 20th century mining landscape (Fig 4). In turn these assets have also become disused and are themselves part of the naturalised and scenic landscape that is today the Luxulyan Valley.

2.2 Geology

- 2.2.1 The underlying strata comprise deposits of Hensbarrow Granite which outcrops to the north of St Austell. The Hensbarrow Granites have been Kaolinised (decomposed) and are a rich source for china clay which is extensively mined in the area.
- 2.2.2 Despite the general presence of Kaolinised Granites in the immediate area of The Luxulyan Valley there are no such deposits within the valley itself.
- 2.2.3 The valley has been formed by the actions of the River Par which flows through the area and has cut a deep steep sided channel in places up to 100m deep exploiting a weakness in the granites.
- 2.2.4 Soil cover on the plains above the valley is very shallow and this has exposed the underlying granite which frequently occurs in the

landscape as large surface boulders sometimes up to 10m in diameter. It is for these conditions that the valley has been designated as a Regionally Important Geological/Geomorphological Site (RIGS).

2.3 Historical development

Pre 19th century settlement

- 2.3.1 There is very little evidence for occupation of this area prior to the medieval period. Prideaux Hill fort to the west of the valley is a feature of assumed Iron Age date and attests to some prehistoric settlement.
- 2.3.2 The earliest documentary evidence for settlement in the valley documents a corn mill and bridge at Pons Mill. Pons Mill is located at the lowest crossing point of the River Par and is located at the head of a former broad estuary. A small port and quay was established here and remained navigable for large vessels until at least the mid 18th century.
- 2.3.3 During the 16th and 17th centuries Luxulyan, at the head of the valley was the centre of stream tin production and it is likely that this industry contributed to the gradual silting of the Par estuary. There is also likely to have been some small scale tin extraction elsewhere within the valley environs. It is also probable that the woodland was exploited throughout the medieval period and post-medieval periods for charcoal production and used for smelting.
- Joseph Treffry**
- 2.3.4 Joseph Treffry inherited the family estate at Fowey and began to look at ways in which he could diversify from the family's traditional agricultural business. Treffry acquired an interest in a

- copper mine at Lanescot and soon began to expand its area of operations to become known as Fowey Consols. Operations at the mine were however soon hampered by difficulties in providing a satisfactory route both for the coal needed to power the pumping engines and for the ore itself to be sent to the smelters.
- 2.3.5 Treffry saw the potential in a harbour at Par and between 1829 and 1835 embarked upon a massive scheme comprising the building of a new harbour at Par linked by canal, utilising in part the former river channel to the slopes beneath Fowey Consols; where he built a tramway up the slope to the mines. At about the same time Treffry built a leat through the Luxulyan Valley to provide water at the mine.
- 2.3.6 This was a substantial engineering project, water was taken from Gattys Bridge at the head of the valley and the work involved the construction of a number of stone bridges and a wooden aqueduct fixed to the front of Carmears Rocks.
- 2.3.7 By 1835 Treffry had extended his canal from Par to Pontois Mill where he built a berthing in the silted up remains of the earlier harbour. Treffry sought to expand his enterprises and acquired granite workings and other sites in the upper Luxulyan Valley and drew up plans to link these by means of a tramway to the Pontois Mill. Treffry also had ambitions to link the tramway through to a new port at Newquay on the north coast.
- 2.3.8 Treffry instructed the engineer William Pease to design and construct the tramway, Pease devised a steep incline (the Carmears Incline) that rose from Pontois Mill 300ft up the east side of the valley from where it continued to Luxulyan with a branch to the granite quarries at Colcerrow.
- 2.3.9 The incline plane was completed in 1841. The Incline plane was powered by means of a wheel driven by water carried from
- across the valley in a new leat. The Carmears Leat not only powered the incline but its outflow flow added to that of the Fowey Consols Leat providing extra drive.
- 2.3.10 The route through to Luxulyan required the tramway to be carried high above the valley across the valley by means of a viaduct. The viaduct was built between 1839 and 1842 and was probably engineered by Pease, not only did it carry the tramway across the valley but also the aqueduct conveying the Carmears Leat. The engineering works were all completed by 1845 and the tramway to Newquay was complete by 1850.
- 2.3.11 The eastern side of the valley was owned by the Kendall family and Treffry must have obtained a lease for his works. Nicholas Kendall took a keen interest in Treffry's endeavours and by 1845 Kendall was laying the route for his long drive, later to be known as the Velvet Path. This route took a circuitous route through the valley taking in the sites and sounds of the new industry.
- Nicholas Kendall and the Velvet Path or Long Drive**
- 2.3.12 Whereas Treffry was interested in industrial engineering Nicholas Kendall recognised the picturesque nature of the infrastructure that was being constructed.
- 2.3.13 Kendall desired to show off the new works and between 1840 and 1870 he devised, planned, constructed and elaborated upon a 10 mile scenic drive or ride which entered the valley at Penpell and defined a circuitous route through the valley returning via Colcerrow. Kendall planted the ride with rhododendron and other plants such as specimen beech trees so to display the engineering infrastructure in a picturesque context.
- 2.3.14 A desire to make the valley a venue for outings fitted with a Romantic and Picturesque interest in the aesthetics of industry

and the industrial process where the sights, sounds, noise and smell of the new industries could be experienced.

2.3.15 Kendall's Long Drive was in itself a feat of engineering and was constructed from new without making use of the public highway. The drive was therefore provided with tunnels and bridges that both crossed over and passed beneath engineering works such as the Carmears Incline. Every opportunity was taken to exploit the picturesque, a branch of the drive climbed up Carmears in a series of hairpins offering long distance views across the valley and beyond and arrangements were made whereby an overspill sluice from the Fowey Consols Leat could be opened to create an artificial waterfall down the valley sides. Likewise the return ride descended to the valley bottom where the viaduct could be displayed to its best as the visitor passed beneath its arches.

2.3.16 Following his death in 1878 Kendall's Long Drive became less frequently used and became overgrown and by the early 20th century was referred to as the Velvet Path by those walkers who came for recreation in the valley.

Later 19th century stone workings

2.3.17 The canal from Ponto Mill to Par was gradually replaced by an extension of the tramway through to Par harbour, and seems to have become disused by 1850.

2.3.18 Decline in copper mining gave rise to renewed interest in old tin workings and there was much prospecting in the valley between 1870 and 1910. None were successful due to poor quantities of ore within the valley.

2.3.19 Industrialists began to turn to other commodities notably stone. Luxulyan Granite was well known for its fine quality and although it could be obtained from surface outcrops soon began to be

quarried by cutting into the valley sides. Renewed activity within the valley is evidenced by various extensions to the tramway network providing new routes to service the quarries.

2.3.20 Between 1868 and 1870 a tramway was constructed on the west side of the valley floor from Ponto Mill to the quarries at Orchard and Rock Mill. Other quarries were opened or extended at Cams Bridges.

The Cornwall Minerals Railway

2.3.21 By their nature the tramways through the valley were not suited to locomotive traction and by 1870 were one of only two horse drawn systems left in Cornwall. Roebuck acquired the tramway systems and between 1872 and 1874 set about building a new modern railway, known as the Cornwall Minerals Railway (CMR) through the valley linking Par and Newquay. The intention was not only to allow exploitation of mineral reserves to the north but also to serve the expanding china clay industry.

2.3.22 Whereas Roebuck had been able to modify other lengths of the tramway to take the new locomotives the continuation of the railway through the valley from Luxulyan to Par necessitated the abandonment of the earlier tramway and the building of a new line that avoided the Carmears Incline. To do this Roebuck determined a route on the west side of the valley floor to run beneath the viaduct and thence carried on embankments and bridges to pass on the slopes above Ponto Mill to Par with a new and extensive locomotive depot at St Blazey.

China Clay

2.3.23 The arrival of the railway was a mixed blessing, whereas it meant that goods were no longer required to be transhipped at Ponto Mill leading to a decline in the fortunes and significance of Ponto

Mill; it did bring about opportunities associated with the china clay industry.

- 2.3.24 The stone mills at Ponto Mill were operational by 1875 and although there are no deposits of china stone within the valley the CMR was able to bring the china stone mined in other locations to Ponto Mill where it could be processed. A means was devised whereby water from the Carmears and Fowey Consols Leats was diverted into iron pipes and carried down the valley to provide the water necessary to power the new mills.
- 2.3.25 The water wheel that had previously driven the now redundant Carmears Incline was also reused and refurbished by the West of England China Clay Company to drive a stone mill that had been established at Carmears by c1890. The raw minerals required for the new mill at Carmears were supplied by tram via the viaduct and tramway from Luxulyan where a rail head was established. The china clay slurry was piped down beside the Carmears Incline to the new pan kilns at Ponto Mill.
- 2.3.26 The inaccessibility of many of the china clay pits to an efficient form of transport was an issue that faced the china clay industry during the later 19th century. It was addressed whereby clay slurry could be piped from the mine to pan kilns located where rail access was possible. This allowed the processed material from the kiln to be loaded at the railhead and moved out of region.
- 2.3.27 The first of these new pan kilns had been built at Ponto Mill during the 1870s and was served by a siding off the CMR. In the 1920s a second pan kiln complex was built on the west side of valley floor and became known as the Central Cornwall Dry. The Central Cornwall Dry was connected to the Ponto Mill railhead by diversion of the earlier Rock Mills Quarry tramway and its modification to receive a petrol locomotive. The kilns at the

Central Cornwall Dry and Ponto Mill were operated by English China Clays until the 1960s.

2.4 Archaeological and historic remains

Ponto Mill

- 2.4.1 Settlement at Ponto Mill originates in the medieval period when a mill and bridge are recorded. Existing settlement is dispersed on both the east and west sides of the river and appear to be of 18th or 19th century date. These structures have not been examined in detail and there is opportunity through survey to gain further historical and evidential information.
- 2.4.2 The present single span granite built bridge (1) dates to c1836. On its north side it supports a steel launder which discharges the Fowey Consols Leat. The bridge crosses the narrow channel that links the Par canal on its south side to the upper canal basin on its north side.
- 2.4.3 The Par Canal (2) was built to enable transportation of materials between Fowey Consols Mine and the new port at Par. Initially the canal terminated at the foot of the Fowey Consols Incline but by 1840 had been extended to Ponto Mill. The extension of the canal to Ponto Mill was contemporary with an increased exploitation of the valley and the proposal for a continuous tramline from Ponto Mill to the port at Newquay. The canal appears to have become disused by the 1850s.
- 2.4.4 The present roadway that leads from the canal bridge alongside the china stone mills is in origin probably an extension to the tramway system which, on the demise of the canal, was continued to Par. By the late 19th century this tramway was in turn incorporated into the rail head that was constructed from off

the CMR to service the china stone mills at Pons Mill as well as the Central Cornwall Dry at Trevanney.

2.4.5 On the east side of the roadway on the approach to the stone mills is the granite stone base of a former information panel built in 1996 (3).

2.4.6 The china stone mills have been demolished and pan kilns (4) are in a ruinous condition and difficult to access. The pan kilns are on the east side of the building and remain partly roofed but open to the side. These appear to have been modified and there is evidence for a series of brick stacks to carry the east side of the roof structure. The concrete lined settling tanks to the rear of the building are also ruinous and overgrown. Various other remains and stone foundations are evident within the wider location.

The Carmears Incline.

2.4.7 The Carmears Incline and associated tramway was built between 1838 and 1842. Much of its southern end at Pons Mill has been destroyed by later workings and new cuttings and the asset is first recognisable as it rises sharply up the east side of the valley alongside the CMR.

2.4.8 At its base the Carmears Incline is carried on a single arched bridge (5). On its west face the incline revetment is faced in rough coursed stone with a parapet wall. The line of the revetment follows the steep angle of the incline and is gradually reduced to a mere parapet wall as the tramway follows the contours and topography of the hillside.

2.4.9 The structure of the tramway (6) comprises two outer lines of discontinuous granite stone setts. These show evidence and scarring for the fixing of iron chairs that held the rails. The chairs

were fixed to the setts by means of iron spikes held within the stone. A series of pads set between the two outer lines may have carried support for the guide wire that drove the incline.

2.4.10 The tramway passes beneath the Velvet Path over-bridge (7), a rubble masonry skew segmental arch with dressed granite voussoirs and coping. The bridge is elegantly designed and follows the slope of the velvet path as it descends down the hillside. The bridge has rounded stone coping and a low parapet and crosses the tramway on a slight oblique angle.

2.4.11 On the approach to the incline head depot the tramway crosses the Fowey Consols Leat by means of a simple flat linteled granite stone bridge.

Incline head depot and water wheel

2.4.12 At the head of the incline is a broad levelled area which was probably used for the marshalling, assembling and transit of the wagons between the horse drawn middle level tramway and the powered incline. At the head of the incline is a small ruined single celled building. (8). The CAU report refers to this building as the checkers cabin.

2.4.13 The Carmears Incline was powered by an overshot water wheel. The water wheel was driven by water delivered by the Carmears Leat which is carried over the wheel pit on a timber launder. The wheel pit is built in dressed granite. The remains of the wheel are probably that which was installed on its reuse as a china stone mill in the late 19th century.

2.4.14 The incline was out of use by 1890 and soon after the wheel was employed to drive a china stone mill, known as Wheelpit Mill. The remains of the mill (10) comprise a simple rectangular structure arranged around the central wheel and wheel pit. The

- building housed a pair of pans each set either side of the wheel. Photographs document that the building had a stone base with a timber clad super structure. Ordnance Survey maps of 1906 show the establishment of a railhead utilising the earlier tramway along which materials were carried to the Wheelpit Mill from Luxulyan. The incline to Pontois Mill had become disused.
- 2.4.15 Within the Wheelpit Mill building are the remains of gears and other drives and elements of the water wheel are also preserved within the wheel pit.
- 2.4.16 At the head of the incline are two further structures built up against the earth bank. The first of these (11) is a stone built single storey building with gable end and a chimney setting. Alongside the building is a stone plinth type structure (12). This appears to be some form of support for a superstructure that no longer remains. The building is built of rough coursed stone of irregular plan. The structure is inline with the Carmears Incline and may have held the cable drum.
- Tramway through middle valley**
- 2.4.17 Beyond the incline head the tramway continued its course toward the Treffry viaduct and for much of its length runs alongside the Carmears Leat and for some of its length is partly in cutting. The tramway through the valley is mostly buried and obscured beneath a build up of earths and fill some of which is derived from clearance of the Carmears Leat.
- 2.4.18 At intervals along the route there is evidence for in-situ rail. On leaving the incline head a small section of turn out is preserved but there is no other trace of the structure of the tramway (13). Further lengths of rail are evident on the approach to the viaduct (14) but again a build up of soils obscures the granite setts and other structural evidence.
- 2.4.19 The Carmears Leat takes a sinuous course through the valley and is bridged in several locations by the tramway. The bridges (15) are all flat linteled and comprise granite sleepers laid across the course of the leat.
- 2.4.20 A small marker stone is located adjacent to the tramway just before the junction with the Colcerrow branch (16). The piece of granite is carved one side with T and on the other with K and celebrates the collaboration between Treffry the industrialist and Kendall the landowner.
- 2.4.21 On the approach to the viaduct the tramway enters a broad level area (17) which may have been used for marshalling at the junction with the extension of the tramway towards the Colcerrow quarry. At the north end of the junction is a small section of rail and turn out. The arrangements and junction of the tramways in this area are clearly shown on the Ordnance Survey plans of the 1890s.
- Treffry Viaduct**
- 2.4.22 The tramway crosses the River Par by means of the Treffry Viaduct (18). This is one of the more significant assets within the valley 27m in height and 200m long. It is constructed of dressed granite and articulated by 10 equal span arches carried on slender piers. The viaduct carries not only the tramway but also the Carmears Leat in aqueduct.
- Tramway to Luxulyan**
- 2.4.23 On crossing the viaduct the tramway heads towards Luxulyan. On leaving the viaduct the tramway is in a poor condition and waterlogged with soil build-up. Further towards Cam Bridges it is in better condition and carried on a slight embankment. Here it is mostly overgrown and there is no visible evidence for granite

setts or sleepers. As the tramway leaves Cam bridges on its approach to Luxulyan it enters a slight cutting and is defined on each side by stone hedges (19). The tramway is part contiguous with the Saints Way footpath.

Colcerrow Quarry branch tramway

- 2.4.24 The branch tramway (20) to the quarries at Colcerrow extends alongside the north slope of the hill between battered stone hedges. The alignment crosses the public road and begins to climb up the hillside towards Colcerrow. The tramway is evidenced by good preservation and retention of the granite setts.

Carmears Leat

- 2.4.25 The Carmears Leat was cut c1840 to supply water to power the Carmears Incline. The head sluice for the feeder leat is at Cam Bridges (21) on the west side of the valley. At the sluice head there is evidence for a small reservoir and a launder to take off excess water (22). A public path passes in front of the reservoir pool and the pedestrian two-arch bridge (23) crosses the Carmears feeder leat. The feeder leat traverses through the woodland quarries and is bridged. The flow of water from the feeder leat into the Carmears Leat is controlled and a sluice allows overspill to be returned to the river (24). The Carmears Leat flows towards the Charlestown reservoir. The reservoir was built in about 1830 as a pool to supply the earlier Charlestown Leat. The Charlestown Leat was built by Rashleigh to supply his new port at Charlestown. A conflict of supply arose between Treffry and Rashleigh and Treffry devised a means whereby the reservoir was used to control the water flow in order that equal waters could be taken off for both the Charlestown and Carmears Leat systems

- 2.4.26 The Carmears Leat passes through the Cam Bridges quarry where it is bridged in several locations (25). The leat is now in cutting alongside the tramway and passes beneath the Charlestown Leat launder (26) and enters the Treffry Viaduct in aqueduct which is continued in part on the far side of the viaduct (27).

- 2.4.27 For the remainder of its course the stone faced leat is in an open structure (28). The leat follows the line of the tramway and turns to spill over the wheel pit of the Carmears Incline (29).

Fowey Consols Leat

- 2.4.28 The Fowey Consols Leat was built by Treffry in the 1820s to provide water to power the Fowey Consols mine. The leat takes its source from the River Par near Gatty's Bridge (30). The Leat is a well engineered structure and for much of its length is faced in coursed stone (31). The Leat follows the course of the road and for part of its length shows evidence for a timber lining (32) which could be a repair. The leat is bridged to provide access onto adjacent farmland (33). The public highway is carried over the leat (34) and the leat thereafter is carried on an embankment on the east side of the road.
- 2.4.29 The Colcerrow Valley road is carried on a well engineered granite over bridge (35). The leat then continues at a level slightly above the Luxulyan Road as it approaches the viaduct (36). Just before the viaduct the leat is joined by a small leat which takes the overflow of the Carmears Leat as it emerges from the viaduct (37).
- 2.4.30 As the leat passes from beneath the viaduct it is passed beneath a natural rock fall (38) which is of picturesque value. Thereafter the leat passes in front of open fields and is bridged in several

locations (39) to allow access. Other bridges are interspersed along the route (40) as it approaches the Carmears wheel pit.

2.4.31 The leat flows in front of the Carmears Wheelpit and receives the overspill from the Carmears Leat. It passes beneath the Carmears incline and is crossed by the velvet path (46) by means of a granite stone slab. At this point the leat is part embanked.

2.4.32 The leat was initially engineered to pass across the face of the Carmears rocks in a timber aqueduct but this was replaced in the 1940s by a bored tunnel (42). Flow through the tunnel is controlled by sluice and the overspill leat continues slightly beyond the tunnel where it is then allowed to discharge down the hill side in an open channel. The overspill channel may be a feature introduced by Kendall to create a waterfall attraction on his velvet path which crosses the channel in several places as it climbs Carmears (45).

2.4.33 On emerging from the tunnel the leat continues on an embankment to a cut off (43) where the water was diverted in pipes down the hillside to the china stone mills at Pons Mill. Beyond the cut off the leat remains as a dry channel and originally continued across open fields towards Fowey Consols mine.

Velvet Path

2.4.34 The Velvet Path or Long Drive as it was originally known by Kendall was constructed and thence extended and elaborated between 1840 and 1870. The drive is generally 3m in width and approximately 8 miles in length as it passes through the east side of the valley. The drive was engineered to include bridges and was designed with the picturesque in mind and so views are as an important element of the asset. The drive was also planted

with both ornamental and standard species to provide further interest.

2.4.35 The drive originates from Penpall on the east side of the valley above Pons Mill and descends the valley to pass below Carmears and the Carmears waterfall. The drive was however provided with an alternative route that climbed up the valley towards Carmears. The climb to Carmears is effected by a series of hairpin turns (44) terraced into the hillside to provide a sense of the precipitous nature of the environment. On its ascent the path makes a series of passes over an open channel (45) that overspill water from the Fowey Consols at Carmears Rocks. The flow of water was controlled by sluice and Kendall was thereby able to create a waterfall feature to add further interest to the drive. As the path descends from the view point at Carmears it crosses the Fowey Consols by means of a simple flat slab bridge (46) and continues down slope to re-join the lower level drive and thence to cross the Carmears Incline (7).

2.4.36 After crossing the Carmears Incline the drive continues down hill here it has become overgrown and boggy and is currently difficult of access. The path is terraced into the hill side and there is evidence for discontinuous granite kerb stones (47). As the path descends still further it runs between stone hedges (48).

2.4.37 The path continues alongside the public highway and passes beneath the viaduct giving rise to one of the more picturesque viewpoints (49) in the valley and one that allows full appreciation of the scale and engineering achievement of Treffry's viaduct.

Rock Mill and Orchard Quarry tramway

2.4.38 The Rock Mill and Orchard Quarry Tramway was built between 1867 and 1870 by the South Cornwall Granite Co. to enable access to their quarries at Orchard and Rock Mill. The tramway

- is likely to have become disused by the early 20th century and was truncated and in part diverted and extended to the Trevanney Dry during the 1920s. The former tramway was modified to take a train driven by a petrol locomotive and earlier bridges appear to have been strengthened.
- 2.4.39 From Pontois Mill the tramway passes beneath the CMR (50) which is carried on a high viaduct above Pontois Mill. The tramway proceeds alongside the river and minor streams are crossed by means of simple bridges (51). The tramway crosses the outfall channel from the Fowey Consols on Carmears which has been culverted beneath the line of the CMR and issues as a picturesque waterfall (52).
- 2.4.40 The original line of the Rock Mills tramline is truncated just before the river crossing (53) but continues on the east side of the river. It is in shallow cutting with a stone hedge to one side.
- 2.4.41 The 20th century diversion towards the Trevanney Dry crosses the River Par by means of a flat arched double span bridge and appears at least in part to be of concrete construction.
- 2.4.42 The new extension to the tramway continues to run in front of the Trevanney Dry (54) and extends northwards beyond it where there is evidence for a small railhead area. A spur was extended to run alongside the east face of the building where a concrete faced raised platform presumably allowed transit of goods to the rail.
- 2.4.43 The Trevanney Dry (55) was built by the Cornwall Company in 1920 and is a traditional coal fired pan kiln. The building is of granite construction with the brick chimney built against its southern gable with the furnace on its northern end. The dry pans are at the front of the building against the rail head whilst the series of settling tanks are arranged to the rear.
- 2.4.44 The diverted tramway continues north to join the route of the old tramway at a point just after a further crossing of the River Par. This section of the tramway (56) appears to retain evidence for timber sleepers. The bridge that crosses the river is of stone and concrete (57) and there is evidence that the banks of the river have been reinforced with stone. crossing
- 2.4.45 On crossing the bridge the route joins the original 1860 Rock Mill Tramway. This is preserved as pathway and retains no visible evidence for sleepers or rails. A section of rail is however discarded on the verge (58) and other discarded remains are known elsewhere within the scrub (J Smith *pers comm.*).
- 2.4.46 The tramway continues alongside the river towards its crossing with the CMR. At this point there is a small spur that crosses the river by means of a simple granite slab bridge (59). The bridge appears to be associated a granite pathway or incline up the hillside that leads to the Orchard granite Quarries.
- 2.4.47 The Rock Mill Tramway passes beneath the CMR (60) and begins to rise. Here water erosion flowing down the slope has washed away overburden and some substrata and has exposed the granite setts of the original tramway.
- 2.4.48 The tramway turns towards the Rock Mill Quarries and crosses the river by means of a simple flat arched bridge (62) comprising a number of sleepers laid side by side. There are generally traces for chair fittings. The tramway continues beneath the CMR by means of a deep cutting (63) with an iron bridge and stone abutments. The path is waterlogged and there is no evidence for the structure of the tram which may lie buried beneath soil build-up.
- 2.4.49 Rock Mills Quarry (64) is difficult to access and was not observed in detail The CAU report refers to a smithy and office on the road.

Prideaux Wood Mine

- 2.4.50 The Prideaux Wood Mine is located in Carmears Wood above Ponts Mill. Its identification as Prideaux Wood Mine has been confirmed by CAU with reference to documentary sources.
- 2.4.51 The mine is located on the slopes of Carmears just off the Velvet Path. The field evidence comprises a single shaft (65) a possible boiler house (66) and a capstan platform (67). Additional features including a leat and reservoir pool are located further upslope. There is extensive evidence within the area for mine waste dumps (68).

Cam Bridges Quarry

- 2.4.52 This is an extensive area of quarries located within Cam bridges (69). The worked area extends either side of the Carmears Leat which has been bridged in several locations to ensure flow. The working area of the quarry has apparently been truncated by the line of a possible tramway (70) that extends across one of the faces. The tramway is provided with iron fence posts the embankment. The possible tramway can be traced as it continues north towards the Carmears head sluice where it is defined by a series of upright granite posts (71).

Lady Rashleigh Consols

- 2.4.53 The remains of a tin mine are evident on the west side of the valley above the Rock Mill Tramline. The remains comprise a series of workings high on the hillside which were difficult to access. However on the lower slopes two small structures were observed and have been identified by reference to documentation of the mine as an office (72) and saw pit (73).

North Wood and Carmears

- 2.4.54 The Sherrell report of 1997t details a number of mine shafts, adits and associated structures including leats to be present within North Wood. Evidence for small scale workings and exploratory openings are recorded within Carmears.

Cornwall Minerals Railway

- 2.4.55 The CMR enters the valley from the north from Luxulyan station and runs alongside the river beneath the viaduct (74). The railway is embanked for much of its length as to travels south towards Ponts Mill. The railway becomes elevated and crosses the River adjacent to the Rock Mill Quarry where it is carried on a viaduct (75). The viaduct has an iron span that is carried on slender stone piers. The line continues on embankment and passes alongside Ponts Mill on a viaduct (76) before continuing on a terrace cut into the hill side and thence to Par.
- 2.4.56 This section of the CMR is all new work of the 1870s and largely made redundant Treffry's tramway which was found not suitable for locomotive traction.

2.5 Historic Landscape Characterisation

Background

- 2.5.1 This review of the historic landscape character of the Luxulyan Valley and its immediate surrounds has been compiled from a number of sources and existing studies as identified in the bibliography.
- 2.5.2 This section summaries those researches and provides the landscape context to the various assets within the valley.

Historic Landscape Character

- 2.5.3 The valley has been created by the River Par as it passes through the study area from its source on the Lavrean and Lestoon moorlands in the north-west, through the landscape Par Sands on the southern coastline.
- 2.5.4 The natural environment of the river valley was to be dramatically altered when in the 1830s it became the focus of a transport infrastructure corridor that in turn give rise throughout the 19th and 20th centuries to periods of increasing industrialisation and commercial exploitation. This use has significantly altered the character of the landscape and has continued to influence its more recent development and conservation.

Luxulyan and its Surrounds

- 2.5.5 Within its wider context, the Luxulyan Valley lies within the Hensbarrow National Countryside Character Area (154), and the St Austell Bay and Luxulyan Valley Character Area (CA39) of the Cornwall and Isles of Scilly Landscape Character Study.
- 2.5.6 This unique landscape is strewn with remnants of china clay extraction, overlain with the relics of mining comprising railways, processing buildings, pipelines and tramways all of which form a distinct pattern of industrial works within the region. Indeed, the Luxulyan Valley is just one of several landscapes of similar kind.
- 2.5.7 Hensbarrow gathers its name from Hensbarrow Downs, an upland granite mass to the north of St Austell. The Hensbarrow Downs represent the opportune circumstance of local geology and pedology and lie the heart of the china clay industry. This geological sub-surface has given rise to mainly acidic soils that although gravely and peaty are also intermixed with areas of brown earth capable of cultivation.

- 2.5.8 As a result of these geological conditions the broad landscape character is influenced by both the extractive industries and agriculture.
- 2.5.9 The agricultural landscape is largely defined by the enclosures of the post-medieval period giving rise to an extensive network of irregular fields and scattered farmsteads. Pastoral farmland dominates comprising improved grassland and arable. Trees are generally sparse but do appear particularly as extensive woodland in the larger valleys.
- 2.5.10 The local settlement pattern is one of dispersed farmsteads, scattered cottages and small-holdings. The built environment is dominated by granite, forming walls, bridges and most of all the walls of houses that are surmounted by slate roofs.
- 2.5.11 Winding lanes sunken into the lower ground connect the interspersed settlements that have often formed out of the industrial development of the area. The medieval church towns at Lanlivery and Luxulyan have undergone twentieth century development but are small in comparison to the coastal settlements such as St. Blazey. Charlestown is an eighteenth-century port created for the copper and coal trade, while Par became the principal exporter of lead, copper ore, stone and later, china clay.
- 2.5.12 The landscape character of the area around Luxulyan has been dramatically altered over time, particularly in the last two hundred years. Inland from the mainly urban areas near to the coast, a scattering of small-scale development can be found, with rural housing and utilities being localised, but with a significant impact.
- 2.5.13 The agricultural landscape, meanwhile, is in the process of fast-paced change as large-scale hedge removal has led to broader

expanses of arable, and the inevitable eroding of landscape scale and pattern.

Luxulyan Valley, Historic Landscape Characterisation

- 2.5.14 At a closer scale, the Luxulyan Valley landscape consists of a periglacial valley with outcrops of granite masked by areas of thick woodland that have become established on the steep slopes either side of the River Par.
- 2.5.15 To provide a more detailed view, the Luxulyan Valley has been assessed as a part of the Cornwall Historic Landscape Characterisation study (1996) where five landscape areas have been identified within the bounds of the World Heritage Site. (Fig 5)
- 2.5.16 A large proportion of the landscape is occupied by Plantation and Scrub, dense Woodland covering much of the landscape spreading from the northern to the southern tips of the valley, and masking a large proportion of the disused Industrial remains. In specific areas the remnants of industrial processes such as the Treffry Viaduct and the various leat systems betray the picturesque aesthetic of the landscape.
- 2.5.17 At either end of the valley, within the plateaus, are areas of Modern Enclosed Land. This land has been enclosed in the last two centuries and is largely defined by thick hedges laid down on traditionally marginal land.
- 2.5.18 Finally, to the southwest is an area of Ornamental Landscape, deliberately and carefully manipulated woodland located to the south-east of Prideaux and Little Prideaux. Like the industrial remains in the valley, much of the ornamental landscape is still coherent but is now in a poor condition. This is not dissimilar to a broader pattern across Cornwall where ornamental landscapes

have, for the main part, been retained with only 5 known sites lost since 1930.

- 2.5.19 The Historic Landscape Characterisation of the Luxulyan Valley helps to highlight how this rich landscape epitomises the impact of industry across the wider region. Moreover, the assortment of different character areas, mixing ornamental with industrial and enclosed farmland, helps to foster a unique sense of place and contributes to the diverse character of this exceptional landscape.

3 Natural Environment

3.1 Existing baseline survey

- 3.1.1 A full ecological survey of the valley was first undertaken by Paul Mason during 1987 and 1988 (Luxulyan Valley Ecological Assessment 1988). A more recent survey was undertaken in 2004 by Cornwall Environmental Consultants Ltd (The Luxulyan Valley Ecological Assessment, 2004)
- 3.1.2 These surveys provide a full and comprehensive survey and assessment of the ecological and natural resource within the valley and remain a relevant and the most up to date source of detailed information in respect of the ecological resource.
- 3.1.3 In preparing this element of the CMP a series of site visits in the company of Paul Mason were undertaken and these verified that the habitats identified and assessed in the 2004 and earlier surveys had remained unchanged.
- 3.1.4 The 2004 survey has therefore been relied upon in preparation of this element of the CMP supplemented where appropriate with additional information supplied by consultees including Cornwall Council, Cornwall Wildlife Trust, Serco Ltd. And Cornwall Bat Group.

3.2 Description of the asset

- 3.2.1 In summary The Luxulyan Valley contains a diversity of important habitats and species. The site as a whole is considered to be of at least County Nature Conservation Importance and the Valley forms part of a larger county wildlife site, namely North Hill Wood

County Wildlife Site. A Regionally Important Geological / Geomorphological Site (RIGS) lies within Luxulyan Valley.

- 3.2.2 The site is predominately semi-natural broadleaved woodland with approximately eight hectares being of ancient origin. Ancient semi-natural broadleaved woodland is listed under Annex 1 of the EC Habitats Directive - "Old oak woods with *Blechnum* and *Ilex* in the British Isles"
- 3.2.3 The site consists of a steep-sided valley which runs north-west to southeast. It covers an area of approximately 67 hectares. The site comprises mainly broadleaved woodland: Carmears Wood lies on the northern side of the valley and North Hill Wood lies on the southern side. It is bisected by both the Par River and the Par to Newquay branch railway line. The limits of the site are largely defined by the edges of the woodland and associated field boundaries.
- 3.2.4 The Valley is located on an impermeable granite outcrop known as the St Austell granite. The underlying geology has influenced the soils and drainage at the site. The soils are thin and acid on the valley sides. Alluvium is present along the valley floor where there is frequent flooding. The Luxulyan Valley contains numerous features that indicate past industrial activity comprising leats, quarries, mine shafts, water wheels and derelict clay dries. As these activities declined in the Valley, the woodland began to regenerate and today most of the site is covered with broad-leaved woodland. Today the woodland is used by the general public for recreational and educational purposes.
- 3.2.5 The sheltered environment provided in the woodland glades, along footpaths and small fields creates habitat diversity and subsequent floristic and faunal diversity. The River Par and its tributaries and the leat system also significantly contribute to the diversity of the site.

- 3.2.6 The valuable habitats host a wealth of species including many of nature conservation importance and legally protected species. At least six notable higher plant species have been recorded within the site and there are a number of ancient woodland indicator species. The site also supports a rich bryophyte flora and a number of notable lichens and fungi.
- 3.2.7 The mine shafts within the site provide important hibernation sites for horseshoe bats and the site is likely to be used by a number of other bat species. The derelict buildings on site also provide summer roosting sites. All bat species are fully protected under the Conservation of Habitats and Species Regulations, 2010.
- 3.2.8 Other protected and notable mammal records for the site include dormouse, otter and badger. The site also provides important habitat for birds, both residents and summer visitors. The bird list for the site includes a notable number of birds of nature conservation concern. Adder and slow worm have been recorded and a number of fish species and common amphibians are also known to be present.

3.2.9 The following habitat sites have been identified

- Semi-natural broadleaved woodland
- Scrub
- Neutral semi-improved grassland
- Bracken
- Standing water
- Running water
- Quarry
- Mine
- Intact hedge
- Defunct hedge
- Hedge and trees
- Fence
- Wall
- Built-up areas
- Bare ground

4 Statement of significance

4.1 Statement of Outstanding Universal Value

- 4.1.1 The Outstanding Universal Value of the Luxulyan Valley, area 8 of the Cornish Mining WHS has been defined in the WHS documentation.
- 4.1.2 The significance of the valley as defined, is that this is the only area in mid-Cornwall which exemplifies late 18th and early 19th century industrial entrepreneurship reflected in an important concentration of industrial transport infrastructure and industrial water supply network.
- 4.1.3 In respect of the Luxulyan valley these values are manifest in
- The Treffry Viaduct, the earliest granite construction of its type in the south west.
 - The Par Canal together with industrial railway and leat system.
- 4.1.4 The gazetteer of heritage assets within the Luxulyan Valley that accompanies this CMP identifies the significance of each asset in respect of these universal values as described in the methodology.
- 4.1.5 The Viaduct, leats and tramways are all generally regarded as being of High or very High significance. They are each able to address the statement of Outstanding Universal Value (OUV) by means of their historic value and close association with both Treffry and Kendall who were each responsible for the way in which the valley was developed and now appears. The leats and tramways also have evidential values that relate to the transport

and water infrastructure. The tramways represent an early and complete network constructed for a specific purpose. As well as general evidential value in their structure the Carmears Incline represents a feature of engineering that contributes to the evidential value of the system. Likewise the leats represent a complete infrastructure with retention of good evidential value associated with both the Wheelpit used to power the incline as well as later industrial developments in the valley.

- 4.1.6 The viaduct, the leats and tramway also have good aesthetic values and these aesthetic values are an important aspect of the valley. The aesthetic quality of the valley and its industrial remains has long been recognised and was the basis for Kendall's celebrated Long Drive that sought to exploit the picturesque nature of the enterprise.
- 4.1.7 Later developments within the valley including the china stone mines, the granite quarries and associated infrastructure all contribute to the OUV by evidencing continued use of the valley beyond the early 19th century. Though the OUV specifies the importance of the late 18th and early 19th century remains our observations determine that many of the later 19th century remains such as the CMR and its viaducts, and the china stone mills at Trevanney all have values that contribute to the heritage and aesthetic interest of the valley.

4.2 Assessment of heritage significance

- 4.2.1 Leat systems, tramways and inclines are features regularly associated with mineral extraction throughout Cornwall and West Devon. The earliest tramways were established during the late 18th century and early 19th century.

- 4.2.2 The first horse drawn tramway in Cornwall was the Portreath to Poldice tramline which was completed in 1809 to link the inland mines at Gwennap to the harbour at Portreath. The Hayle to Portreath railway which opened in 1837 was the first to be steam driven with a number of notable inclines including that at Portreath powered by a steam winder. Generally however mineral tramways continued to be horse drawn up until the early 20th century.
- 4.2.3 Tramways and inclines are also a feature of other mining areas particularly those servicing the slate mines of Wales and stone mines in Derbyshire.
- 4.2.4 Treffry's tramway and incline of 1838-1842 and the later extension to Luxulyan and thence to Newquay completed by 1847 is notable for its unique engineering manifest as the Treffry Viaduct. This was the first constructed viaduct in Cornwall and a unique engineering structure more common to a steam railway, as evidenced on the CMR, than a horse drawn tramway.
- 4.2.5 The significance of Treffry's tramway through Luxulyan is enhanced by its good physical survival including granite setts, in-situ rail and engineered incline. The Wheelpit and Carmears leat that delivered power to the incline add to the overall significance of the tramway.
- 4.2.6 The Rock Mill Tramway is a later addition to the valley and though less engineered has good survival of granite setts and contributes to the evidential value of tramways within the valley.
- 4.2.7 The Velvet Path which was laid out in 1847 is an example perhaps of the 19th century picturesque. The concept of the picturesque where landscape and architecture inter-reacted is however usually associated with garden design. Kendall's Velvet Path in contrast would appear to celebrate the juxtaposition of the

natural beauty of the landscape with the sublime structures and infrastructure of the industrial. In this respect the Velvet Path attains significance as a departure from the norm (though attested elsewhere) and a manifestation of Burke's 1756 thesis A Philosophical Enquiry into the origin of our ideas of the sublime and beautiful where he argues that the sublime can give rise to emotions of both fear and attraction.

- 4.2.8 As with other picturesque rides Kendall's drive is engineered and comprises roadways and bridges and takes in both natural and engineered vistas such as the Carmears waterfall. In itself the drive is not uncommon, but its significance arises from the close collaboration between Kendall and Treffry as evidenced in the stone marker (16). The display of an industrial landscape is however of particular significance that enhances the heritage value of the drive. There is little information to determine the degree to which Kendall might have introduced planting along the drive or within the valley but it is clear that the route way was carefully planned so to visually impress.

- 4.2.9 The significance of other heritage assets within the valley lies more in their intrinsic values as identified in the gazetteer; but each contributes to the OUV of the site and it is this factor that ensures that each asset is of special interest warranting preservation.

4.3 Assets of natural significance

- 4.3.1 Though the OUV states that there are no designated geological sites within the valley the quarries do have a potential to realise significance that encompasses not only their geological value, but their ecological and heritage values as well.

4.3.2 As well as being of heritage value the Luxulyan Valley is of significance for its natural environment including the significant geological deposits of the Hensbarrow Granite where this is exposed as surface outcrops and recognised as a RIGS.

4.3.3 The ecological significance of the valley is recognised in that it is included as part of the North Hill Wood County Wildlife Site. As well as this designation the site is considered to be of County Nature Conservation Importance. The valley is predominately of semi-natural broadleaved woodland some of which is of ancient origin and of recognised importance listed in the EC Habitats Directive. The valley is a species rich environment including species of nature conservation importance.

4.3.4 The ecological surveys have determined the close inter-relationship between heritage and ecology. The clear aesthetic value of the valley derives from its naturalised landscape as woodland, fauna and flora reclaim the valley. This aspect of the Valley's interest was clearly reflected in the consultation responses where it was felt that this aspect of the valley's aesthetic was what made it particularly special.

4.4 Communal significance

4.4.1 The aesthetic values of the valley have long been recognised and indeed this was a factor in Kendall's design of the Velvet Path. The use of the valley for recreation has continued long since its industrial use ceased.

4.4.2 Though there was undoubtedly a period of disuse in the mid 20th century the valley is today well used by a variety of leisure users. Consultation responses indicated that the community value the valley for its tranquillity, its natural beauty and heritage interest.

4.4.3 The Friends of Luxulyan Valley have been instrumental in nurturing this interest and their leaflet detailing walking routes through the valley demonstrates the continued high value of the valley to the community. The communal value of the resource is also highlighted by a series of public walks and other outreach events which focus on the diverse interests of the valley including heritage and the natural environment.

5 Vulnerability

5.1 Condition

5.1.1 A consideration and review of previous surveys including the Management Plan of 2007 and the Geotechnical report of 1997 demonstrate the considerable work that has been undertaken in the valley in recent years. The intervening years have seen a progressive programme of vegetative clearance particularly from within and around key heritage structures. The result of this work is that in the generality the condition of the valley and its key assets can be described as good.

5.1.2 It is now the case that in the main the structural integrity of key heritage structures is no longer vulnerable to vegetative growth so long as there is continued monitoring and an ongoing programme of maintenance and cutting back.

5.1.3 There are however areas of particular concern which are best addressed in respect of the following asset groups.

The Leat system

5.1.4 The Condition Survey and Structural Engineering reports indicate that the condition of both Fowey Consols Leat and Carmears Leat is giving cause for concern as demonstrated by the failure of the revetment during the floods of November 2010.

5.1.5 Damage to the structural integrity of the leats is being caused by the growth of mature trees on the banks and berms. There is some evidence for failure of the sides and base of the leats which is causing leakage and a subsequent reduction in flow.

5.1.6 A reduction in flow through the leat system in turn threatens the flow rate through the Pontois Mill Turbine and thereby has the potential to impact upon community values.

5.1.7 Leakage of the leats however has a more direct impact on heritage values, not only is the integrity of the leat threatened by leakage of water but leakage is also threatening the heritage values of the adjacent tramway and pathways including the Velvet Path. Leakage from the leats is causing both water-logging of tramways and erosion giving rise to deposition of silts which threaten heritage values.

The Treffry viaduct

5.1.8 Carmears Leat is carried across the viaduct in a channel beneath the tramway sleepers. Examination of the viaduct has determined that leakage of the leat is eroding the structure of the viaduct with a potential to impact upon structural integrity.

5.1.9 Limited intrusive survey of the structure of the leat channel indicates that there has been some failure of the base of the channel with evidence for cracked and displaced stones.

5.1.10 Other instances of damage evidence displaced coping, dropped voussoirs and loss of binding brought about by vegetative growth. The visual prominence of the viaduct is also being threatened by the growth of mature trees.

Paths and tramways including the Velvet Path

5.1.11 Many of the paths and tramways are susceptible to water-logging and flooding either a result of leakage from the leats or on account of poor surface drainage.

- 5.1.12 The water-logging of pathways can make the pathways difficult to access and affect the public's enjoyment and access to the asset thereby reducing communal values.
- 5.1.13 Deposition of silts and mud upon the surface of the tramways is affecting heritage values as evidenced by the burial of large sections of in-situ rail which have only recently been exposed by a programme of surface cleaning.
- 5.1.14 Mature trees and other growth along the edges of the tramways and pathways is eroding character, distorting alignment and where roots have penetrated the surface, is threatening the structural integrity of the granite setts.

5.2 Use

- 5.2.1 The valley is used for a number of leisure uses, walking, horse-riding and cycling and there is a clear desire from most stakeholder groups that these continue.
- 5.2.2 In specific locations such as the Rock Mills tramway heavy usage by cyclists and horse riders has made the remains particularly vulnerable to degradation and loss and therefore threatening heritage values.
- 5.2.3 Observations generally however determine that the values that are of particular significance to the valley are not significantly threatened or vulnerable to the leisure use that currently occurs within the valley. The structures are by their nature robust and, subject to detailed survey, none of the built heritage assets appear to be at risk.

5.3 Heritage and nature conservation

- 5.3.1 In common with many other complex sites of diverse values there is an apparent conflict between the nature conservation interests and those of built heritage. Whilst it is accepted that much of the value of the valley derives from its sense of industrial decay and naturalised woodland, it is nonetheless the case that if unchecked vegetation, particularly tree and ivy growth will threaten and ultimately degrade the heritage values of structures within the valley.
- 5.3.2 The tramways are again particularly vulnerable with evidence for displacement of granite setts occurring by tree root growth. In addition the alignment of the tramways is becoming lost through encroachment of the verge with instances on the Carmears Incline of granite setts being lost amongst the undergrowth.
- 5.3.3 The condition survey highlights the need for improved drainage of the tramways and walkways and the introduction of a surface that would be more resistant to water logging and wear. Whilst it may be desirable to drain the tramways and provide a better surface it is recognised that the tramways are particularly vulnerable to this type of management intervention.

6 Issues

6.1 Introduction

- 6.1.1 This section addresses the vulnerability of the valley and examines those issues that arise relating specifically to the conservation of heritage and ecological values.
- 6.1.2 Section 7 which follows, is a consideration of matters relating to audience development. After considering existing circumstances sections 7.7 and 7.8 highlight and addresses a series of further issues that arise. These issues primarily include matters relating to accessibility, tourism development, visitor facilities, interpretation, education and community involvement.

6.2 Heritage Protection

- 6.2.1 The viaduct is the only monument in the valley to benefit from statutory protection though it is acknowledged that all the assets are to some degree protected by virtue of their inclusion within the WHS.
- 6.2.2 The tramway from Ponts Mill to the Treffry Viaduct is of significance to the valley and retains good heritage values. The incline has engineering qualities as well as archaeological potential and value and retains a number of structures that relate directly to the OUV of the WHS. Discussion with John Smith a former Senior Archaeologist with Cornwall Council has determined that that the tramway would certainly meet the criteria for scheduling and that scheduling would be an appropriate tool to ensure its proper management and retention of significance.

- 6.2.3 It is therefore a recommendation of this CMP that scheduling of the Treffry's tramway from Ponts Mill to Treffry's viaduct be considered and a proposal put forward to English heritage to determine suitability.

6.3 Prospects for a local nature reserve

- 6.3.1 Although the Luxulyan Valley is included within an area classified as being an Area of Great Landscape Value, this is not a statutory landscape or environmental designation. As such, it is not accompanied by the same level of supporting conservation or planning policies, and indeed funding sources, that are afforded to nationally designated environmental classifications such as Areas of Outstanding Natural Beauty (AONB), National Nature Reserves (NNR), Local Nature Reserves (LNR), or Special Sites of Scientific Interest (SSSI).
- 6.3.2 The Luxulyan Valley retains a significant number of species of nature conservation value and the valley is clearly appreciated by the community for its natural beauty and ecological assets. The natural environment presents an aesthetically attractive setting within which Treffry's internationally important historical engineering works can be discovered. In this respect, the natural environment is as important to the character and interest of the valley as the heritage features it contains.
- 6.3.3 Given the ecological and geological interest of the valley it would be appropriate for the Council to consider the designation of the valley as a Local Nature Reserve. LNR designation would provide opportunity for other funding sources to be explored such as Natural England's Higher Level Stewardship Scheme.

6.4 Repair to the viaduct

- 6.4.1 The recommendation for repair of the viaduct would generally bring about benefits to the viaduct and ensure its long term preservation.
- 6.4.2 In respect of the proposals for repair of the aqueduct channel a number of issues arise. The proposals have the general support of English Heritage as conveyed in a meeting in January 2011 (Condition Survey report – Appendix 4). English Heritage clearly preferred the use of a polypropylene (PP) liner over other options and felt that the provision of a lining was more in keeping with the original concept of the aqueduct.
- 6.4.3 There is an assumption in the report, based on selective observation, that the base of the channel has dropped or at least needs support and therefore needs to be stabilised with grout and filler.
- 6.4.4 The proposals for repair have also been discussed with John Smith the County Archaeologist (*pers comm.*) where he recommended that before determining on this action further survey work be undertaken to determine the condition of the channel bed throughout its length. It may be that support can be locally provided thereby reducing the overall level of intrusive works.

6.5 Repair to the leats

- 6.5.1 Proposals for repair of the leaks have been designed to sustain and retain heritage values. The reduction of turbulence by introduction of rubble layback will reduce erosion and reduce the need for repeated maintenance, thereby representing a more sustainable conservation solution.

- 6.5.2 English Heritage welcomes the approach to the repair of the leats that is being proposed. They consider this an opportunity for community involvement in the monitoring, maintenance and repair.

- 6.5.3 Whereas localised areas of collapse could be patch repaired with new granite blocks the recommendation that larger areas be repaired by shuttered concrete needs to be considered for its potential harm to heritage values. There is however a recognition that there needs to be a balance determined between the effect on heritage values and the costs and effectiveness of alternative measures.

6.6 Repair of the Carmears tramway

- 6.6.1 The tramway is vulnerable to water erosion and deposition of silts. The recommendation is that drainage channels be introduced.
- 6.6.2 It would also be appropriate that the surface of the tramway be reinforced by the introduction of a suitable binding material to provide both a hard wearing surface and a binding to the granite setts. Recent survey work has determined the survival of lengths of in-situ rail and the preservation of the rail and its revealing would significantly enhance the heritage values of the tramway.
- 6.6.3 There is clearly a potential for further lengths of rail to be preserved and it is therefore recommended that there be a full survey of the tramway and archaeological monitoring of works so to ensure that heritage values are conserved.

6.7 Ecological management

- 6.7.1 It is recognised that mature trees on the banks of the leats or alongside the tramway are causing damage to heritage assets. The recommendation is for selective tree felling. Whilst heritage values will be retained, there is a potential for harm to ecological values. The condition survey would suggest the necessity for the works.
- 6.7.2 In order to strike a balance between heritage and ecological values an alternative strategy has been proposed which would require prior consideration of whether or not it would be appropriate instead to correct the balance of trees by close pruning or regular coppicing.
- 6.7.3 Selective tree felling within proximity to the viaduct would however appear to be appropriate in order to restore the visual prominence of the viaduct, thereby retaining a key vista that was created on the Velvet Path.

6.8 Oral History and collation of earlier studies

- 6.8.1 The valley has been the subject of various heritage and ecological surveys since the 1980s during which a substantial body of data has been collected.
- 6.8.2 As part of the archaeological survey of 1987 a programme of oral history was undertaken. In preparing for the CMP the scope for further oral history was explored in consultation with the Friends of Luxulyan Valley. During this event it was determined that there was some scope for a renewed oral history the purpose of which would be to collect personal recollections in respect particularly of the operation of the turbine and of the recent resurgence of

interest in the valley. The collection of this oral history could form the basis of a community project, possibly involving local schools.

- 6.8.3 During the course of the stakeholder meetings and consultations it became clear that there is a significant amount of historical documentation, photographs and drawings that is held by a number of organisations and local history groups, particularly the China Clay History Society. This information represents a valuable resource documenting the history and use of the valley and it is recommended that this information be researched and a single archive catalogue compiled.

7 Audience development

7.1 Introduction

- 7.1.1 Audience development concerns encouraging people to learn about, participate in, and help conserve a clearly defined heritage asset. The term 'audience' is used to describe all the people that have or will come into contact with the heritage asset. As defined by the Heritage Lottery Fund's (HLF) guidance note, 'Thinking About Audience Development':

Audience development can encompass marketing, education, outreach and community development, and often works best when different approaches come together to engage people. Developing audiences requires organisations to make changes and try new things.

- 7.1.2 For audience development to be effective, it needs to be guided by an overarching management, development, or proposed project plan that has a clearly defined vision. This plan needs to scope out the following:

- the significance of the heritage asset;
- how people currently engage with the asset;
- the overall local and visitor market context;
- how participation and learning can be improved in the future;
- any constraints to achieving audience participation; and
- the challenges that need to be overcome to deliver improved participation and learning.

- 7.1.3 Such a plan is important in that it will form the development parameters for the Luxulyan Valley based upon a clearly rationalised assessment of these issues. Without this, there is a danger that any proposed development options to secure much improved audience participation will ultimately fail. For instance, there are clear development options (e.g. a visitor centre/education centre) that would undoubtedly increase audience participation, learning and experience of the heritage asset. However, without careful consideration regarding access (vehicular, public transport and leisure routes), resource implications (staffing and overheads), local competition, environmental capacity, local resident needs and visitor needs, this type of option may not be self-sustaining. This issue is fundamental in determining the suitability of projects for funding, especially through the HLF process with the guidance notes indicating that:

The level of activity [the project is] planning should be commensurate with the size of grant [the project is] requesting: the greater the investment from [the HLF], the higher the level of activity and the greater the impact [the HLF] will expect to see from [the] project.

- 7.1.4 This type of plan is currently missing in the case of Luxulyan Valley. It is therefore important that this gap be filled to ensure that audience development can be founded upon a realistic assessment of the site's historic value, its overall landscape characteristics, and its broader market setting; and how the heritage value can be better presented to meet the needs of its audiences. As a result, the investigation process has followed more of a scoping study as a means of identifying appropriate development options that will assist with improved learning, participation and conservation amongst different types of audiences.

7.2 Heritage Value

General Overview

- 7.2.1 The Luxulyan Valley forms part of the Cornwall and West Devon Mining Landscape World Heritage Site (Cornish Mining WHS) inscribed in 2006. The Cornish Mining WHS is made up of 10 mining sites throughout Cornwall and West Devon of which Luxulyan Valley is identified as one site. The valley's mining heritage represents the physical manifestation of Joseph Treffry's vision to establish both a tramway connecting Pons Mill to Newquay as well as a system of leats by which to power Fowey Consols, the most productive mine in Cornwall.
- 7.2.2 The main feature of the valley is the Treffry Viaduct a Scheduled Ancient Monument. The system of leats built to carry a supply of water to the mines; and the remains of the wheelpit for the waterwheel that was used to power the Carmears Incline are also significant assets of cultural heritage value. The canal at Pons Mill that carried material from the tramway to Par also remains, though no longer navigable.
- 7.2.3 The Treffry Viaduct, owned by the Cornwall Heritage Trust (CHT), is the most prominent built feature. It was one of the earliest granite constructions in the region, towering over the River Par at 27 metres and spanning 200 metres. However, the Valley is also renowned for its scenic beauty, and even at the height of its industrialised use was visited by tourists. In fact, it is understood that on Sundays, a sluice in the Carmears Rocks launder was opened to release the water to create a spectacular cascade – known as Carmears Waterfall. The buildings near Pons Mill bridge consisted of an Inn; the highest house in the village was a tea room; and tourists were recommended to walk along the

tramways, which the GWR guide book of 1929 described as “one of the most glorious walks in all Cornwall”.

- 7.2.4 The Luxulyan Valley area of the Cornish Mining WHS also includes the mineral harbour of Charlestown which is located 6 miles south of Luxulyan Valley. Charlestown was designed in the 1700's and is identified as the best preserved copper ore port of the late eighteenth and early nineteenth century in the world.

The Importance of the UNESCO World Heritage Site Status

- 7.2.5 The WHS status denotes a natural or cultural place of 'Outstanding Universal Value'. The key principle is that these sites are special and need to be conserved and protected. The WHS List contains 800 sites globally, which means that the Cornish Mining World Heritage Site (and the Luxulyan Valley) is held in the same conservation and heritage regard to places such as The Great Wall of China, Hadrian's Wall, Great Barrier Reef, and Stonehenge, to name but a few.
- 7.2.6 A further consequence of the WHS status is that the sites are also held in significant regard as a place of 'visitor' interest and learning. In the case of mining and industrial heritage, this has been experienced in places such as Ironbridge Gorge, and is increasingly being exploited in the Derwent Valley Mills and the Pontcysyllte Aqueduct and Canal.
- 7.2.7 The Cornish Mining WHS Management Plan's vision is that by protecting, conserving and enhancing the value of the WHS, the sites will become a driver for economic regeneration and social inclusion; which will include tourism activities. The Plan also specifies a mission to '*promote a sustainable approach that integrates conservation with regeneration, and the needs of communities with visitors*' and hopes to '*build partnerships with local, regional, national and international organisations*'.

- 7.2.8 It needs to be recognised that WHS status can create both opportunities and challenges in terms of visitors, audience development and conservation management. It is therefore important that a balance between the heritage value of the site and its environmental and social carrying capacities is reached.

7.3 Luxulyan Valley Audience Position

Audience Experience

- 7.3.1 Fig 6 taken from the Friends of Luxulyan Valley (FoLV) Guide, demonstrates that the Luxulyan Valley has a series of interests to support different types of audiences. These are:

- Heritage:
 - Treffry Viaduct –visitors can access the structure from the road and walk across it from the small car park provided nearby.
 - Leat System – the waterways still carry water and thus present man-made features of interest with a pathway generally following the line of the waterways.
 - Wheelpit – a large structure that now includes an artificial waterfall.
 - Other mining structures – the Trevanney China Clay Kiln and the redundant works at Pontois Mill
- Outdoor Activities:
 - Walking – walking along the valley is available using the many pathways, themselves part of the heritage of the valley including the Carmears Leat pathway incorporating part of the minerals tramway and the Velvet Path a designed picturesque routeway. The

Saints Way Trail, a long distance path between Padstow and Fowey, also passes through Luxulyan Valley.

- Horse riding – the so-called ‘lower pathway’ is a designated multi-user pathway.
- Cycling – as for horse riding, the lower pathway is a multi-user path accessible to cyclists. The Coast and Clay Trail, which travels through the Valley, forms part of the National Cycle Network (NCN) route No.3.

Access

- 7.3.2 The main points of access to the site is provided via two car parks; Pontois Mills and Black Hill (Treffry Viaduct). These car parks have limited capacity (approximately 40 cars in total). Some users also access the area via Luxulyan Village with ‘unofficial’ car parking available at the Village Hall, The King’s Arms Pub and on the street in certain areas and there have been incidents of verge-parking.

- 7.3.3 There is no visitor centre on site, however interpretation boards have been placed at strategic points close to the car park to describe the historical importance of the area and to demonstrate the walking and horse riding trails. A visitor guide and map is also available, published by the FoLV and distributed locally through the pub and local shop. The FoLV previously commissioned a DVD describing the different heritage components of the valley.

- 7.3.4 Visitor surveys conducted in 2000 and 2002 clearly demonstrate that access to the site is predominantly via car, arriving at one of the car parks servicing the site.

- 7.3.5 Driving through the valley to Luxulyan Village is possible using narrow lanes from A390 from St Blazey and Penpillick. These are mainly narrow lanes with only occasional passing places to allow traffic travelling in the opposite direction to pass safely. The stone walls and rock outcrops also limit the speed and size of vehicle travelling comfortably and safely. The two lanes converge close to Treffry Viaduct before continuing to Luxulyan Village.
- 7.3.6 Rail access to the Luxulyan Valley is possible with a station at Par and at Luxulyan Village. Par station is linked with the line of the canalised River Par which has an associated pathway that joins through to Pons Mill. Similarly, Luxulyan Village Station could be utilised to encourage access from the north subject to securing the crossing of private land from the village to Treffry Viaduct.
- 7.3.7 These stations form part of the Newquay to Par line which has a service every 2-hours. The service between Newquay and Par takes 50 minutes, with the journey time of Luxulyan to Newquay taking 35 minutes and Luxulyan to Par taking 15 minutes. With Newquay in particular being one of the principal coastal resorts in Cornwall, this represents a potential means of encouraging access to Luxulyan Valley via more sustainable means.
- 7.3.8 The cost of a return journey of Luxulyan to Par is approximately £4.80 and between Luxulyan and Newquay is approximately £8.20.
- 7.3.9 Par Station is well connected regionally with direct connections to Penzance, Plymouth, Truro and Gunnislake. There is also a service that stops at Par and travels to Newquay and from London Paddington, which takes between 4.5 and 6 hours per journey. However, although there is car parking provision, this is very limited at just 25-spaces.
- 7.3.10 There is only one bus service that travels to Luxulyan Village; the 523 which travels between St Austell and Lostwithiel. From St Austell, the journey takes 30 minutes to Luxulyan Village. There are five services a day during the week and three services on a Saturday.
- 7.3.11 Par is generally well-served by bus transport routes, being on the St Austell to Fowey (Service 25), Fowey to Par (293), St Austell to Plymouth (293), Fowey to Trago Mills (296) and St Austell to Polmear (525) routes.
- 7.3.12 The Luxulyan Valley is also served by regionally and nationally by important walking and cycling routes.
- 7.3.13 The Coast and Clay Trail National Cycle Route 3 (NCR3) travels between Truro and Bodmin via St Austell and links Bodmin with Luxulyan and the Eden Project before making its way through St Austell, Mevagissey and finally Truro¹.
- 7.3.14 The main section of the NCN 3 in the Luxulyan area is on minor roads, heading through Luxulyan Village and by the Treffry viaduct.
- 7.3.15 Sustrans market the route as suitable as a multi-user route for walkers, cyclists and horse riders.
- 7.3.16 The Saints Way is located to the West side of the Luxulyan Valley WHS site. It is a long distance footpath that connects Padstow on Cornwall's north coast to Fowey on the south. It is approximately 28-miles long, with two versions of the trail, one via Luxulyan and one via Lanlivery. Luxulyan is at the 18-mile stage of the walk.
- ¹ A walking and cycling trail between Luxulyan Village Train Station and Eden has been published, with the distance being approximately 2.5 miles. The trails utilise the same pathways that would be utilised to travel into the Luxulyan Valley. The trails to Eden Project veer to the south west at Treffry Viaduct.

7.3.17 The appeal of the footpath is that it travels from coast to coast and features different landscapes, historic remains, ancient footbridges, old tracks and churches. EncounterWalkingHolidays.com offers a package tour of this route that includes accommodation.

7.3.18 The Cornwall Countryside Access Strategy (2007) identifies The Saints Way as a well promoted trail in the County that is witnessing an increase in use.

Luxulyan Valley Usage

7.3.19 Visitor counts have been completed in the Luxulyan Valley, once in 2001 and once in 2002. Due to resource issues, on both occasions, these counts lasted for a total of 2-days within August. The counts are provided in table 2

Table 2 Visitor Counts 2001 and 2002		
	2001	2002
Day 1 (weekday)	178	131
Day 2 (weekend)	295	228

Source: Cornwall Council/Serco

7.3.20 The time that has subsequently elapsed and the lack of subsequent counts at different yearly period's means that this data cannot be relied upon to provide an accurate reflection of the number of visitors that the site receives currently. Critically, there has been no attempted count of visitors since the site achieved WHS status. However, the FoLV and the site Ranger indicate that the area is still well used and that they believe new visitors to the site is increasing; which is likely to be a result of the WHS designation.

7.3.21 Using this as a basis, and making some allowances for seasonal variation in use, we estimate that the annual number of visitors to the valley is between 45,000 and 75,000 per annum. We do stress, however, that this be treated with extreme caution and is only for illustrative purposes. More stringent visitor counting across the seasons will be needed before a more confident assessment of visitor numbers can be determined.

7.3.22 Two visitor surveys have been completed in the last 10-years to determine the characteristics of users of the Valley, but again these surveys are somewhat dated. Therefore, the findings once more need be treated with extreme caution and cannot be relied upon to represent a true reflection of the current position of users and visitors to the Valley. The findings of the survey, the first of which was completed in 2000 and the other in 2002, suggest the following key characteristics:

- The majority of visitors are from the local area, although some 'regular' visitors also stem from places such as Bodmin and Lostwithiel.
- The majority of visitors arrive by car and undertake a walking trip or for dog walking. Horse riding and cycling are 'minor' activities in comparison.
- Group sizes vary from single person trips (generally associated with dog walking) to large groups of 12 or more, however the majority are either couples or small groups (3-4 people).
- A significant proportion of users start from Ponto Mill, however Black Hill and the Viaduct Car Park also represent significant gateways. Luxulyan Village (not a choice on the 2002 survey) is also highlighted as a start point in the 2000 survey.

- The majority of users regularly visit the area – i.e. around once a week or more – however the 2002 survey also denoted a significant proportion who are first time users. These tend to be holiday-makers.
- There is generally a high satisfaction level with the way the area is being managed, with several comments suggesting that the valley should be left as it is.
- Comments regarding improvements generally relate to the condition of the pathways, although comments on signage and interpretation of the site are noted. Concern with over-development was also noted, with a larger car parks and a visitor centre highlighted by some as things that could spoil the character of the site.

7.3.23 Discussion with the FoLV and the Valley Ranger suggests that the characteristics of users is likely to have remained consistent with the above, a premise that has been further ratified by the public consultation and survey process undertaken as part of the investigation process for this study. The full findings of the survey can be found in Appendix A, with the findings used to inform our comments and recommendations throughout this section.

7.3.24 It should be noted that, in order to capture the views of all users, it is recommended that more detailed surveys be undertaken at staged periods throughout the year and within regular time periods – i.e. summer and winter surveys once every 3-5 years. This is the only way that the partners and stakeholders of the Luxulyan valley will gain a true understanding of all of the visitors and users of the valley, including walkers and cyclists.

7.4 Audience Profile and Market Context

7.4.1 As part of the Cornish Mining WHS, Luxulyan Valley has a profile that could potentially include a wide range of audiences.

Immediate Catchment Profile

7.4.2 The Luxulyan Valley is bordered by Luxulyan Village to the north and St Blazey, Kilhallon, Par and Tywardreath to the south. These represent the settlements that have a direct association with the Luxulyan Valley in terms of audiences.

7.4.3 The overall population within these areas equates to around 11,200, with the Parish of St Blaise providing the majority (58%). Luxulyan Village is the smallest centre, with the Parish having around 1,400 residents². The Village includes a primary school serving approximately 57 children of 5-11. There is also a pre-school group that operates out of Luxulyan Village Hall.

7.4.4 Other schools and educational establishments in the immediate catchment include³:

- Acorns Childcare Centre, St Blazey – pre-school
- Footsteps Childcare Centre, Tywardreath – pre-school
- Tywardreath Pre-School Playgroup – pre-school
- Tywardreath Primary School – approximately 320 pupils
- Biscovey Nursery And Infant Community School – approximately 280 pupils
- Roselyon Preparatory School – approximately 95 pupils

² All population data is based upon the 2001 Census

³ Source: www.schools-search.co.uk

- Doubletrees School – a mixed community school with approximately 90 pupils

Local Catchment Profile

7.4.5 St Austell represents the main urban settlement in the local catchment of Luxulyan Valley. St Austell is just over 5-miles away and has a population of nearly 23,000. St Austell is also home to the closest secondary and higher education establishments in the area, namely Penrice Community College (1350 pupils), Poltair Community School And Sports College (985 pupils) and St Austell College. The latter is the main centre of Cornwall College, an institution that is spread over several sites that has 45,000 students altogether. In addition, St Austell contains eight primary schools, a pupil referral unit, and two pre-school establishments.

7.4.6 Lostwithiel (within 5 miles from Luxulyan) is a small town with a population of just over 2,700. The town includes two primary schools (Lostwithiel School, 137 pupils; and St Winnow C of E School, 93 pupils) and two pre-school establishments.

Wider Catchment Profile

7.4.7 As a rural area on the western-most periphery of England, and as one that has only one neighbouring county, the local population catchment is relatively small at just 531,000. The majority of the population reside within 1-hour drive distance of Luxulyan Valley. Expanding the drive distance to 2-hours extends the catchment to include most of Devon (Table 3).

Table 3 Catchment Population base of Luxulyan (in 000's)						
		Age Profile				
County	Population Base	0-19	20-34	35-49	50-64	65+
Cornwall	531.1	116.6	79.4	107.0	115.0	112.9
Devon	881.3	191.9	131.6	176.8	185.7	195.2
Plymouth	256.6	59	63.5	49.9	43.7	40.5
Total	1,669.0					

Source: Office of National Statistics 2009 estimates

7.4.8 Altogether, the overall population catchment for the area is close to 1.7 million this is generally much less than other World Heritage Sites in the UK, with Ironbridge Gorge for example able to draw upon the catchment of the West Midlands (2.6 million within a 1-hour drive distance). In addition Derwent Valley Mills has direct links into Derby as well as being within an hour of Nottingham and Sheffield, and less than 2-hours from Leicester, Birmingham and Manchester.

7.4.9 The implications of this are that visitor attractions in Cornwall are less reliant upon day visitors and rather have greater reliance on staying visitors in the County and from neighbouring Devon.

Education Catchment Profile

7.4.10 The education market is integral to sites and attractions focussed on heritage and the environment. Table 4 identifies the total number of classified students in the area.

Table 4 Number of pupils & students within the vicinity of Luxulyan			
Pupils/Students	Under 16	16-19	University
Cornwall	61,623	18,918	7,700(1)
Devon (inc Torbay)	98,975	36,577	15,720(2)
Plymouth	29,892	15,960	30,540(3)
Total	190,490	71,455	53,960

Definitions:

Under 16's - Number of under 16 year-olds enrolled in schools

Over 16's - All full time students (aged over 16 years & resident in the area in full time education)

Source: Office of National Statistics

(1) – Combined Universities of Cornwall

(2) – University of Exeter

(3) – University of Plymouth

7.4.11 Altogether, there are 315,905 primary, secondary and higher education students across Cornwall and Devon. Exactly 6 in every 10 students are under the age of 16. Although Cornwall's University numbers are comparatively small, the Universities of Plymouth and Exeter are still considered within a reasonable catchment of Luxulyan.

7.4.12 Consultation with the Luxulyan Valley Partnership has indicated that the area already supports a number of educational groups, ranging from local schools through to adult learning courses.

7.5 Tourism Profile

Tourism in Restormel and Cornwall

7.5.1 Both Cornwall and Devon have a strong tourism profile and as Table 5 shows Cornwall attracts some 4.5 million tourist (i.e. overnight) visits per annum. The former borough of Restormel

(within which Luxulyan Valley, St Blazey and St Austell reside) accounts for almost a quarter (23%) of these visits.

Table 5 Volume and Value of Overnight Visits in Cornwall and Restormel				
	Visit Volume (Cornwall)	Spend (Cornwall)	Visit Volume (Restormel)	Spend (Restormel)
Domestic Overnight Visits	4,160,000	£1,083,182,000	969,000	£246,567,000
Leisure	3,535,000	£976,202,000	866,000	£231,392,000
Business	197,000	£53,492,000	20,000	£5,134,000
Visiting Friends and Relatives	379,000	£44,246,000	74,000	£8,306,000
Other	50,000	£9,241,000	10,000	£1,735,000
Overseas Overnight Visits	287,000	£126,877,000	60,000	£22,055,000
Total	4,447,000	£1,210,059,000	1,029,000	£268,622,000

Source: South West Tourism, 2008

7.5.2 Over nine in every 10 visits (93.5%) are from the domestic market. Moreover, the vast majority (89%) are for leisure purposes. This is important in the context of this study in that holiday-makers, and to a lesser extend those visiting friends and relatives, generally have a pre-disposition to visit attractions and to seek out sights of interest. Thus, virtually all of the overnight visitor market to Restormel and the wider Cornwall County, arguably, could be included within the target market for Luxulyan Valley.

7.5.3 Table 6 suggests the relative position of domestic tourism in Restormel when compared to Cornwall is generally positive. As

with Cornwall as a whole, Restormel has managed to maintain its position as a predominantly long holiday destination for the domestic market (4.6 nights), although the average for Cornwall as a whole is slightly higher (5.0 nights for Cornwall). This is not having a significant impact on the economic return, however, with Restormel able to command a slightly better than average spend per night (£55.19).

Table 6 Volume and Value of Domestic Tourism in Cornwall and the Restormel Region		
	Cornwall	Restormel
Trips	4,160,000	969,000
Nights	20,928,000	4,468,000
Spend	£1,083,182,000	£246,567,000
Av. Number of Nights	5.0	4.6
Av. Spend per Night	£51.75	£55.19
Av. Spend per Trip	£260.38	£254.46

Source: South West Tourism 2008

Tourism Day Visitors

- 7.5.4 Tourism day visits are defined as day visits made for a duration of longer than three hours and are defined as being for leisure purposes. Table 7 demonstrates the overall number of day visitors market for Restormel. The fact that Cornwall and Devon have a comparatively small population base, means that it can be anticipated that many of the tourism day visits are actually made by overnight visitors that are residing in neighbouring areas. For Cornwall and Restormel, this could feasibly include overnight visitors staying in Plymouth and South Devon.

Table 7 Volume and Value of Day Visits in Restormel Region		
	Trips	Spend
Urban Visits	1,167,000	£58,909,000
Countryside Visits	378,000	£12,684,000
Coastal Visits	263,000	£10,406,000
Total	1,808,000	£81,999,003

Source: South West Tourism 2008

- 7.5.5 Although the official statistics suggest that trips are predominantly being made to urban areas, it should be noted that there is likely to be strong crossover between urban and coastal visits, with St Austell, St Blazey and Fowey all representing settlements that could be defined as 'coastal' resorts. Nevertheless, from the context of this study, a key issue is that only a fifth (21%) of visits are made to the countryside. In addition, trips to the countryside also generally generate less revenue.

Visitor Characteristics

- 7.5.6 The latest⁴ Cornwall Visitor Survey highlights the following visitor characteristics:
- Visiting groups typically consisted of two adults (58%).
 - Groups containing children was highest during the summer period.
 - Visitors to the county typically fell into the middle/older age brackets with nearly 6 in every 10 (58%) being aged 45+ years.

⁴ 2008/09

- Visitors to the county were relatively affluent with over half (53%) classified as ABC1's.
- Just over a quarter of visitor days spent in Cornwall were car free (28%). However, on average, visitors spend over 1 ½ hours per day travelling the county by car.
- The majority of visitors are happy to try local food & drink if they come across it (42%) but do not go out of their way to find it or visit Cornwall especially for its food & drink.
- The highest spend category is accommodation (35%), followed by eating and drinking (30%) and shopping (22%). Entertainment, which includes spend on admission to attractions, represents just 2.5% of expenditure on average.
- Visitors are generally positive and satisfied with their holiday experience in Cornwall, with the highest opinions received in terms of general atmosphere (4.72), feeling of welcome (4.67), cleanliness of the beaches (4.62) and cleanliness of the sea (4.60) in the county.
- Visitors are generally less enthusiastic about the cost of parking (3.13), ease of parking (3.54), wet weather provision (3.68) and feeling of safety from traffic (3.75).
- On the whole, visitors to Cornwall appear to be keen sightseers and have visited a number of different towns in the county, visitor attractions and places of interest. The Eden Project, Land's End and National Trust/English Heritage properties were the most likely attractions/places of interest to be included in their visit to Cornwall by the largest proportions of visitors.
- Going for a short walk, shopping and spending time on the beach were the activities visitors to Cornwall were most likely to participate in during their visit to the county.

- Visitors to Cornwall particularly like the scenery/landscape/views (21%), followed by the opportunity to relax (18%) and the atmosphere (13%).

7.5.7 The survey results suggest a potential role for Luxulyan Valley and the Cornish Mining WHS in supporting visitors to Cornwall. From a demographic and activity perspective, the combined offer of heritage discovery and informal walking through the valley could well be of appeal to a wider range of visitors than at present.

Visitor Interest in Mining Heritage

7.5.8 According to research conducted by the Cornish Mining WHS, nearly three-quarters of a million (18%) tourists to Cornwall have a direct interest in mining heritage. In addition, it is estimated that a further 1.9 million day visitors have an interest in mining heritage.

7.5.9 Key advantages of mining heritage as a niche interest market is that it tends to be less seasonal and remains a growth prospect, with potential demand not currently being matched by visits to the mining heritage sites. In this respect, the Cornish Mining WHS has helped establish a dedicated marketing group (Cornish Mining Attractions Marketing Association) in order to strengthen brand recognition of the Cornish Mining WHS amongst its target audiences. These consist of cultural tourists, local residents, educational groups, activity groups and those with ancestral connections to Cornish Mining.

7.5.10 In terms of the latter audience, Cornish Mining WHS estimate that some 6-9 million people worldwide have connections to Cornwall through mining with many of the techniques and personnel that originated in Cornwall being exported to assist in mining projects elsewhere. Therefore the Cornish Mining WHS are targeting

overseas visitors through the mining heritage theme which has the potential to benefit Cornwall's overall visitor economy.

7.6 Existing Heritage Attractions

Cornish Mining World Heritage Sites

- 7.6.1 The 10 areas that comprise the Cornish Mining WHS are spread across Cornwall and into parts of West Devon. The Luxulyan Valley is part of The Luxulyan Valley with Charlestown area of the WHS. Although the WHS areas are thematically linked, from a spatial perspective, the Luxulyan Valley with Charlestown area is separate from the other WHS areas. The main concentration of WHS areas is in the west of Cornwall.
- 7.6.2 The spatial separation of the WHS areas represents a significant challenge for the Cornish Mining WHS in terms of promoting a collective and coherent visitor offer in which audiences can engage and understand the WHS designation as whole. The spatial isolation also represents a significant issue for Luxulyan Valley and its ability to draw upon any visitor interest identified at the other sites.
- 7.6.3 The aims of the Cornish Mining WHS are set out in the WHS Management Plan. The Plan includes aspirations to raise the tourism profile of the sites through a variety of different initiatives including collective marketing which resulted in the formation of the Cornish Mining Attractions Marketing Association; accessing funding to improve the visitor experience available at certain mining sites (European Funding through the Rural Development Programme for England); and by contributing to the sustainable management of visitors to the site. It also highlights other opportunities to utilise the WHS for heritage-led regeneration; communication of the Cornish Mining culture and identity; encouraging public access to sites, collections and information;

and ensuring that the WHS optimises its contribution of the site to the local economy.

- 7.6.4 To overcome the issue of spatial segregation, the WHS Interpretation Strategy identifies a visitor gateway centre in each of the three zones (the Western Zone, Central and Eastern Zone). The strategy highlights that an introductory WHS visitor interpretation and orientation should be provided for each zone. Implementation of this is in progress with Geevor Tin Mine, the visitor gateway centre for the western zone; Heartlands for the central zone; and Morwellham Quay for the eastern zone. Physical connectivity between the zones, areas and individual sites is being introduced through walking, cycling and horse riding trails, however at present this is focussed on the western cluster.
- 7.6.5 The Interpretation Strategy also identifies visitor gateway centres for each of the 10 individual WHS areas, to provide WHS visitor interpretation and orientation for that WHS area. For the Luxulyan Valley (and Charlestown), Wheal Martyn Museum and Country Park is identified as this 'visitor gateway centre'. The initial WHS Area interpretation and orientation has already been implemented at Wheal Martyn, and the remainder is to follow in the next 18 months.
- 7.6.6 The Management Plan does highlight the need for a co-ordinated approach to interpretation within the range of visitor facilities at all 10 sites within the WHS. It also identifies the need to use the sites for educational purposes for all key stages, for colleges and Universities. There are 18 individual sites/attractions associated with the WHS areas.
- 7.6.7 A specific policy of the Cornish Mining WHS Marketing Strategy is to only develop tourism in WHS areas where there is capacity and infrastructure for additional numbers of visitors. The Luxulyan Valley is identified as having relatively limited capacity or

infrastructure for increased numbers of visitors; in particular those arriving by car, due to poor road access. One of the key principles identified in the WHS Marketing Strategy is to encourage the sustainable development of tourism. It states that for sites which are the most sensitive to increased visitors, the marketing strategy should focus on promotion to existing users, encouraging them to visit at alternative times and by alternative means of transport rather than seeking additional visitors. It also states that for all sites the emphasis should be on promoting access by sustainable means of transport where possible.

7.6.8 Amongst the existing key visitor attractions of the WHS area are:

- Geevor Tin Mine - Geevor Tin Mine is a museum and heritage centre, covering an area of 67 acres (270,000 m²). It is one of the premier attractions of the WHS, showing the tin mining process on the surface and underground. The centre includes exhibitions to demonstrate what life was like for those who worked in the area, including oral history recordings. Visitors can also walk through the mine buildings to see the original machinery and there is a guided underground tour into Wheal Mexico, an 18th century mine. As of 2009, visitor attendance was 41,000.
- Wheal Martyn Museum and Country Park (Carthew) – Wheal Martyn is a visitor attraction that presents a complete picture of the china clay mining process. The site includes working features such as water wheels, leats, and drying kilns. The site also includes a museum with interactive features as well as nature walks throughout the 26-acres of country park. Visitor numbers currently stand at around 15,000 per annum however the owners of the site, South West Lakes Trust, has aspirations to increase this to 25,000 over the next 5-years.
- Charlestown Shipwreck and Heritage Centre (Charlestown) – This heritage centre presents the story around the creation and lives of the inhabitants of Charlestown, an important port for the import and export of goods and material used in the mining industry established by Charles Rashleigh. The heritage centre shows the life of the port in Victorian times with varied exhibitions reflecting village life in Charlestown. It also houses information and artefacts from 150 odd shipwrecks, the museum records maritime history dating back to 1715. It also has one of the largest underwater diving equipment collections in the country, including diving suits used for treasure seeking and naval purposes.
- East Pool Mine, Pool – Operated by The National Trust, this attraction offers an insight into the mining heritage of Cornwall. The site consists of old engine houses and two giant beam engines originally powered by high pressure steam, as introduced by the well-known local engineer Richard Trevithick. An Industrial Discovery Centre and a social history exhibition are also on this site, providing an all round overview of Cornwall's industrial past with an audio-visual presentation providing one of the site's main interpretation features. As of 2009, the site attracted 17,500 visitors.
- Levent Mine and Beam Engine – The Beam Engine at this site is the only one of its kind anywhere in the world that is still run on steam and in its original mine site, housed in a small engine house perched on the edge of the cliffs. Restored after 60 idle years by a group of volunteers known as the 'Greasy Gang', the site is now managed by The National Trust. The attraction includes a film that tells the story of Levant Mine; a short underground tour through the miners' dry tunnel; and a cliff walk takes you to Botallack. As of 2009, the attraction received close to 22,000 visitors.

7.6.9 In addition to the above, Heartlands (which will be the gateway to the central zone) will be a landmark attraction for the Cornish Mining WHS. The centre of the development, the Grade II listed Robinson's Shaft mine complex, will be restored to become an exhibition centre to cover the past, present and future of Cornish mining ingenuity enabling visitors to learn more about Cornwall's mining history, landscape and cultural heritage. The complex will house an innovation and interpretation centre with a permanent exhibition of colourful, interactive learning resources and historic artefacts.

7.6.10 Given this context, a key issue for the Luxulyan Valley is whether it should, or needs to be presented as a visitor attraction that appeals to a wide audience base, or whether the availability of Wheal Martyn in particular is sufficient to be able to impart the story of non-ferrous metal mining that was so important to the industrial development of Cornwall and indeed the processes involved in industrialisation worldwide.

Broader Heritage Context

7.6.11 Luxulyan Valley forms part of the broader heritage theme within Cornwall. In addition to those already mentioned there are a series of attractions and assets across Cornwall that rely on the appeal of their heritage to engage audiences. These include:

- Lanhydrock House, near Bodmin (6-miles) - a country house and estate owned and operated as an attraction by the National Trust. The house includes 50-rooms to explore including the kitchens, nurseries, and servants quarters. The gardens are also available for exploration.

- St Michael's Mount – a tidal island off the coast of that is home to the Aubyn Family, but which is also operated by the National Trust as a visitor attraction.
- Cotehele Estate – a medieval/tudor house that remains largely unaltered from Tudor times. The house and gardens, which is owned and managed as a visitor attraction by the National Trust, can be explored. The site includes a discovery centre that tells the story of the Tamar Valley. There is also a working mill on site that includes traditional furniture making, a potter and the recreation of a blacksmith's workshop.
- Tintagel Castle (English Heritage), North Cornwall – a ruin managed by English Heritage that receives an estimated 200,000 visitors per annum, Tintagel Castle was a medieval settlement that has connections with the legend of King Arthur.
- Rumps Cliff Castle, Polzeath – one of the most complete and recognisable Iron Age fortifications left in the county. Access to the site is via the South West Coast Path.
- The Tristan Stone, Fowey – representing a time of early Christianity Cornish culture, inscribed stones such as this one began to spring up from around 450AD.
- The Hurlers, Minions – one of Cornwall's most important prehistoric sites, the Hurlers is a series of stone circles standing high on Bodmin Moor.
- Men-an-Tol, Morvah – West Cornwall is an area riddled with prehistoric evidence, from stone circles, settlements, inscribed rocks, and this famous holed stone that is thought to possess healing powers.

- Chysauster West Cornwall – This Iron Age settlement was originally occupied almost 2,000 years ago. Chysauster village consisted of eight stone-walled homesteads known as 'courtyard houses', found only in this part of Cornwall. The houses line a 'village street', and each had an open central courtyard surrounded by a number of thatched rooms. There are also the remains of an enigmatic 'fogou' underground passage.

7.6.12 These and other heritage features now form an integral part of Cornwall's visitor offer and, along with the Eden Project, have assisted in presenting Cornwall as a destination with a broad array of attractions that can be enjoyed regardless of the weather conditions. As a result, Cornwall's heritage assets are increasingly being utilised as a means of encouraging extending the tourism season beyond the summer months. In this respect, since 2005, many of Cornwall's primary heritage attractions witnessed an increase in visitor numbers, up an average of 5% per annum to 2009 (Table 8).

7.6.13 Furthermore, this growth has been experienced by both large-scale and small-scale attractions, with visitor numbers at Cotehele and Caerhays Castle Garden up over 10% per annum on visitor attendance⁵ between 2005 and 2009. The Cornish Mining WHS attractions of Levant Mine and Beam Engine (+8.1% CAGR), East Pool Mine (+7.4% CAGR), and Geevor Tin Mine (+4.6% CAGR) also recorded improved visitor attendance over this period. By comparison, the visitor attendance to Eden Project, the region's flagship attraction and close neighbour to Luxulyan Valley, experienced a slight decline in visitor numbers (3.3% CAGR) over the same timeframe.

Table 8 Attendance to Key Heritage Attractions in Cornwall			
	2005	2009	Average Annual Change
Cotehele	87,000	132,467	11.1%
Caerhays Castle Gardens	9,696	14,281	10.2%
Antony House	16,352	23,684	9.7%
The Levant Mine and Beam Engine	16,067	21,972	8.1%
East Pool Mine	13,201	17,571	7.4%
Pendennis Castle	56,113	73,194	6.9%
Launceston Castle	12,983	16,030	5.4%
Delabole Slate Quarry	1,180	1,450	5.3%
St Michael's Mount	197,435	240,729	5.1%
Camel Valley Vineyards	18,000	22,000	5.1%
Geevor Tin Mine	35,042	41,883	4.6%
Lanhydrock House and Garden	187,059	214,274	3.5%
Penlee House Gallery & Museum	35,397	39,424	2.7%
Restormel Castle	20,988	23,147	2.5%
Tintagel Old Post Office	45,000	48,250	1.8%
Tintagel Castle	186,054	197,283	1.5%
Chysauster Ancient Village	12,725	13,123	0.8%
Perranzabuloe Folk Museum	3,000	2,863	-1.20%
Average Annual Change			5.0%

South West Tourism, 2009

7.6.14 It needs to be recognised that much of this uplift has happened recently, coinciding with the global economic downturn that has prompted greater numbers of domestic tourism trips. Whilst reports indicate that the downturn has been beneficial to the UK's visitor sector overall, it needs to be remembered that attractions still represent a 'discretionary' component of visitor spend.

⁵ Based upon Compound Aggregate Growth Rate (CAGR)

Therefore, these figures represent an indicator as to the increasing worth of heritage attractions in Cornwall.

7.7 Issues

- 7.7.1 In undertaking the audience research and investigations for Luxulyan Valley a public consultation event was organised. The results of the event are presented in Appendix 1. The consultation event highlighted that there are certain strengths, opportunities and challenges associated with the valley, its use and the activities that can be accommodated. It is important that these opportunities and challenges are fully explored in terms of assisting audience development.

Interpreting the Heritage Character

- 7.7.2 The Luxulyan Valley is synonymous with non-ferrous metal mining as manifest in the engineering works designed by Treffry, especially the leat system, the Treffry Viaduct and the Wheel Pit. These heritage features were recognised as being of historical importance previously, however since the inscription of the Luxulyan Valley into the WHS this reputation has been further enhanced. Although in differing states of repair and use, most of the key features of the site are visible to users of the site. Indeed, the Treffry Viaduct was voted one of the seven man-made wonders of the South West in 2006 by viewers and listeners of BBC South West⁶.
- 7.7.3 Despite this, a key observation of the site is that interpretation of these features is low, with no visitor centre currently serving the site. It is understood that the option of a visitor centre has been discussed in the past, not least as a means of deriving a

management income for the valley. Yet, there has been no formal resolution as to whether the site has prospects for this type of offer. Reference by the Cornish Mining WHS has been made to the fact that the valley environment has certain capacity and infrastructure constraints with access considered to be the main limiting factor. However, little attempt has been made to address where there is a market or finance justification and at what end of the 'visitor centre' spectrum this should be positioned.

- 7.7.4 As a means of examining this further, the issue of interpretation was explored as part of the consultation process, including whether the option of interpretation boards and/or a visitor centre are wanted as a means of raising awareness of heritage features. The resulting responses are illustrated in Fig 7. There was a stronger view that more information about the historical character of the area would be welcomed⁷. However, for many, this did not extend to a visitor centre⁸, which was viewed by a higher proportion to be a development option that would attract greater numbers of visitors (i.e. tourists) that in turn would overwhelm the site and ruin the peace and tranquillity of the site.
- 7.7.5 These opinions stem from a sense that Luxulyan Valley is an important area for heritage that has an educational importance and provides a strong sense of local identity and culture heritage. However, there is a perceived threat that inscription into the Cornish Mining WHS will alter this dynamic, an understandable concern given that many historical sites have been created into visitor attractions/heritage centres specifically targeting tourist trade. In the St Austell area, this feeling is no doubt exacerbated by the Eden Project which represents one of the largest

⁶ South West - Seven Man Made Wonders,
http://www.bbc.co.uk/england/sevenwonders/southwest/index_new.shtml

⁷ 46% of respondents disagreed or strongly disagreed with the statement that 'there is plenty of information concerning the heritage of the site' compared with 37% who agreed or strongly agreed

⁸ 57% of respondents disagreed or strongly disagreed with the premise that a visitor centre was needed in the Luxulyan Valley, compared with 28% who agreed or strongly agreed with this option

attractions in the UK. Although by no means universal, a sentiment that was repeated is that the valley should not become a visitor attraction; i.e. “not another Eden Project”.

Prospects for a Visitor Centre

- 7.7.6 In order to respond to these concerns, it is important that the investigation process rationalise the prospects for a visitor centre in the Luxulyan Valley.
- 7.7.7 There are examples of similar ‘valley’ based areas that have strong links to the industrial revolution that have become awarded WHS status and have subsequently developed strong attraction products. Ironbridge Gorge WHS, for example, attracts 750,000 visitors per annum⁹, with visitors paying to explore the area and experience the ‘workings’ of the site. Derwent Valley Mills WHS also has aspirations to attract greater volumes of visitors and is embarking upon a series of initiatives that will improve the visitor experience of the valley including a series of visitor interpretation centres, boat rides, walks and cycling trails. A key driver behind these developments and initiatives is to secure economic support for the wider community and businesses; and deliver an important source of revenue (i.e. through ticket and merchandise sales) to support ongoing conservation works for these sites.
- 7.7.8 However, it needs to be recognised that, in comparison, Luxulyan Valley does not represent an environment that could easily follow a similar development path. The site has other considerations in terms of access and environmental character that restrict capacity (and therefore the financial viability) of a potential attraction or visitor centre component. It also needs to be recognised that Cornwall as a place and the local area of St

Blaise does not have the same economic rationale that requires greater exploitation of assets such as the Luxulyan Valley as a means of stimulating visitor income.

- 7.7.9 There is also a wider Cornish Mining WHS dimension to consider here. As highlighted above, there is an attraction in the local area that already explores and interprets the mining heritage of the St Austell area, namely Wheal Martyn Museum and Country Park which is only some 5 miles away at Carthew. Although the mineral material that was extracted here was different to Luxulyan (i.e. clay rather than metals), Wheal Martyn contains features and workings that are found in Luxulyan Valley, including water wheels, leats and kiln drying. This gated visitor attraction generates 10,000-15,000 visitors per annum, although there are aspirations to increase this. This site is also the choice of Cornish Mining WHS to present the gateway interpretation resource for the Luxulyan Valley and Charlestown area of the WHS.
- 7.7.10 Other mining heritage attractions reside elsewhere in Cornwall, with Geevor Tin Mine, the East Pool Mine (The National Trust), and Levant Mine and Beam Engine each being well established mining attractions that form part of the Cornish Mining WHS. From a market perspective, therefore, there is a danger that another attraction of a similar nature would dilute the catchment base, potentially impacting negatively upon the viability of these attractions.
- 7.7.11 A further issue is that although attractions can be used to secure revenue for future conservation works, they must first become operationally sustainable. At 41,000 visitors, Geevor Tin Mine is one of the larger mining visitor attractions, yet this number of visitors is at the lower end of ‘average’ compared with other visitor/heritage centres in the UK.

⁹ Memorandum submitted by the Borough of Telford & Wrekin to the Department of Culture, Media and Sport, 2006

7.7.12 In this context, it is important to appreciate that many smaller attractions operate on the margins of self-sufficiency and can often require significant support from partner organisations. Wheal Martyn actually presents a good case in point. In 2005, the operators of Wheal Martyn at the time (St Austell China Clay Museum Limited) secured funding from the HLF and European Objective One to develop the visitor offer of the site and improve overall performance. However, despite a £1.1 million investment, the operational success of Wheal Martyn has only been secured in subsequent years through 'voluntary income' gifted to the organisation through donations by Imerys Minerals Ltd (previously ECC International), Goonvean Ltd and CC (and previously Restormel Borough Council). Altogether, this income amounted to around £63,000 in 2009¹⁰. Given that the income from the museum, conference hire and rent only amounted to just over £67,000 in that year, it is clear to see that the attraction has needs to rely on this income to meet its operational costs of over £150,000.

7.7.13 The financial sustainability of the site has recently been tackled through the merger of the St Austell China Clay Museum with the South West Lakes Trust, an organisation with a strong constitution and broader resource base. However, this demonstrates the financial pressure that can materialise from developing a heritage attraction of this type and the small margins that operational sustainability can hinge upon. In this respect, an attraction of a similar type in Luxulyan Valley would potentially represent unnecessary duplication and competition for Wheal Martyn on the one hand; whilst on the other it would have the prospect of being an operational burden for any organisation taking this forward unless supported by revenue from sources other than visitors. These sources would, of course, need to be

determined through a more detailed feasibility study and business plan, but at present there is no clear rationale to support the premise that a visitor centre at Luxulyan Valley would perform at a significantly higher level than Wheal Martyn.

7.7.14 With this in mind, and the general reluctance amongst respondents to the consultation to see Luxulyan Valley turned into a visitor attraction, it is our view that it would be more beneficial to continue to expand the role of Wheal Martyn as a gateway centre to be used as a means of presenting the story of mining within Luxulyan Valley, Charlestown and Par; in line with the original strategy of the Cornish Mining WHS. In the future, this could include presentations and panels of the Treffry-designed system consisting of the tramway system in Luxulyan Valley; associations with Fowey Consols mine; the role of the canalised river and port of Par. In terms of specifics on Luxulyan Valley, a model could be used to feature the tramway, the incline, the leats, water wheel, and of course the Treffry Viaduct.

7.7.15 Discussion with the management of Wheal Martyn, the South West Lakes Trust and the Cornish Mining WHS team suggest that there is support for this option as opposed to a stand-alone facility at Luxulyan Valley; not least because it would provide another function and 'selling point' of Wheal Martyn as it seeks to increase visitor numbers. Moreover, it is an aspiration of the Cornish Mining WHS to deliver greater sustainability to each of the mining zones, which they recognise in certain instances will mean directing visitors to sites that have greatest capacity (i.e. Wheal Martyn) and potentially away from areas where other considerations should prevail. In the case of Luxulyan Valley, the Cornish Mining WHS consider that concerns over access, the character of the environment, and the concerns expressed by the local community over visitor (tourist) numbers should carry greater weight overall.

¹⁰ Based upon the St Austell China Clay Museum Limited Trustees' Annual Report and Financial Statements for the 2008, 2009

7.7.16 Combined with the access constraints identified previously that would be costly to overcome, the option of a manned and commercially focussed visitor centre as a means of audience development is not deemed a suitable option for consideration in the Luxulyan Valley.

Prospects for Other Onsite Interpretation

7.7.17 Despite the viability concerns relating to a dedicated visitor centre, it is generally agreed that further interpretation of the site is needed.

7.7.18 The main interpretation of the site in situ currently consists of two welcome and orientation boards located at the Black Hill and Ponto Mill Car Parks (CC), and an interpretation board at the foot of the Treffry Viaduct (CHT). The FoLV also distribute a free fold-out leaflet and map which includes some bit-sized information on the key heritage components of the valley and the lines that the pathways follow. The FoLV also have a booklet with more detail about the valley and a film for sale detailing the engineering works contained within the valley on DVD. In addition, the FoLV, CHT and the Cornish Mining WHS each provide background information and learning material on the Luxulyan Valley on their respective websites that can be viewed and downloaded.

7.7.19 The prospect of more interpretation boards onsite received a strong level of support in the public consultation and survey¹¹, however the challenge will be to realise this aspiration without compromising the character of the environment. Options therefore include the following:

- sensitively designed interpretation boards located in the proximity of the key features such as the top of the Treffry Viaduct/Aqueduct, the wheel pit, the incline, the Trevanney Kiln, and the canal basin;
- a more detailed interpretation leaflet/A5-sized handbook containing the main interpretation information, with numbering posts located around the site to coincide with any leaflet/handbook key;
- subject to technology issues, downloadable interpretation information, including voices and images, to be used on portable devices around the site, again with numbering posts to coincide with the site key;
- increasing the number of organised tours through the site with local experts being utilised to provide the interpretation; and
- a small (potentially unmanned) visitor centre located in a suitable building at Luxulyan Village allowing users to interpret and understand the site prior to exploring the area on foot or by bike.

7.7.20 There are pros and cons associated with each of these interpretation types. For example:

- Downloadable interpretation is growing in popularity, a situation that is likely to continue with improving mobile technologies and reception. This option would reduce the need for in-situ interpretation boards. It should also be noted that the Cornish Mining WHS has indicated that it may be able to offer funding support for this type of initiative through its RDPE funded 'Discover the Extraordinary' initiative. However, this platform is yet to be universally adopted with the cost of the mobile device and understanding the technology key barriers, especially to more elderly users.

¹¹ 74% of respondents agreed or strongly agreed with the need for more information boards to help interpret the historic features of the site compared with 13% who disagreed or strongly disagreed

- Tour guides still remain the most engaging method of interpretation, with the FoLV and CHT already providing sources of 'local expertise' to conduct archaeology/engineering history guided walks (amongst others). However, the FoLV are volunteers and cannot be expected to deliver tours on a regular basis (i.e. daily at peak times). Also, tours will not be the solution for many visitors who are unable to meet the timings of the tours themselves. Therefore, alternative interpretation will still be needed to satisfy other users.
- Interpretation boards provide information in an informal setting that is often more conducive to casual and life-long learning. However, the use of boards can be construed as artificially imposed furniture that will 'clutter' and detract from the 'natural' character of the valley. Boards are also at greatest risk of vandalism, an issue that has already been noted for the existing boards.
- A small, unmanned¹² interpretation centre will allow browsing of heritage information in comfort and safety, and could present a suitable 'start-point' if combined with tours. However, this option is less conducive to 'incidental' learning opportunities compared with boards. Some form of management arrangement will be required to ensure that the centre can be locked down overnight to protect displays from vandalism and theft.

7.7.21 Given the issues, it can be seen that use of the one option will not satisfy all markets and therefore it is likely that a combination of two or even all of these will be required.

7.7.22 The prospect of utilising an existing building within Luxulyan Village as a means of providing some form of interpretation was raised during the public consultation session and, overall, was regarded as the most appropriate option by those believing a visitor centre would be a welcome addition¹³. In particular, the Luxulyan Institute, a small community building currently housing a snooker table, was mentioned as a potential option; as was a redundant dry at Ponds Mill and the redundant Ponds Shed.

7.7.23 Although this would need further investigation, it is our initial view that either the dry at Ponds Mill or the Ponds Shed would require significant levels of investment and would require a 'commercial' operation to make them viable (see above). In comparison, the Institute as an existing centre would present a more suitable facility. The type of facility that could be envisaged here would consist of a series of interpretation panels and potentially a model of the site. This style of 'interpretation centre' should also be encouraged to include stories of the lives of people who lived around or worked in the village and the valley at the peak of the industrial working of the site as a means of adding human interest. If room permits, some form of educational room linked to a multi-media device would also be useful as a means of supporting educational groups.

7.7.24 Given that it is located between the train station and the main footpath that could be used to access the Luxulyan Valley, the Institute would present a perfect opportunity for any visitors, education groups, interest groups, and other working parties with an initial base from which to introduce the valley before exploration. Moreover, the flow of the site and the ordering of the works generally start from the north heading southward. Therefore, users will be encouraged to explore the site in a more

¹² Whether the centre is manned or unmanned will depend upon the site of the centre and other nearby/adjacent enterprises.

¹³ i.e. the respondents on the consultation day who agreed or strongly agreed with this option during the consultation day

logical sequence from this point. Other advantages include the prospect of using the centre to help other enterprises in the village, especially the pub, the local shop, and accommodation enterprises secure additional income; and linking the site to the train station to encourage sustainable access to the area.

7.7.25 Initial discussion with the Parish Council, who have recently taken ownership responsibility of the Institute, suggest that they would be open to the idea of its use as a small interpretation centre as a means of presenting the area's local history. Another option that is to be considered is for a small café to support visitors and cyclists travelling through the valley. If this is preferred, it is still conceivable that interpretation could form a function of the centre.

7.7.26 The Parish Council is currently in the process of initiating a public consultation session on the future of the Institute, which is programmed for the first Saturday of July 2011. The Parish Council, through the Luxulyan Valley Partnership, will be in a position to discuss the nature of the consultation and the opportunity to present the case for an interpretation centre closer to this date.

Educational and Conservation Programmes

7.7.27 The educational value of Luxulyan Valley is already being exploited by different stages of curricula-based education institutes and life-long learning organisations. For instance:

- The CHT has established a detailed educational programme concerning the Treffry Viaduct and relating this significant engineering achievement to educational courses in Science, Maths, History, English and Drama.
- Duchy College visit approximately six times a year to carry out conservation work and use the area as an 'out-door

classroom' carrying out work which fits in with their studies, such as NVQ's¹⁴ in Environmental Conservation, various NPTC's¹⁵ in Land-based Studies, and Foundation Degrees in Countryside Management.

- Other higher education groups from across the country also visit the site, with studies known to include 'green spaces' management and tourism management.
- The British Trust for Conservation Volunteers (BTCV) has organised working parties to assist in clearance of invasive species, as well as repairs and general maintenance of the leat system.
- The FoLV also organise voluntary work parties for litter picks, vegetation clearance and leat maintenance.

7.7.28 According to the consultation process, there is still potential to exploit this audience to greater effect. Furthermore, this could have wider reaching benefits in terms of the future conservation and management of the valley.

7.7.29 Although the synergy of Luxulyan Valley with education is clear, the risks associated with educational groups, especially in sites that have potential hazards and unusual features to overcome. These risks are not insurmountable, with the Ranger having established a pack of information identifying emergency contacts and so on.

7.7.30 A key problem for all forms education and conservation visits is that the Ranger rarely receives any initial contact prior to a visit being made. This means that there is not a clear picture of the different types of establishments that utilise the site or their specific interests. It is also not clear how some of the organisers

¹⁴ National Vocational Qualifications

¹⁵ National Proficiency Tests Council

of trips either find the valley or where they obtain other information, with little in the way of formal educational material other than the CHT's educational pack on the Treffry Viaduct. Given this context, there is certainly scope for a more coherent educational programme to be established within Luxulyan Valley, and one that specifically integrates with local tourism providers. It may also be possible, subject to agreement, for Wheal Martyn to become the educational gateway to the Luxulyan Valley.

7.7.31 As a more 'informal' method of engaging people in learning and conservation activities, the FoLV host a series of events throughout the year. These include wildlife and heritage walks, as well as bat, moth, bird and fungi identification surveys. It is also understood that a community-based event was also held periodically although this hasn't taken place for a few years. If this could be revived, we believe that this could act as a forum for the various organisations involved in the management of the valley to promote their activities; raise awareness of the valley through informal, yet educational/interactive initiatives; and ultimately encourage support either through membership, donations, or subscription to working parties. In this respect, events represent a fundamental means of engaging local community groups, especially families with children and therefore should be retained.

7.7.32 Given this context, the education market is already viable and important, however it needs strengthening through more formal links and partnerships. Specific components of the educational offer that future programmes for the valley should look to formalise are as follows:

- Establish a broad range of curricula and higher level educational programmes that can be undertaken in the Luxulyan Valley, especially industrial history, environmental management, and conservation management.

- A promotional campaign to raise awareness, appreciation and understanding of the Luxulyan Valley by educational establishments as a resource that can be utilised for different curricula, higher education, and practical skills courses by people of all backgrounds, ages and ability.
- Utilise Wheal Martyn and/or the small visitor centre at Luxulyan to provide a classroom base pre and post exploration.
- Continue to encourage life long learning coupled with volunteering through programmes initiated by the FoLV, VHT, CWT and BTCV.
- Encourage accessibility by disadvantaged groups, especially people with disabilities staying in the area, such as Vitalise.
- Build upon the educational resource materials developed by the CHT to examine a greater range of issues, challenges and interests throughout the Luxulyan Valley, including the Hydro-electric power generation system.
- Work with organisation such as the CWT in developing wildlife trails to supplement the heritage discovery information available.
- Continue to collaborate with the Duchy College to better tailor field research and conservation management courses to suit student needs.
- Continue to encourage local volunteers to undertake surveys, monitoring and practical conservation management measures.

Protecting and Interpreting the Environmental Character

7.7.33 It is important to recognise that the valley has, by and large, been 'reclaimed' by nature over time. In this respect, the valley

represents a unique mixture of 19th century heritage and relatively undisturbed natural woodland.

- 7.7.34 As identified by the public consultation and survey, more people rate a key influence on their use of the site being peace and tranquillity (86%) than mining heritage (66%); whilst the importance of wildlife (67%) rated the same as mining heritage in terms of influence. Moreover, well over a third (35%) of respondents utilise the space that the Luxulyan Valley provides as a place for studying nature.

Prospects for an Environmental Designation

- 7.7.35 The prospect of the Luxulyan Valley being designated a Local Nature Reserve is explored in the ecology section. This should be supported in terms of audience development as it would help to highlight the environmental value of the site in addition to its heritage importance.

Prospects for Environmental Interpretation

- 7.7.36 As identified above, the Luxulyan Valley is already utilised for environmental interpretation through the hosting of regular events, seminars and conservation practice sessions. There are certainly prospects for the Luxulyan Valley to be exploited by these audiences further. Greater interpretation of the environment, the geology and local wildlife would also be of benefit to other users.
- 7.7.37 As with the interpretation of the heritage components, there are a number of different methods that could be used to interpret the environmental character of the site. However, the sensitive nature of the habitats that support species such as otters and bats will require a more considered approach.

- 7.7.38 Visitor centres can present a suitable option in certain instances, especially where the site is of national and international repute associated with fragile yet distinctive environmental settings. However, as with heritage, there is a danger that a large-scale visitor centre would overwhelm the site. Rather, a more understated approach is recommended. In this respect, it is envisaged that some additional interpretation boards of the site's environmental character could be used to supplement those concerned with its heritage character. Ideally, this would form part of the small interpretation centre that has already been suggested for the Luxulyan Institute.

- 7.7.39 In some instances, hides may present a suitable means for observing wildlife in situ. As an alternative for bats and otters, discrete cameras located within nesting sites could be used as a means of interpretation for enthusiasts and educational groups, as well as being used to monitor behaviour by specialist conservation groups. Some form of educational room would also be useful as a means of supporting educational groups.

Re-Establishing Environmental Features

- 7.7.40 One of the lesser-known environmental features of the Luxulyan Valley is a small waterfall emanating from the rocky outcrops within Carmears Wood known as Carmears Waterfall.
- 7.7.41 Historically, the Luxulyan Valley had a much more prominent waterfall that was essentially a by-product of the site's engineering works. The waterfall appeared as a result of the wooden launder¹⁶ that was used to divert water around the crags. When the mines were not working, the launder was opened through a sluice gate to release the water, allowing it to flow naturally through the valley once more. This generally occurred

¹⁶ A trough carrying water

on a Sunday as a religious day of rest when the Fowey Consols mine was closed, but the result was the creation of a key feature of the valley that was enjoyed by local people and visitors to the area during this period.

- 7.7.42 The existing waterfall is still linked to the water system with the original launder replaced by Carmears tunnel, now emanating from the entrance to the tunnel through a sluice gate. The gate is part of an essential mechanism to divert any fish and other forms of debris within the leat system back to the river which would otherwise cause operational issues for the turbine at Pontois Mill. It also allows excess water be diverted.
- 7.7.43 It is understood that the amount of water that passes over the waterfall is controllable through a sluice gate, much as the original waterfall was. It is accepted that the existing leat system has a critical association with the Pontois Mill Turbine, however in the spirit of Treffry, it would seem appropriate to explore further the possibility of allowing greater water flow over the waterfall at certain times - perhaps for a set number of hours every Sunday during the summer months - as a means of enhancing this environmental feature.
- 7.7.44 There is a well known precedent for this type of initiative. The hydro-electric power generated at Niagara Falls is continuously regulated to balance conservation, recreation and commercial gain. During the tourist season, only half of the 1,500,000 gallons of water per second that is delivered by the Niagara river can be diverted to the hydro-power plant. During other times and overnight, this may rise to up to three-quarters of the total available water.
- 7.7.45 If the principle of diverting water is adopted for the Carmears Waterfall, this could once again become key environmental feature for the site. In turn, this would give rise to the possibility

of establishing a bridge over the top of the waterfall and improvements to the observation areas both at the top and bottom. These have been long-term aspirations of the FoLV for example.

- 7.7.46 It is accepted that this option would need to be subject of further investigation; not least in terms of under the culvert, under the railway line and further down the valley; and also access implications via Pontois Mill. Nevertheless, the potential to create this form of additional interest, if viable, should not be ignored given the historical precedence. Indeed, if the waterfall were to be named after Treffry (i.e. Treffry's Waterfall), it would act as a means of honouring Treffry's engineering achievements and as a means of raising awareness of the valley as a whole.

Providing 'Clearing' Spaces as Stop-off Points

- 7.7.47 Public enjoyment of the site would be enhanced through the provision of places within which people could stop, rest and have a picnic. To undertake this in a manner that is sensitive to the environmental character of the valley, the use of furniture needs to be avoided. Rather, the prospect of strategic clearings along the valley floor (potentially using existing 'paddocks') close to the River Par would present more attractive features that people could use.
- 7.7.48 Littering is always a problem where picnic areas are encouraged. In this respect, picnics should not be actively promoted. Whilst 'hard' management measures (i.e. litter bins) should be avoided if possible, incidents of littering will need to be monitored where there is evidence of picnics taking place to determine if other management measures could be utilised.

Leisure Routes

- 7.7.49 There are a series of pathways within The Luxulyan Valley (Fig 8). Two of the pathways follow the lines of the Carmears Leat (using the old tramway line) and Fowey Consols Leat respectively; and a third, the Velvet Path, is a historical carriageway through the valley which used to carry the family and friends of the Kendall Family. A fourth pathway, the Rock Mill Path, is the only designated off-road multi-user pathway designated to accommodate horse riders and cyclists, although cyclists are also able to use the country road as this forms part of the Coast and Clay Trail, part of the Cornish Way series of cycle friendly routes within Cornwall and NCN Route 3.

Ownership of the Leisure Pathways

- 7.7.50 A key issue concerning the retention of the leisure pathways in the Luxulyan Valley is that none of the pathways are classified as Public Rights of Way (PRoW) and rather they have been secured as permissive paths. On the basis that CC is the major landowner, this classification is not deemed as a significant risk to long-term access rights for the majority of the area. However, there are several small but strategically important sections of pathway that are not in Council ownership. This includes:

- the Black Hill Tramway and a section of Tramway that leads to Luxulyan Village which, it is believed, remains in the ownership of the Treffry Estate;
- a further stretch of land between the viaduct and the village is owned by a local farmer, although there is a PRoW in the form of the Saints Way that passes through the majority of this area; and
- the pathway that runs alongside the canalised River Par leading to Ponts Mill from the A390, although it is understood

that this is the subject of a Public Path Creation Order with the decision pending.

- 7.7.51 Each of these sections needs to be secured if a more coherent and sustainable access strategy is to be established.

- 7.7.52 Discussion with the local farmer in relation to access to Treffry Viaduct from the village has revealed that he is willing to create a permissive route through his portion of land to connect with the Saints Way which already travels through his land. It is also understood that the Treffry Estate has, in the past, indicated a willingness to release its portion of the old tramway leading toward the village and the Black Hill Tramway for the purpose of securing public access. Confirmation of this has yet to be received and thus further discussion would be required. Confirmation of land ownership is also presents a potential barrier, with CHT suggesting that this has been the reason nothing has happened to date.

- 7.7.53 It is interesting to note that none of the routes, with the exception of the Coast and Clay Trail, feature as 'access routes' on the CC's online map of leisure routes and PRoW. Again this would need to be addressed if the area is to be presented better to leisure audiences.

Condition of the Pathways and Tramways

- 7.7.54 The condition of the existing pathways is recognised as being a constraint to use by a significant proportion (43%) of respondents to the public consultation and survey. This issue is particularly pertinent for the Carmears and Velvet pathways which are renowned for becoming muddy during periods of wet weather. Incidents of leaking water from the leats (being assessed under a technical hydrological and engineering assessment of site) also contribute to this issue.

- 7.7.55 It should be noted that a similar proportion (42%) disagree that this is problem, with this group suggesting that the muddy state of the pathways are in keeping with the natural character of place and can be overcome with the use of appropriate footwear. However, it is our view that sustained use by a broader range of users, including local residents and those that have mobility issues, will only be achieved by ensuring the pathways are consistently passable throughout the year. This will require improvement to the pathways themselves, and in certain instances, steps leading to the paths – especially around the viaduct, the Wheepit and leading to the Velvet Path.
- 7.7.56 The material used should be a sympathetic but sturdy. Works to rectify damage to the flooding event of 2010 has revealed a naturally occurring gravel material of a light brown colour under the topsoil which is now being used as a pathway covering. This is generally accepted to be the type of sympathetic material that should be sought. Another option is gravel supplied from local quarries, however despite being a locally occurring material it has less of a 'natural' feel because it is light grey in colour. Use of this material would therefore potentially detract from the site's overall landscape character.
- 7.7.57 Whether the gravel material in the valley is sufficient to help resolve muddy conditions throughout the site and/or could reflect a long-term solution is unknown at this stage. Nevertheless, for the purpose of ensuring consistent access throughout the year, the pathways will need re-surfacing to an acceptable standard. This standard may vary depending upon the user groups envisaged and the level of accessibility envisaged for each pathway. Improvements to the steps could be made through the use of granite, which would also be in keeping with the character of the site.

- 7.7.58 A further solution may need to be adopted for the tramways which experience similar problems of occasional waterlogging. In respect of the tramways, the key issue is to determine a solution that preserves the integrity and historic values of the tramway. The tramway setts are a particular feature of the Carmears incline and on parts of the Rock Mill Tramway and there is evidence for threats to their integrity and encroachment of vegetation. Furthermore, in some specific locations, there appears to be evidence that the rails themselves remain in situ. These factors give rise to the issues around determining an appropriate display of the heritage character of the tramways whilst at the same time ensuring their preservation.

Pathway Uses and Conflicts

- 7.7.59 Walkers, whether for leisure or with dogs, are undoubtedly the largest user group of the valley, with the public consultation and survey identifying that over 91% of respondents use the valley for this purpose. This compares with 9% for cycling and 1% for horse riding. This position reflects the general market characteristics for these sectors, although research suggests that the proportion of regular users for cycling and horse riding is 17%¹⁷ and 7%¹⁸ of the UK population respectively. Although this suggests that there may be an under representation of these user groups in the valley, caution needs to be asserted here in that the consultation should not be treated as statistically representative.
- 7.7.60 All of the pathways in the valley are available for walking, however the only pathway that is promoted as accommodating cyclists and horse riders is the Rock Mill Path as this is a 'permissive bridleway'. Despite this, the consultation process and

¹⁷ Sport England Taking Part Survey - 16.4% of the population regularly (once every four weeks) participate in leisure/sport cycling

¹⁸ British Equestrian Trade Association - 2.1 million people ride at least once a month, with a further 2.2 million having done so during the last year, making a total of 4.3 million participants

on-site observations suggest that the other pathways that are designated as 'permissive footpaths' are being used by horse riders and cyclists on occasion. This is giving rise to conflicts between the user groups, with walkers and dog walkers identifying potential dangers arising from the convergence with these other user groups.

- 7.7.61 Conversely, horse riders have noted that barriers are being created that inhibits their access and enjoyment to the site. Although the barriers in question are designed to deter nuisance behaviour, a consequence has been that horse riding is also restricted. A key issue here is that, historically, horses were used to power the original tramways and horses were used by the Kendall Family along the Velvet Path. Therefore, horse users argue that the site has a strong precedence for horse riding that should be retained and not hindered.
- 7.7.62 In accordance with Natural England's Greenways Handbook, it is important to recognise that each user has legitimate demands in terms of the provision of pathways that suit their needs. The Cornwall Council Countryside Access Strategy 2007 has responded to this, with Action US2 and US4 specifically referencing the need to increase off-road access and improve countryside access to horse riders and cyclists. In an ideal world, this would realise the creation of a network for walkers, a separate network for cyclists, and another network for horse riders. This would allow separation of the different user groups and would avoid some of the problems of sharing the same path. However, this is not always possible and, as in the case of Luxulyan Valley, there is often a need to accommodate several users on the one path to create a network that suits all.
- 7.7.63 Constraints such as the size of the path and adjacent environmental characteristics need to be considered in these instances. It is beyond the scope of this report to explore this in

detail, however an overview of the pathways suggest that the Fowey Consols pathway, for example, is too narrow in places to accommodate cyclists or horse riders in addition to walkers. Furthermore, the condition of the Carmears pathway (if left in its current state) would potentially worsen through the greater churning effect of horse riders and cyclists. In this respect, it would seem appropriate to restrict usage of these pathways to walkers only, with the combination of the Velvet Path and the Rock Mill Path providing more suitable circular route that could be exploited by horse riders and cyclists. This premise will need to be carefully tested. Access improvements to the Velvet Path are also likely to be required.

Leisure Route Connectivity

- 7.7.64 Connectivity to the wider leisure network is also an issue for the Luxulyan Valley. It is clear from the investigation process that the permissive routes within the valley are isolated from wider PRow network in the area, not least the regionally important South West Coast Path.
- 7.7.65 More locally, there are several footpaths, a cycleway and a bridleway shown on the CC's online map of leisure routes/PRow that pass through St Blazey and Tywardreath but these cease at the A390 and do not continue into the Luxulyan Valley. Similarly, the Saints Way passes through Luxulyan Village and passes the valley to the west, yet there are no formal or signposted connections directing users to the valley itself.
- 7.7.66 It is likely that some local residents will be familiar with certain access routes that can be used, such as the pathway that now runs alongside of the canalised River Par. Similarly, there is an optional pathway on the Saints Way that runs close to the Treffry Viaduct before continuing to Luxulyan Village. This includes an unofficial cut through to viaduct that could be used to access the

valley, however at present the route is covered by vegetation and is very muddy in places and thus is only used by those who know about it.

- 7.7.67 Ensuring that these connections are officially recognised to allow for access to the valley from the surrounding settlements should be considered a priority in terms of encouraging sustainable access by local residents from neighbouring settlements. Again, this is already occurring along the pathway now associated with the canalised River Par that runs between the A390 and Pons Mill. Permissive access between the viaduct and Luxulyan Village also needs to be sought to allow for continuous and uninterrupted use between the settlements. The value of creating these linkages are explored in terms of access below.

Road Access

- 7.7.68 Access is a significant constraining factor to developing any use and user activities in the Luxulyan Valley, especially that which would potentially increase car-borne traffic.

- 7.7.69 Although the site is served by two car parks (Fig 9), each has limited capacity and access to them from the road is a challenge. For example:

- The Pons Mill, which is on privately owned land and only secured through a covenant pursued by the FoLV during the sale of the land, is accessible via a narrow lane from the A390. The turning onto the lane is sharp with little visibility of any vehicles travelling up the lane; the lane is only one lane with intermittent passing places; and turning back onto the A390, vehicles are required to join the road from a hill-start position, with poor visibility of traffic from the right which is speeding up the hill as the speed restriction increases from 30mph to 40mph. As a site that is privately owned with car park access only secured through a condition applied to the

freehold sale of the land, the amount of cars officially supported here is low (7/8 cars only).

- Black Hill (Treffry Viaduct) Car Park can only be accessed from the narrow lanes from the A390 in St Blazey, Penpillick or Lanlivery. In places, this requires travelling along a narrow lane of single car width into the valley which is banked in places by high-sided stone walls. The road on which the car park resides is also available to cyclists as part of the Cornish Way (NCN Route 3), meaning that there is not only a strong danger of the convergence of vehicular traffic but cyclists as well. Both have the prospect of resulting in damage and personal injury if vehicular access were to be actively promoted.

- 7.7.70 It needs to be recognised that this risk is generally a 'perceived risk' rather than there being any observed incidents at present. However, the dangers can be foreseen, particularly if additional car-borne traffic were generated as a result of stronger advertising towards visitors.

- 7.7.71 Continuing efforts are being made to curb car movements by visitors and locals alike, however the population as a whole is still dependent upon cars as its preferred method of transportation. Even amongst local residents, many users still access the site by car first before heading on a walk or dog walk. In this context, it would not take a significant rise in vehicular movements to or through the valley to realise major problems. Thus, as a form of management control, the prospect of developing new car parks in the valley itself should be avoided unless accompanied by significant road improvements – although this is itself would raise significant financial implications and changes to the environmental character.

Access for Education and Conservation Groups

- 7.7.72 Although the recommendation to avoid additional car parking within the Luxulyan Valley needs to be upheld, there is one clear (and integral) audience group that needs to be catered for better in terms of vehicle access, namely the education and conservation market.
- 7.7.73 Successful day trips by educational groups generally require some form of mini-bus or coach travel. At present, there is no car parking provision for coaches either within or close to the Luxulyan Valley. Moreover, whilst mini-buses can pass through the narrow lanes of the valley, it is a challenge to navigate safely. It is recommended, therefore, that a solution be found that resolves this issue.
- 7.7.74 One option that could be explored is to utilise a site close to the rail crossing on the A390. There are several areas in this zone that would seemingly be able to act as coach parking area for schools, although this would be subject to agreement with landowners. The close proximity of this zone to the canalised River Par and associated pathway mean that it would be a relatively short walk to access Pons Mill and the Luxulyan Valley from this point. The fact that canalised River Par forms part of the heritage of this site represents an added advantage. Therefore, it is our view that this represents a realistic option that should be explored as a means of allowing easier access from the audience group.

Utilising Rail for Access

- 7.7.75 The railway connection between Par and Luxulyan is not currently being used as a means of encouraging sustainable access to the valley, yet as a resource it could have a significant role to play in this regard.

- 7.7.76 Both Par station and Luxulyan station have the potential to be linked to Luxulyan Valley, with Par station close to River Par and associated path; and Luxulyan station a short distance away from the Saints Way. The value of establishing these connections would be that, when combined with the permissive access pathways, this could be promoted as a sustainable trail that would remove the need for car travel within the valley itself. It would also present a designated component of a more complete 'leisure experience' within the valley when combined with other initiatives.
- 7.7.77 For instance, it is conceivable that local residents and visitors could be encouraged to travel to Luxulyan Village by rail starting at Par station, with the train journey itself forming part of this experience. Once at Luxulyan Village, users would then be directed to the interpretation centre and/or the Saints Way path as a means of accessing the valley. Signposting would need to be positioned to direct users on their respective ways either through the valley or along the Saints Way at this juncture. 'Valley visitors' will then be guided through the valley to discover the heritage and environmental assets it contains. To exit the site, visitors could either return to Luxulyan Station or continue from Pons Mill to Par station via the path associated with the canalised River Par.
- 7.7.78 It is accepted that the current train schedule of four services Monday to Friday (three of which are after 4pm), six services on Saturday, and no services on Sunday is not currently conducive to this type of initiative. However, it is an aspiration of the Friends of the Atlantic Coast Line (FOCAL) group, which has released a blueprint to maximise the use and viability of the line¹⁹, to develop heritage train visits and local based operations through the Luxulyan Valley, Goss Moor and China Clay areas. The Plan

¹⁹ FOCAL Group, A 'Blueprint' for the development of the Newquay Branch Line', 2007

also mentions the prospect of the addition of a new halt at the foot of the valley perhaps at Pontois Mill as a means of more direct access to the WHS. In this context, the potential link between rail and access to the Luxulyan Valley would have a dual purpose.

- 7.7.79 Discussion with FOCAL indicates their support for this type of initiative. The group has created a leaflet to encourage visitors to walk from Luxulyan Village to the Eden Project for example. Therefore, extending this to include the Luxulyan Valley would be a natural extension of this initiative. A key barrier to this, as mentioned previously, concerns the condition of the section of pathway between Luxulyan Village and the Luxulyan Viaduct, close to the Viaduct itself. However, FOCAL suggest that if this could be resolved, then this type of initiative would certainly become more viable.

Increasing Accessibility for All

- 7.7.80 The Luxulyan Valley is not easily explored by those with impaired mobility at present. As a natural environment setting that consists of steep inclines, raised pathways, and uneven surfaces, this also represents a significant challenge to overcome.
- 7.7.81 The CC has identified a clear commitment to manage and develop the countryside access for all members of the community regardless of ability and mobility. In this respect, the Cornwall Countryside Access Strategy highlights that the CC will continue to work with partners to establish new 'easy access' routes and develop existing routes to offer easier access where appropriate.
- 7.7.82 In the case of Luxulyan Valley, the most appropriate pathway for consideration as a 'easy access' route is the 'Rock Mill tramway' as an existing bridleway that has, in comparative term, less of an incline to overcome. Access from the Pontois Mill Car Park is also more conducive to these users, although a gate designed to deter

access by motorcyclists (see below) may act as a perceived barrier to some.

- 7.7.83 At key vantage points along this route, and potentially along other pathways, some sympathetically designed benches (e.g. using locally sourced wooden logs) could be created to present rest points for those unable to walk long distances. Several respondents to the public consultation and survey raised this as a need in order to assist in their continued enjoyment of the site.
- 7.7.84 Another initiative that could be considered to assist with ease of access would be to organise an occasional horse and trap service using modified equipment to carry those with more serious physical disabilities. This type of offer would have a synergy with local disability groups and those staying at centres such as Vitalise, a specialist holiday centre for people with disabilities and their carers. Vitalise has a centre in neighbouring Lanlivery Village and organise day trips out for their guests. This option should also be explored with local equestrian businesses such as Chiverton Riding And Driving Group as a local representative of the Riding for the Disabled Association (RDA) to determine suitability and feasibility.

7.8 Other Management Issues

Off-Road Motorcycling

- 7.8.1 Off-road motorcycling was highlighted with regularity in the public consultation and survey process as being a deterrent to access and spoiling the enjoyment of Luxulyan Valley.
- 7.8.2 Off-road motorcycling is an illegal activity in the Luxulyan Valley area. There are no designated byways that provide access either to or through the valley. It is known that CC is aware of the issue

and is working with the area Ranger and local Police to deter use by prosecuting offenders (including the real prospect of a fine and motorbike confiscation).

7.8.3 Use of the site by motorcycle enthusiasts, whilst illegal, does suggest that there is a lack of provision to meet their requirements through legitimate means. It is beyond the scope of this study to examine this in detail, however a brief review of online motorcross forums seems to confirm this premise.

7.8.4 In the absence of such provision, illegal off-road motorcycling is likely to continue to be an issue for Luxulyan Valley which means that access deterrents and enforcement of the law will need to be strictly pursued. Although the gate at Pontoys Mill has presented some success, there is a danger that the gate, which is supposed to be locked, may also be perceived as a barrier to other legitimate users. A key challenge is to determine an alternative solution that would ensure that all legitimate users can access the site whilst prohibiting illegal use. Directing use on the alternative path, which passes by the house at Pontoys Mill, is one possibility with illegal users less likely to risk this option. CCTV may also be an option worth considering located at the gate entrance, again as a deterrent to illegal use. However, both options will require investment with upgrades to the pathway in particular.

Dog Fouling and Dog Behaviour

7.8.5 Dog walking is a popular activity within the Luxulyan Valley, with the prospect of letting the dogs off their leash being one of the key attractions. However, other users of the valley have identified incidents of dog fouling and dog behaviour as issues impacting on their enjoyment of the valley.

7.8.6 Dog walking is a legitimate use of the valley, however it is an offence under the Dogs (Fouling of Land) Act 1996 if a dog

defecates at any time on designated²⁰ land if the person who is in charge of the dog at that time fails to remove the faeces from the land forthwith. In Cornwall, the land that has been designated under this act includes beaches, footpaths, roads, playing fields, verges and certain private land where access is permitted. The offence carries an instance fine of up to £80, whilst a prosecution could carry a fine of up to £1000.

7.8.7 As ever, the offences are generally committed by the few rather than the many. However, given the prevalence of dog walkers who enjoy the area, there is a need for owners and other users to take a shared responsibility in terms of offence prevention and clearance. Dog bins are already provided in the valley. There may be a case for increasing this provision to cope with demand²¹, although as with other features on the site, care needs to be taken to retain the 'natural' setting that the place provides. Signage must also be provided to remind dog owners of their responsibilities. If the problem persists, the main deterrent that will need to be utilised is enforcement of the law.

7.8.8 Controlling dogs off leash also needs to be considered in relation to other users and uses. The prospect of an environmental designation, for example, may require dogs being kept on a leash at certain times of year and in certain zones in order to reduce disturbance of important habitats and protected species. Furthermore, the prospect of dogs running freely has raised concerns amongst other users, especially families with young children and horse riders. The situation will need to be monitored over time to ensure that the right balance between the interests of dog walkers and other users are met, and that potential conflicts

²⁰ The Act applies to any land which is open to the air and to which the public are entitled or permitted to have access (with or without payment)

²¹ A site observation included bags containing faeces being placed on the floor adjacent to dog bins, suggesting the bin was full

are prevented. However, it is not considered necessary to restrict dogs to being on a leash, apart from in zones where directed to do so as a means of protecting certain species and habitats.

Managing the Luxulyan Valley as a World Heritage Site

- 7.8.9 As part of the Cornish Mining WHS, Luxulyan Valley is being promoted to a global audience. Crucially, the Cornish Mining WHS is seeking to exploit the publicity and the genealogical links that Cornwall has with other mining area across the globe to attract tourists to Cornwall for the benefit of the tourism sector in the County.
- 7.8.10 The status of WHS inscription still carries significant international standing and in many instances rightly raises the expectation that visitors will be able to view and/or experience a truly unique and globally important site of interest. However, as has been alluded to throughout this section, in the case of Luxulyan Valley, the environmental character is as important to the sense of place and space of the valley as its heritage value; and therefore this aspect needs to carry as much weight in the future management of the valley 'as a special place'.
- 7.8.11 The constraint in terms of access is not likely to be resolved and solutions to dramatically increase visitor capacity (i.e. a manned visitor centre) are not being advocated through this study. Therefore, any visitors interested in the 'WHS' components of the valley need to be actively informed that the area has been reclaimed by nature and that certain components of the heritage are now 'conserved remnants' of the site's mining heritage.
- 7.8.12 This approach accords with the Cornish Mining WHS Marketing Strategy that is seeking to only promote tourism at WHS sites where there is the capacity and infrastructure for additional numbers of visitors. Moreover, it also accords with the responses

received through the public consultation and survey process that has highlighted that tourists have so many other things to see and do in Cornwall, that residents would prefer Luxulyan Valley to be viewed as more of a 'sanctuary' for the local community in addition to education, conservation and specialist groups.

7.9 Funding and Management Options

- 7.9.1 A critical component in terms of any developments or initiatives that are looking to secure the future management and maintenance of sites such as Luxulyan Valley is in relation to funding and financial sustainability.
- 7.9.2 The valley is currently managed through a relatively modest budget of between £15,000 and £20,000 per annum, which is used predominantly to fund the works of a part-time Ranger. Revenue from the CC is used to supplement this for emergency repairs when required. Additional manpower is often provided through volunteers, particularly associated with the FoLV and the CHT.
- 7.9.3 Of critical importance for the valley as an open access area that already appeals to leisure users is that an income is required to help support future management and maintenance. This issue is raised in the Cornwall Countryside Access Strategy in terms of leisure routes and pathways that are to be developed, with partnership arrangements and external sources of funding to be sought wherever possible.
- 7.9.4 Should external funding be sought, it is often a prerequisite that evidence of both match funding and future revenue income be identified prior to an award. This is especially true for major capital grants schemes (e.g. Heritage Lottery Fund). Similarly, the project itself needs to be proposed by a group or organisation

that is clearly capable of delivering the scheme, including completing ongoing operation tasks.

Key Partners

- 7.9.5 The Luxulyan Valley Partnership already includes a series of key organisations with a vested interest in the upkeep and maintenance of the valley for heritage, environmental and commercial (turbine) interests. To reiterate, this includes the CC, local Parish Councils, FoLV, CHT, Serco, and CWT. Thus, a range of interests are represented.
- 7.9.6 The fact that the partnership includes constitutionally robust organisations through to local interest groups and community representatives is certainly a strength that needs to be harnessed more in the future. One of the critical challenges is securing an agreeable delivery mechanism and the source for future financial security that will support future management and maintenance.
- 7.9.7 At present, the current funding pot of £15,000 and £20,000 per annum is available to support the part-time Ranger. It is clearly beyond the scope of this budget to support additional capital works to maintain the leats, viaduct, waterwheel as historical feature; keep the leisure pathways and access points clear and of sufficient quality; and to support an interpretation centre/educational base.
- 7.9.8 It is understood that discussion on a new form of management vehicle such as a Trust or an ESCo²² (associated with the Turbine operation) has been mooted in the past, and that this would include a revenue component. It is recommended that this be resolved prior to any approach for funding. The HLF in particular will need to be confident that any partnership

arrangements are secure; any project will be deliverable within a suitable project vehicle; and that there is commitment to deliver operational support after any capital works as a requisite of any funding agreement.

- 7.9.9 Continuing community engagement and involvement will also be vital in securing funding. The FoLV, as a charitable organisation with a healthy membership base and regular fund raiser, will be a critical partner in this respect. The FoLV already have funds earmarked for projects within the valley, especially in relation to improving the pathways and thus could help form part of any match funding requirements. In addition, although the organisation's resources are very modest as a voluntary organisation, it is the energy and enthusiasm of its members as volunteers in conservation and education initiatives will be taken into consideration as match funding through 'in kind support' and 'voluntary man hours'. Longer term, the community events organised by the FoLV will form a critical part of future audience development as well as ensuring conservation management costs remain manageable.
- 7.9.10 Likewise, the CHT, which has a vested interest in the valley in addition to its primary concern is with the Treffry Viaduct, could also operate as a match funder. The CHT has overarching objectives to acquire, preserve, restore and educate people about Cornwall's heritage and its sensitivity for the well being of the local population. The CHT continues to develop its educational resources related to the Treffry Viaduct. The CHT also supports other heritage-based initiatives and has a budget of c.£10,000 earmarked for this. The CHT remain committed to supporting improvements to the whole of the valley and broadening its own educational programmes through the use of the whole site.
- 7.9.11 As a WHS, another possible source of support for initiatives include the Cornish Mining WHS. Although the resources of the

²² Energy Service Company

Cornish Mining WHS are modest, the organisation continues to work with each of the WHS zones and areas to improve their respective offers through a variety of innovative measures. The organisation has indicated strong support for the Luxulyan Valley and a willingness to provide assistance in the delivery and management of the site going forward.

7.9.12 These organisations represent just some of the interests that could be drawn upon to realise continuing support for the ongoing maintenance and management of the area. Ultimately, there will be a need to bring these resources together through some form of constituted organisation. Ideally, this organisation should be responsible for capital project delivery and, ideally, ongoing operations. Alternatively, prospective funders will need to be assured that another management vehicle will be in place to take over responsibility once the capital project is complete.

7.9.13 To form a more encompassing Partnership concerned with all aspects of the valley's management, organisations such as FOCAL, local disability groups, and the Riders Disability Association could also be included to ensure strategic and access issues are fully integrated. This could also give rise to a further source of volunteers and 'match funding'.

Environmental Stewardship Scheme

7.9.14 As managed land with a public access remit, the area could be suitable for consideration under NE's Environmental Stewardship Scheme. The Higher Level Stewardship Scheme (HLS) in particular is designed to deliver significant environmental benefits in high priority situations and areas. Although technically speaking the Luxulyan Valley appears to fall outside of the Target Area for the scheme in the St Austell area, it is our view that NE may still consider the valley given its designation as a WHS with

natural landscape character that is an important resource for community access and for biodiversity.

7.9.15 In this respect, among the different land management activities that NE can support through the HLS are:

- Positive management of visible and below ground archaeological and historic features that are assessed as a priority in the region such as prehistoric and medieval settlement features and more recent industrial remains, for example through appropriate grazing or scrub management.
- Protect, maintain and restore historic landscapes and their features, such as parkland where they are assessed as a priority in the region.
- Maintain or restore historic buildings that are assessed as a priority in the region.
- Create new permissive access where there is identified demand or need in order to link people with places, enhance existing networks and/or provide opportunity to improve people's understanding of the farmed environment through educational access particularly where there is potential for enhanced links to the South West Coast Path and settlements.

7.9.16 It is our view that the combination of heritage and environmental conservation, interpretation access, and education initiatives as outlined above will meet these criteria. It could also feature as a site that has access to the regionally important South West Coast Path. However, it needs to be recognised that the HLS scheme is a competitive process and therefore acceptance into the scheme is not guaranteed.

Heritage Lottery Fund

- 7.9.17 The prospect of submitting an application to the HLF has been mentioned in the past. The HLF can support both capital and revenue projects through funding, although revenue funding is time limited and expected to decrease over time. Projects within the Luxulyan Valley would normally be considered under Heritage Grants (Grants above £50,000) - for projects that relate to the national, regional or local heritage of the UK. It has also been suggested that the Landscapes Partnership Project (Grants between £250,000 and £2 million) may be applicable, however it is our understanding that this is primarily designed to respond to a series of themed and linked projects in a larger area of countryside than presented by Luxulyan Valley – i.e. an area no smaller than 20 km² and no larger than 200 km² - and which has a distinctive landscape character – supported by a Landscape Character Assessment - and is recognised and valued by local people. The programme will also not support schemes too heavily balanced towards a single major project.
- 7.9.18 One of the main components of any HLF bid relates to the future financial sustainability of the project. As a result, the HLF requires projects to detail how the project will be managed and maintained once it is completed; what the expected costs will be; and how this is reflected in terms of annual income and expenditure forecasts.
- 7.9.19 All projects considering an approach to the HLF should begin the dialogue through the Pre-Application procedure. This procedure has been designed to allow the HLF to assess the merit of the project and help guide the applicant in terms of key components that need to be addressed within the full application process. Full applications are expected to undertake a two-stage process, with the second stage potentially taking up to 18-months to compile the evidence base and for the HLF to reach a decision. As a

competitive process that is highly subscribed to, the funding from HLF is not guaranteed even for those projects that are successful in getting to a Stage 2 bid²³.

Revenue from the Turbine

- 7.9.20 In the absence of a 'visitor centre' component that can be used to generate revenue, the Luxulyan Valley Partnership will need to demonstrate another source of revenue as a means of supporting the management and maintenance of the valley. As highlighted above, this will be critical if an application to the HLF is envisaged.
- 7.9.21 One such source that should be considered in the revenue generated through the Turbine as an electricity generator attached to the National Grid. It is understood that 20% of the revenue from the Turbine is already directed towards local projects and a further 20% is being committed to a 'turbine management/replacement fund', with the remainder at present being directed by the CC towards match funding requirements for any future funding application for the valley.
- 7.9.22 It would appear sensible, given that the turbine was established as a community initiative, to use more of the revenue the turbine generates to support future management and maintenance through a clearly defined organisational structure. This would remove the need for other revenue sources (e.g. through a visitor centre) and remove the threat of 'commercialisation' of the valley, a key concern raised by the public consultation and survey. Fundamentally, we recommend that future sources of revenue funding be identified prior to any formal application to HLF and other funding sources.

²³ The success ratio is around four projects in every five

7.10 Key Findings and Recommendations

- 7.10.1 The purpose of this section of the report has been to establish parameters for audience development within Luxulyan Valley as part of a wider Conservation Management Plan for the site. However, it has been clear from the outset of the consultation that, as part of this process, certain development issues and options needed greater exploration as a means of responding to challenges posed by the site's character, access constraints, and the different user groups.
- 7.10.2 In this respect, we have sought to establish this section as a scoping report for developing the audience base through a variety of different initiatives. It is recommended that this be used as a framework to guide to creation of a more coherent development plan and vision for the overall development of the valley. In turn, this can be used as a platform for any funding applications and any further consultation with key stakeholders, partners and the wider community.
- 7.10.3 The public consultation and survey has highlighted how much the valley is cherished by the local residents and the strength of feeling that it should, as much as possible, be retained for their benefit rather than as a 'tourist attraction'. Moreover, it is important to recognise that the natural environment of the valley has a significant role to play in the future of the valley; for many users perhaps even more so than its heritage components.
- 7.10.4 The key issue that the section has sought to determine is whether there is capacity to develop these audiences further. Where there is capacity, we have also sought to determine the types of initiatives or developments that would present the best opportunities within the various constraints of the valley, and how this relates to developing different audiences.

- 7.10.5 There is no doubt that the Luxulyan Valley has the capacity to service as an important resource for local residents and a variety of educational, conservation, and special interest groups. However, it has much more limited capacity to serve as a visitor attraction or destination. But this scenario brings with it its own issues, principally a limited capacity to help service future maintenance, management and improvement works that are required to retain this resource from a leisure and heritage perspective. It is for this reason that the preferred development options for audience development have been those that do not impose any additional financial burden on the valley in relation to staffing.
- 7.10.6 Rather, we believe it needs to be incumbent upon the 'partnership' in its widest sense to support audience development through their existing activities, including drawing upon other attractions such as Wheal Martyn to present the broader story of Treffry and the mining heritage of the Luxulyan Valley; supported by low cost and low impact interpretation within the site itself. Moreover, the consultation process has broadly identified support for this approach.
- 7.10.7 It is accepted that these activities need better co-ordination. The Luxulyan Valley Partnership (LVP) presents a framework from which this co-ordination can be achieved. It is recommended that the partnership be expanded with a formal constitution to manage the Luxulyan Valley. The income required to support ongoing management operations would be through the revenue generated by the Turbine. Any works should be supported where possible through volunteering programmes of organisations such as the FoLV, CHT, FOCAL, and CWT for example. The BTCV may also be willing to package conservation holidays to the area, depending upon the works and support services that the LVP could provide. The Cornish Mining WHS, CHT, CWT, and Wheal

Martyn are best placed to provide specialist input on marketing, environmental, educational and access programmes in the valley. Last, but by no means least, the CC, Serco and ideally Imerys need to retain their involvement in the management of Luxulyan Valley to provide additional securitisation of the Partnership and resources where required.

- 7.10.8 To summarise, the principle recommendations and the audiences that this will impinge upon are outlined in table 9.

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
Heritage Interpretation				
Utilise Wheal Martyn Museum and Country Park as the main centre for interpretation for the Luxulyan Valley and Charlestown area of the Cornish Mining WHS.	Encourage usage of existing mining attraction to present the story of Luxulyan Valley (as well as the wider mining heritage of the area) to visitors (i.e. tourists).	Wheal Martyn is already a visitor attraction that focuses on mining heritage. Using Wheal Martyn in this manner will have a dual purpose; firstly it is a proactive method of diverting prospective visitor interest away from Luxulyan Valley that may otherwise impact on the environmental character; and secondly it will encourage more visitors to Wheal Martyn which is seeking to improve visitor performance.	Primary: Tourists and day Visitors Mining heritage enthusiasts Mining genealogy interest Secondary: Education groups Local residents	Wheal Martyn/South West Lakes Trust Cornish Mining WHS Charlestown Museum Luxulyan Valley Partnership
Explore option of utilising the Luxulyan Institute as a small-scale interpretation centre, for heritage, wildlife and 'local history' interpretation.	Utilise the Luxulyan Institute as a gateway to Luxulyan Valley for local residents, enthusiasts and education groups.	It is generally accepted that more onsite interpretation would be beneficial many of the different audiences. However, there is also a need to restrict 'clutter' through new 'furniture'. A small-scale interpretation centre will remove the need for new furniture in the valley and would ensure a sense of 'discovery'. Use of the Institute would potentially assist village services, and could be included as a café facility supporting existing visitors and local groups alike.	Primary: Local residents Educational groups Mining heritage enthusiasts Secondary: Tourists and day Visitors (on sustainable tour) Leisure enthusiasts	Luxulyan Parish Council Cornish Mining WHS FoLV CWT CHT
Continue to develop education and conservation programmes associated with Luxulyan Valley.	Establish Luxulyan Valley as an important site for curricula, vocation, and conservation based educational and life-long learning programmes.	It is acknowledged that Luxulyan Valley already caters for these types of activities, but there is capacity to expand upon this. Consideration to awareness, access and health and safety is required, however education is a considered a 'primary' target audience. Moreover, conservation programmes (as part of life-long learning and interests) have the capacity to deliver mutual benefits through volunteering programmes. Again, this is already occurring but could be expanded.	Primary: Primary, secondary and HE establishments in Cornwall and SW Conservation enthusiasts Mining heritage enthusiasts Other outdoor-based vocational courses	CC/Serco CHT Cornish Mining WHS BTCV FoLV Cornwall Learning Outdoors

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
Support and promote the various events programmes associated with the Luxulyan Valley to a wider audience base.	Special events (and potentially festivals) to become an integral component of raising awareness and engagement of local residents in Luxulyan Valley.	The FoLV already host a programme of events throughout the year, many of which include 'guests'. The FoLV could be supported by other organisations with a vested interest in conservation to expand upon this and add weight to the event. Again, this could generate benefits for the support organisations. An annual festival could be considered again.	Primary: Local residents Residents from around Cornwall Secondary Tourists and day visitors	FoLV CHT CWT Cornish Mining WHS
Environmental Interpretation				
Explore prospects and value of establishing an environmental designation for the Luxulyan Valley – e.g. Local Nature Reserve.	Increase the recognition of the environmental character (in addition to heritage character) of Luxulyan Valley as a key aspect that needs to be protected and conserved.	Luxulyan Valley is a former industrial area that has been reclaimed by nature over time. The area includes protected species (bats and otters) and represents ancient, semi-natural woodland. An LNR designation would help to reflect this aspect locally and to visitors. The LNR designation could also assist in accessing funding and developing broader educational/life-long learning programmes.	Primary: Planning authority Conservation bodies Secondary: Educational groups Local residents Tourists and day visitors	CC CWT NE CHT
Explore the prospects of making the Carmears Waterfall a more prominent feature, even if restricted to certain times of the week.	Re-create a waterfall feature which was once a primary landscape feature used by Treffry to encourage wider appreciation of the Luxulyan Valley by local residents and visitors of the period.	The Carmears Waterfall exists as a creation of the leat system. Although in a different position to the original waterfall, it has the capacity to be used in the same way. By opening a Sluice Gates, the water flow could be increased to create more of a feature to encourage residents and visitors to the area to access Luxulyan Valley. Considerations need to be given to the water requirements of the Turbine and issues concerning the culverts under the railway line, however if these can be overcome, the waterfall could once again present a primary landscape feature (albeit on a periodic basis).	Primary: Local residents Tourists and day visitors	CC Network Rail FoLV

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
As an extension of the above, look to honour Treffry's achievements by naming the waterfall after him.	Honour Treffry and his engineering achievements to the world's mining community through the waterfall.	Treffry was an early pioneer of industrial-scale mining, with the technologies and skill base he inspired being replicated across the world. It seems only fitting that the place of many of these initiatives (i.e. Luxulyan Valley) find some way to pay tribute to his achievements. Naming the waterfall after him would be one such tribute. It would also act as means of raising awareness of Treffry and the valley overall.	Primary: Local residents Tourists and day visitors	CC Treffry Estate
Leisure Pathways/Movement around the Luxulyan Valley				
Resolve ownership issues and access rights, particularly in terms of the Black Hill Tramway; the land between the Viaduct and the Village; and between the A390 and Pons Mill using the Canalised River Par Pathway.	Create well-defined, secure and sustainable access routes into the valley from the north (from Luxulyan Village) and the south (from the A390).	The local road network restricts access by car, means that sustainable access to Luxulyan Valley can only be resolved through the creation of secure leisure routes entering from the north and south. At present, ownership and access rights present the main barrier, yet the consultation process indicates that there is a local willingness to resolve these.	Primary: Local residents Educational Groups Enthusiasts Secondary: Tourists and day Visitors	CC Local Farmer Treffry Estate
In association with the above, identify mechanisms for ensuring that Luxulyan Valley pathways are connected into the wider leisure network.	Ensure that the Luxulyan Valley pathways are connected into the wider leisure network by creating linkages between the existing PRoW and Permissive network between local settlements and the Luxulyan Valley.	The NCN Route 3 pass through the valley, but on the narrow road; the Saints Way passes close to the valley but does not enter the site; and the local PRoW routes stop short of the valley itself. As a means of encouraging more sustainable access to the valley, these routes need to be connected into the permissive pathways that already exist within the valley.	Primary: Local resident walkers Local resident cyclists Local resident horse riders Secondary: Tourist and day visitor walkers/cyclists	CC Local Farmer Treffry Estate

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
Improve the condition of the leisure pathways to ensure easy passage through the valley all-year-round.	Ensure the series of pathways throughout the Luxulyan Valley are fit for purpose for the specified user groups and can be used all-year-round.	Several of the pathways suffer from being in a poor condition. To become more conducive to year-round use, these pathways need to be improved through surface materials. However, care needs to be taken to ensure the character of the site is not compromised through the use of inappropriate/unsympathetic materials.	Primary: Local resident walkers Local resident cyclists Local resident horse riders Secondary: Tourist and day visitor walkers/cyclists	CC/Serco FoLV
Identify the different user groups that each pathway can accommodate with a view to creating a circular route/network of routes for each user around the valley.	Ensure that each of the principal leisure users has a safe and secure 'network' of pathways to satisfy their needs.	In accordance with the Greenways Handbook, each of the existing users of the site should continue to be given the opportunity to access and enjoy the valley. Care, however, needs to be taken to ensure that each user groups can travel around the site in safety and comfort. Some pathways are conducive to multi-user (lower path/Velvet Path), others less so (Fowey Consols Leat, Carmears Leat). A more detailed survey of each pathway needs to be conducted in order to systematically present a minimum of one circular route for each user group.	Primary: Local resident walkers Local resident cyclists Local resident horse riders Secondary: Tourist and day visitor walkers/cyclists	CC/Serco User group representatives FoLV
Site Access				
Explore the potential of a defined parking zone to accommodate groups, especially education, to the north side of the A390 close to the rail crossing/River Par Pathway.	Establish a safe access route into the Pontois Mill side of the Luxulyan Valley by educational and interest groups requiring to travel to the area by coach or mini-bus.	The prospect of increasing car park spaces within the valley is not viable because of access issues. Likewise, Luxulyan Village does not have capacity to service larger-scale coaches. Safer access would be possible in the south via Pontois Mill through parking provision close to the A390 rail crossing as this runs adjacent to the canalised River Par. Other safety measures may also be required.	Primary: Educational groups Larger interest groups	CC Local (A390/Rail Crossing) land owners

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
Explore options for utilising the rail services between Par and Luxulyan for encouraging sustainable access to the Luxulyan Valley.	Establish a sustainable trail/tour that begins at Par Station and involves taking the train to Luxulyan Village and travelling back by foot.	The link between Par and Luxulyan Village needs to be utilised as an access route. This needs to be promoted as one of the main forms of access to residents of Par, Tywardreath and St Blazey and visitors from across the area. This tour also has a synergy with the prospect of an interpretation centre at Luxulyan Institute.	Primary: Local residents Tourists and day visitors	CC First Great Western FOCAL Cornish Mining WHS
Explore measures to ensure that the Luxulyan Valley is accessible to people who have mobility impairments (e.g. those in a wheel chair, require a walking aid, have a pram, etc).	Establish clearly defined routes of access for people with mobility impairments.	Some of the issues concerning access for those with mobility impairments will not be easily overcome, however the lower pathway currently offers the best solution. For those with more severe disabilities, the use of a horse and cart could be introduced on occasion as a specific feature targeting this market (e.g. Local Disability Groups and those staying at Vitalise).	Primary: People with mobility impairments	CC/Serco Local disability action groups Vitalise Riding for the Disabled Association
Other Management Initiatives				
Continue to discourage illegal access to the Luxulyan Valley by off-road motorcyclists.	Deter the actions of off-road motorcyclists that both cause damage to the environment and present a deterrent to other users.	Off-road motorcycling in the Luxulyan Valley is an illegal action. Efforts have been made to restrict access and this will need to be continued. To be truly effective, ideally this will need to be married to initiatives that support legitimate usage elsewhere.	Primary: Off-road motorcyclists	CC/Serco Leisure Users Police Local off-road motorcycling groups
Initiate measures to control dog fouling and reduce any potential disturbance by dogs of important habitats for nature conservation	Better manage incidents of dog fouling, including through enforcement if necessary. Where and when appropriate, initiative control zoning for dogs to avoid habitat disturbance.	Dog fouling in public areas such the Luxulyan Valley is an offence under the 1996 Act. Incidents of dog fouling and uncontrolled dogs can be a nuisance for other users. However, it is not considered necessary to restrict dogs or to limit access to those on a leash only, apart from in zones and at times when directed to do so.	Primary: Dog walkers	CC/Serco CWT Dog walkers

Table 9
Summary of Key Recommendations relating to Audience Development

Recommendation	Key Objective	Rationale	Audience Appeal	Partners
Work with agencies that provide information and promotion of the Luxulyan Valley to ensure that the main messages (i.e. natural environment with conserved heritage remnants) concerning the site are echoed throughout.	Manage expectations of Luxulyan Valley as a WHS by drawing reference to it being a site of high environmental importance that also contains internationally important 19th Century heritage remnants.	The status of WHS inscription means that the expectations of Luxulyan Valley will, for some, be much higher than the experience can ever provide. In this respect, marketing and information messages need to reflect the character and condition of the valley. Those wanting to learn more about mining heritage should be directed to Wheal Martyn.	Primary: Mining heritage enthusiasts Mining genealogy interests	Cornish Mining WHS CC FoLV CHT
Ongoing Site Management and Resources				
Examine the arrangements of the Luxulyan Valley Partnership with a view to securing a constituted organisation. This organisation needs to have the strength of support to give confidence to funders and other stakeholders that any projects and proposals are deliverable and sustainable.	The Luxulyan Valley Partnership (or another form of management organisation) to be established with a constitutional management role over the valley.	The current management of Luxulyan Valley resides with CC, however there are many other stakeholders involved in its management as the current 'Partnership' identifies. In terms of future prospects for funding in particular, it would be beneficial for another form of organisation to have formal oversight over the valley's future management. This organisation will still need to be supported by the existing members of the Partnership, plus others, to ensure the views and opinions of all stakeholders are reflected in the future management. This would assist in funding applications.	Primary: Local community Key stakeholder/partners Potential funders	CC CHT FoLV Parish Councils Treffry Estate Imerys Cornish Mining WHS CWT NE FOCAL
Identify and secure revenue resources to enable the continued management of the valley for the benefit of the public.	The Luxulyan Valley Partnership (or other management organisation) to have a viable future that is resourced through the support clearly defined and sustainable revenue sources.	The cost of management needs to be supported through a clearly defined revenue source. In the absence of a visitor centre, the revenue generated through the Turbine, a Community Project in itself, could provide this source of revenue.	Primary: Local Community Key stakeholder/partners Potential funders	The Luxulyan Valley Partnership

8 Policy context

8.1 The WHS management plan

- 8.1.1 The Cornwall and West Devon Mining Landscape World Heritage Site management plan 2005-2010 was published in 2006 to cover the period 2005 and 2010. The plan is a strategic document and establishes a series of policy principles that are to be adopted across each of the WHS areas.
- 8.1.2 The issues addressed in the management plan include matters such as co-ordinated management, reviewing designations and protections, protecting setting and support for sustainable development.
- 8.1.3 Whilst all of these issues are applicable to the Luxulyan Valley a number of matters addressed by the policy are of particular regard in respect of the condition and nature of the assets contained within the Luxulyan Valley.
- 8.1.4 Issue 8 specifically addresses the issue of Conservation and sets out 6 key policy objectives in respect of the use of traditional materials, support of local and traditional skills and the application of good conservation principles.
- 8.1.5 Issue 10 promotes sustainable physical access to sites and issue 11 addresses intellectual access. The importance of community involvement and social inclusion is identified in issue 14.

8.2 Cultural Heritage Policy

Legislation

- 8.2.1 The Ancient Monuments and Archaeological Areas Act of 1979 presents legislation to consolidate and amend the law relating to the protection of Scheduled Ancient Monuments (SAMs) and also to make provision for the investigation, preservation and recording of matters of archaeological or historic interest (Ref. 5.1). It requires the Secretary of State to compile and maintain a schedule of monuments of national interest. The Act makes it an offence to execute, cause or permit any works resulting in the demolition or destruction of, alteration or repair to, flooding of or tipping on land which has been designated as a scheduled monument unless the Secretary of State has provided written consent, known as Scheduled Monument Consent (SMC).

Planning Policy

- 8.2.2 Planning Policy Statement 5: *Planning for the Historic Environment* and its guidance document *Historic Environment Planning Practice Guide*, set out policies on the conservation of the historic environment and guidance on their implementation.
- 8.2.3 Policy is that significance of heritage assets should be identified conserved and enhanced. In respect of setting the PPS recognises the opportunities for better revealing the significance of an asset.
- 8.2.4 Policy recognises that World Heritage Sites are assets of the highest significance.

English Heritage Guidance

- 8.2.5 English Heritage has produced a number of guidance papers in respect of a variety of conservation issues. These guidance

papers are intended to establish broad frameworks and guidance and address specific aspects of the historic environment, its assessment and conservation.

8.2.6 In 2008, English Heritage published '*Conservation principles, policies and guidance for the sustainable management of the Historic Environment*'. The aim of this document is to ensure consistency of approach in English Heritage's role as the Government's statutory advisor on the historic environment in England. It aims to set out a logical approach to decision making and offers guidance about all aspects of the historic environment and reconciling its protection with the economic and social needs and aspirations of the people who live in it.

8.2.7 Whilst the policy guidance is intended to inform English Heritage's approach to the management of the historic environment as a whole, it also aims to provide a set of principles and policies which may be used by other relevant bodies.

8.2.8 English heritage have also published a guidance note for 'The Protection and Management of World Heritage Sites in England'. The document sets out a number of key objectives and principles in the management of World heritage Sites.

8.3 Ecology and the natural environment

8.3.1 Wildlife areas of importance at the local level can be designated as non-statutory Sites of Nature Conservation Importance (SNCI), County Wildlife Sites (CWS) or as local statutory sites such as Local Nature Reserves (LNR). These are of significance at the district or borough level and are considered within local plans.

8.3.2 Luxulyan Valley is designated as a County Wildlife Site (CWS). CWS's are designated by the Cornwall Wildlife Trust. They are

prime sites for wildlife in Cornwall, having been identified as supporting species, groups of species or habitats of at least county importance. Part of the site is also designated as a Regionally Important Geological/ Geomorphological Site (RIGS). RIGS are sites of at least county importance for geology and/or geomorphology.

8.3.3 The site hosts a variety of nationally and internationally protected species, such as dormice, otter and bats.

8.3.4 All bat species are afforded National protection under the Wildlife and Countryside Act, 1981 (as amended) and the internationally under the Conservation of Habitat and Species Regulations 2010. Under this legislation it is an offence to intentionally kill, injure or take a bat. It is also an offence to intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection.

8.3.5 Six species of bats are also United Kingdom BAP Priority Action species and are Species of Principal Importance under Section 74 of Countryside and Rights of Way Act 2000. The Hedgerow Regulations 1997 aim to prevent the removal of important hedgerows including those that support species protected under Schedule 5 of the Wildlife and Countryside Act, such as bats.

8.3.6 The UK Biodiversity Action Plan (BAP) is the UK Government's response to the Convention on Biological Diversity (1992). It describes the country's important biological resources and has resulted in the production of detailed plans for the protection of key habitats and species.

8.3.7 Through Section 40 of the Natural Environmental and Rural Communities Act, 2006, local planning authorities now have a duty to consider habitats and species listed within the national

biodiversity action plan (priority species and priority habitats) and local BAPs when considering a planning application.

- 8.3.8 Although Cornwall County Council became a unitary authority in April 2009, policies on nature conservation (policy CS24) within the former Penwith Local Development Framework (Core Strategy 2006 – 2026 Preferred Options Report) remain relevant.
- 8.3.9 The Cornwall Countryside Access Strategy (2007) provides an action plan for the former Cornwall County Council and its Partners that will manage and enhance the access opportunities for the countryside within Cornwall.
- 8.3.10 The report highlights the importance of the WHS status, and identifies those WHS Management Plan policies which need to be addressed and emphasises the importance of countryside access particularly within the WHS areas. The strategy includes a number of policies that are generally relevant to management of The Luxulyan Valley.

9 Management Approach

9.1 Conservation Philosophy

9.1.1 The publication of PPS 5 has brought about a holistic approach to the historic environment. Elements that make up the historic environment are called heritage assets and this term includes all heritage features whether designated or not. Heritage assets comprise buildings, buried archaeological sites, parks and gardens, sites and landscapes.

9.1.2 The aim of government policy as set out in PPS 5 is that significance should be identified, sustained and enhanced. The English Heritage practice guide states that this can be done by *'supporting their maintenance and by requiring that change to them is managed in ways that sustain and where appropriate enhances their heritage significance'*.

9.1.3 The Luxulyan Valley comprises a number of individual assets each with differing heritage values and each valued by the community and visitors in differing ways. The consultation events helped to identify and explore further the experiences and views of the various stakeholder groups. The heritage policies that are recommended in this plan acknowledge these differing needs and aspirations and seeks to reconcile these with the aim of sustaining and enhancing the values of those assets that individually or as a group contribute to the overall value and significance of the Luxulyan Valley.

Conservation principles

9.1.4 In 2008 English Heritage published *'Conservation Principles policies and guidance'*. Within this publication English Heritage promote 6 key principles of good conservation.

- The historic environment is a shared resource
- Everyone should be able to participate in sustaining the historic environment
- Understanding the significance of places is vital
- Significant places should be managed to sustain their values
- Decisions about change must be reasonable, transparent and consistent
- Documenting and learning from decisions is essential

9.1.5 Whereas PPS 5 provides the policy context for management of historic assets within the Luxulyan Valley; these six conservation principles are to form the basis that underlies the management approach to be adopted. These six principles are to be applied to all conservation management decisions that affect the heritage values and significance of the assets.

Significance

9.1.6 The significance of heritage assets is determined and assessed in consideration of their heritage values. These values are defined in 'Conservation Principles' and are broadly carried through to PPS 5 where they are identified as *heritage interest*. The values (interests) that give rise to significance comprise

- Evidential (archaeological) – the potential to enhance understanding
- Historic – association with people or events
- Aesthetic (architectural and artistic) – interest derived from aesthetics or design
- Communal – the meanings of a place to those who use it

9.1.7 The aim of government policy as set out in PPS 5 is that the significance of heritage assets should be identified, sustained and enhanced. The English Heritage practice guide states that this

can be done by 'supporting their maintenance and by requiring that change to them is managed in ways that sustain and where appropriate enhances their heritage significance'.

Conservation objectives and practice

- 9.1.8 The English Heritage practice guide sets out a number of key objectives in meeting the policy requirements of the PPS and these general considerations are to underlie the approach to be taken in respect of the understanding, management and conservation approach to be adopted in respect of assets within the Luxulyan Valley.
- 9.1.9 Whereas much of the PPS is concerned with Development Management the associated practice guide contains statements of more general application in respect of the management and retention of significance. Key sections address matters including
- Assessing the significance of assets
 - Heritage benefits
 - Design
 - Archaeological and historic interest
 - Setting
 - Recording and understanding; and
 - Public engagement.
- 9.1.10 In addition to expanding upon the policy requirements of the PPS, Section 6 of the practice guide provides specific guidance on making changes to historic assets. This section of the guide addresses issues such as repair and restoration and examines best practice in respect of each of these interventions.
- 9.1.11 In developing a conservation strategy to be implemented within the valley we recommend that all management decisions are

made in full cognisance of the policy requirements of the PPS and its practice guide with specific regard to guidance in section 6 of the practice guide.

Appropriate levels of conservation

- 9.1.12 Each of the historic assets requires works of conservation or repair to varying degrees. Other than the leats and viaduct none of the structures has been subject to a condition survey and in these circumstances it is not appropriate to dictate across the whole, to what degree works of conservation, repair or restoration should be undertaken. A more appropriate approach is that the conservation needs of the individual assets should be determined following a survey of their condition and then in accordance with a set of general conservation policy recommendations. Having carried out a condition survey the specific conservation needs of individual assets should then be considered in respect its
- Proposed and existing use and condition
 - Significance
 - Accessibility
 - Authenticity and legibility
 - Public and heritage benefit; and
 - Future maintenance inputs, cost and viability
- 9.1.13 A full and comprehensive restoration of the assets is likely to involve reinstatement of much new work with a potential to harm heritage values, significance and amenity values. A full restoration of this sort is not being proposed unless there are particular circumstances where such an approach can be justified in respect of the conservation or better revealing of heritage values and public benefit.
- 9.1.14 It is therefore recommended that the processes of decay should be identified and halted and this primarily involves the removal of

vegetation and the prevention, or management of future vegetative growth. Areas of particular structural decay whereby the structure is at risk will be addressed and localised repair or strengthening introduced if necessary.

9.2 Conservation of ecological values

Nature conservation, amenity and heritage

- 9.2.1 The consultation responses have highlighted the potential for conflict between the nature conservation interests and heritage values of the various assets.
- 9.2.2 The OUV has demonstrated that the natural environment is as much a feature of the valley as the historical remains and there seems to be a preference for nature conservation to take precedent over heritage conservation. This is a delicate balance as the heritage values of the assets can not be disregarded nor can heritage values be allowed to be lost.
- 9.2.3 Damage to the fabric of heritage assets is occurring as a result of root disturbance that not only penetrates the asset, but also obscures visual appreciation and legibility. In respect of the leats vegetative growth and disturbance is affecting integrity. A balance needs to be struck and it is recommended that prior to any management decisions and notwithstanding the general nature conservation values of the WHS that the particular and specific needs of the asset be considered.
- 9.2.4 The ecological survey has identified the potential of ecological interest including bats and these interest needs careful consideration in determining any management for a given asset. Bats are particularly significant in considering the future use or display of the Trevanney Dry.

Habitat Management

- 9.2.5 The five year management plan has been produced for the maintenance of habitats within the Luxulyan Valley site. The management plan includes the maintenance and enhancement of semi-natural broadleaved woodland, scrub, grassland and structures. The recommendations should be considered in conjunction with the built heritage and recreational aspects of the site. The management plan is a general overview of habitat prescriptions for the site and is not intended to be a definitive plan. Advice from an ecologist should always be sought when undertaking a management regime.

Semi-natural Broadleaved Woodland

- 9.2.6 Structural diversity within the woodlands can be increased by thinning out the more competitive species such as sycamore (*Acer Pseudoplatanus*) and ash (*Fraxinus excelsior*). Selective removal of occasional mature trees, preferably sycamore, should be undertaken over a five to ten year period. This will allow sufficient time for a diverse understory to develop within the woodland clearings. This will increase the range of niches available to woodland plants and animals and so increase species diversity.
- 9.2.7 Mature trees which are to be felled that host features, such as rot holes, cracks, crevices and wood pecker holes should first be inspected by a licensed bat ecologist with the aid of a tree climber if required. Surveying for the presence or potential for roosting bats is undertaken by inspecting the tree for signs of bat occupancy, such as presence, droppings, scratch marks, staining and feeding remains. If trees are suspected to have been used by bats then the trees should be left in-situ.

- 9.2.8 Any mature trees that are to be felled should be undertaken outside of the breeding season, usually taken as March - August inclusive. However, if felling cannot be avoided during the bird nesting season then an ecologist should supervise any works. Prior to commencement of any works a dedicated search should be undertaken for bird nests by an ecologist. If nests are found then these should be marked and left undisturbed until the young have fledged. More rigorous restrictions apply for Schedule 1 species listed under the Wildlife and Countryside Act, 1981.
- 9.2.9 Re-growth within the clearings should be monitored and thinned of sycamore to promote the regeneration of sessile oak (*Quercus petraea*) and pedunculate oak (*Quercus robur*).
- 9.2.10 Dead or dying trees should be left in-situ wherever possible. However, dead or dying trees may need to be cut down occasionally for safety reasons and the wood should be retained on site to provide a refuge for invertebrates.
- 9.2.11 Scrub can be left to grow naturally but should be thinned out where and when the scrub canopy overshadows the field layer. Selective removal of the most dominant competitive scrub species should be undertaken so not to encroach upon other habitats. Cut back small sections every year to create a mosaic of ages. Any works should take place between September and February to avoid disturbance to nesting birds.
- 9.2.12 The woodland is prone to the *Phytophthora ramorum* (*P. ramorum*) the fungus-like pathogen which is responsible for 'Sudden Oak Death' which cause extensive damage and mortality to a variety of tree species, such as European larch and oak. The pathogen is carried or spread by host plant species such as, rhododendron and bilberry (*Vaccinium Myrtillus*). Continued eradication of rhododendron will slow down or halt the spread of the disease. Diseased trees should be felled and the timber dealt with following best practise guidance set out by DEFRA and the Forestry Commission.
- 9.2.13 The continued eradication of non-native rhododendron (*Rhododendron ponticum*) and cherry laurel (*Prunus laurocerasus*) should remain a high priority. The cut stems of these shrubs should be treated with an herbicide to prevent re-growth. Monitoring for other invasive non-native species listed under Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended), such as Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Indian or Himalayan balsam (*Impatiens glandulifera*) should also be undertaken. Under the Act, it is an offence to plant or cause the spread of these species.
- 9.2.14 The creation of additional woodland glades and widening selected footpaths to create woodland rides could be undertaken. This would increase the light levels within 'edge' habitats to create a more varied structure, field layer and ground flora. Sycamore should be preferentially felled to create rides and glades.
- 9.2.15 Log-piles should be created and placed in areas surround the grassland habitat for the benefit of reptiles and invertebrates.
- Semi-improved Neutral Grassland*
- 9.2.16 Bracken control to impede encroachment of the grassland meadow should be undertaken by either selective 'bruising' of bracken by either rolling or crushing or by herbicide application. This will reduce the dominance of this closed community. Rolling or crushing in April and again in September will benefit this habitat by allowing more light penetration to reach the field layer and reduce the competitive nature of this dominant species. This will halt any succession change or degradation to this habitat. The reduction in bracken will favour the growth of violets (Genus:

Viola) which grow in association with bracken dominated habitats. Violets are the host-plant for the larvae of several species of fritillary butterflies, such as the, small pearl-bordered fritillary which has been recorded on the site.

- 9.2.17 The grassland sward should be continued to be grazed. Grazing with livestock creates suitable insect habitats which in turn become good foraging habitat for bats and birds. No artificial fertilisers should be used and over-grazing/poaching should be prevented through monitoring. In addition, livestock husbandry should only use 'dung beetle friendly' cattle wormers. The chemicals within the wormers are toxic to insects and the reduction in dung beetle populations ultimately impact upon bat populations. Livestock owners/managers should consult a veterinary surgeon for more information.

Crag landscape feature

- 9.2.18 The crag landscape feature within the southern sector of Carmears Wood has become overgrown with established secondary woodland and scrub. This should be managed to ensure good visibility of the crag landscape feature. The landscape feature should be restored to its former state and the removal of trees and scrub should be undertaken in a controlled and phased manner over a period of five years.

- 9.2.19 The Cornwall RIGS group should be consulted over any necessary management of the RIGS site. In the citation sheet it is noted that some light clearance of scrub may help to display the core stones more clearly. Further consultation should be carried out to ensure that this advice is current.

Protected species

- 9.2.20 Trevanney works hosts a greater horseshoe summer roost. At present the Cornwall Bat Group monitor the roost and there are plans to include a small heater to make the roost more suitable

for breeding bats. No remediation or maintenance works should be undertaken on the structure or its surroundings without first consulting a licensed bat ecologist or the Cornwall Bat Group.

- 9.2.21 Flooding has caused erosion to some of the mine adits within the site. The adits are gridded and gaps have appeared between the opening and the grill. At present, this will allow a person access into the adit. Remedial works need to be undertaken to secure the adits for health and safety reasons. The adits are used by lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*) bats as hibernation sites. No remediation or maintenance works should be undertaken without first consulting a licensed bat ecologist or the Cornwall Bat Group.

9.3 Monitoring of ecological conditions

- 9.3.1 With changing management and increasing numbers of visitors, it is inevitable that habitats and species within the Luxulyan Valley will be affected to varying degrees. It is necessary to collate all the ecological information to gain an insight into the baseline conditions of the site.

- 9.3.2 The current Luxulyan Valley Ecological Assessment undertaken by Cornwall Environmental Consultants, in 2004, would benefit from being updated so that a robust ecological baseline can be established prior to any changes in management.

- 9.3.3 A monitoring programme should be established to identify any future changes to habitats and species in the Luxulyan Valley so that any alterations to the overall ecological condition of the site can be detected. If these changes are considered to be detrimental to the overall nature conservation value of the

Luxulyan Valley, future management should be modified accordingly.

Surveys

- 9.3.4 There are past records for dormice within Luxulyan Valley. Prime areas of dormouse habitat occur within the north east of the site, which is dominated by hazel (*Corylus avellana*) stands and honeysuckle (*Lonicera periclymenum*). These are dormice's primary food and nesting materials. Surveys should be undertaken to identify presence or absence with aid of dormice nesting boxes or nest-tubes using the south west dormouse monitoring programme techniques.

- 9.3.5 Systematic breeding bird surveys should be undertaken during March - September using guidance from BTO and local bird watching groups. The site would also benefit from a bryophyte and lichen survey being undertaken.

Public participation

- 9.3.6 There is an opportunity to involve local community groups to organise events to recruit volunteers and help with monitoring and habitat management. A programme of local events such as bat walks, bird watching and children's activities should be developed so to maintain public awareness of the wildlife importance of the Luxulyan Valley.

10 Policy and recommendations

10.1 Introduction

- 10.1.1 The following policies and recommendations are proposed as a means to ensure appropriate management and conservation of those assets with The Luxulyan Valley. The policies offer a series of general guidelines and principles that are recommended to Cornwall Council (CC), the Cornwall Heritage Trust (CHT) and other stakeholders for endorsement. The recommendations offer a series of general guidelines and principles that are proposed to assist in deciding upon future projects.
- 10.1.2 Although a condition survey of the assets has not been undertaken observations during the course of fieldwork in the preparation of this CMP have identified certain needs and this has also allowed some specific recommendations relevant to individual assets to be developed.

10.2 General Policies

Policy 1 Sustainability

The Luxulyan Valley should be managed in a sustainable manner for present and future generations.

All work within the valley should be undertaken by appropriately qualified and experienced persons, utilising traditional and local materials where appropriate.

Policy 2

Monitoring of condition

A monitoring programme should be established and maintained to identify any future changes to natural or heritage assets in the Luxulyan Valley so that any alterations to the overall condition of the valley and its assets can be detected.

Policy 3

The balancing of ecological values and heritage values

Works within the Luxulyan Valley should be sensitive to the area's special natural qualities and should seek to retain and sustain those assets of natural and ecological value.

The growth and spread of vegetation in and immediately around heritage assets should be monitored and controlled to ensure retention of heritage values.

Proposals for vegetative clearance around historic assets should be undertaken in accordance with an approved management plan to safeguard ecological value.

Policy 4

Conservation principles

Works to heritage and natural assets shall be undertaken in accordance with the principle of minimum intervention necessary to secure the values of the asset.

Policy 5

Public safety

Access routes should be maintained in good order to ensure public safety.

The ecological, heritage, amenity and landscape values and requirements of shafts and adits will be carefully assessed and balanced with the public safety needs to establish the safety treatment to be applied to shafts and adits

Safety fencing should be designed and located to be visually unobtrusive and secured so as not to impact upon any feature of historical significance.

Policy 6

Education

Stakeholders should continue with, and develop a programme of public information and education through both site visits and outreach events.

Recommendation 2

Understanding the asset

A full understanding of the asset, its historical development and significance should be made prior to any programme of conservation or alteration. Understanding the asset would normally entail historical research and building assessment and may also include invasive examination or opening up works if these would help in providing answers to specific questions relating to condition or form.

Recommendation 3

Resource access and interpretation

Utilise Wheal Martyn Museum and Country Park as the main centre for interpretation of the Luxulyan Valley

Explore the option of utilising the Luxulyan Institute as a local interpretation centre.

Improve the condition of the leisure pathways and explore measures to ensure that the valley is accessible to all.

Access routes and interpretative features should provide a coherent visitor experience

Interpretation panels should be designed and located to be accessible for all

Collect further oral history to compliment that compiled in the 1987 study, explore opportunities for this to take place as part of a community history event.

Review and prepare a single archival catalogue of the holdings of local history societies and specialist history groups that hold material relevant to the Luxulyan Valley.

10.3 General Heritage Recommendations

Recommendation 1

Statutory Designation

English Heritage and Cornwall Council should undertake a review of the statutory and other designations that currently apply to assets within the valley and to consider the merits of designating the Carmears Incline and middle valley tramway including structures at the incline head as a Scheduled Ancient Monument.

Recommendation 4

Condition surveys

A condition survey of heritage assets should be undertaken prior to determining the need for or the drafting of a schedule of works of repair.

Recommendation 5

Retention of heritage values

Works of repair or alteration to heritage assets should only be undertaken if these would sustain, retain or better reveal the heritage values of the asset

Recommendation 6

Principles regarding works to heritage assets

Proposals for works of repair or alteration to historic assets should be prepared to take into account the principles of good conservation as documented within Section 6 of the PPS5 English Heritage Practice Guide

Recommendation 8

Control of invasive species

The continued eradication of non-native rhododendron (*Rhododendron ponticum*) and cherry laurel (*Prunus laurocerasus*) should remain a high priority.

Recommendation 9

Community engagement

Stakeholders should continue to involve and engage with local community groups to organise events and to recruit volunteers to assist in monitoring and habitat management.

Recommendation 10

Semi-natural Broadleaved Woodland

Maintain and manage areas of structurally diverse broadleaved semi-natural woodland

Structural diversity within the woodlands can be increased by thinning out the more competitive species such as sycamore (*Acer Pseudoplatanus*) and ash (*Fraxinus excelsior*).

Selective removal of mature trees along the leats should only be undertaken where there is an over riding interest such as the tree(s) is causing structural damage and potentially reducing the heritage value.

Any mature tree(s) that are to be felled should be undertaken outside of the breeding season, usually taken as March - August inclusive.

Mature tree(s) which are to be felled that host features, such as rot holes, cracks, crevices and wood pecker holes should first be

10.4 Recommendations relating to the natural environment

Recommendation 7

Environmental designation

Cornwall Council to explore prospects and value of designating the Luxulyan Valley as a Local Nature Reserve.

inspected by a licensed bat ecologist with the aid of a tree climber if required.

Log-piles should be created and placed in areas surround the grassland habitat for the benefit of reptiles and invertebrates.

Recommendation 11

Semi-improved Neutral Grassland

Bracken control to impede encroachment of the grassland meadow should be undertaken by either selective 'bruising' of bracken by either rolling or crushing or by herbicide application.

The grassland sward should be continued to be grazed.

No artificial fertilisers should be used and over-grazing/poaching should be prevented through monitoring.

Livestock husbandry should only use 'dung beetle friendly' cattle worms.

Recommendation 12

Crags Landscape Feature

Undertake management including scrub and tree removal to ensure good visibility of the crag landscape feature.

10.5 Recommendations relating to specific heritage assets

Tramways

Recommendation 13

The condition of tramways is to be regularly monitored for wear and encroachment of vegetation upon the alignment.

Where vegetation is causing damage to the structural integrity of the tramway this is to be removed.

Tramways are to be conserved to retain their heritage value and use for vehicular access to be strictly controlled and monitored.

Consideration should be given to works to better reveal the tramway, its setts and lengths of rail which could involve works to reinforce the substrate and to provide support to the granite setts to avoid displacement.

Recommendation 14

Displaced and discarded tram rail

There are a number of specific locations, primarily on the Rock Mills Tramway where there is discarded ex-situ rail. Despite their weight these objects remain at risk from theft.

Within the context of a scheme for exposure of tramlines within the valley consideration should be given as to whether it would be appropriate to re-fix ex-situ rail.

In other instances lengths of rail or other ex-situ infrastructure remains could be salvaged and mounted as part of a heritage display either within any designated visitor centre or as part of any information panels to be located within the valley.

Bridges and leat Bridges

Recommendation 15

Where bridges are proposed to be used for vehicular access load capabilities are to be determined.

On no account are the imposed load restrictions to be exceeded. Structural strengthening of a bridge is only to be undertaken if the bridge is regularly required for means of access.

Leats

Recommendation 16

The leats are to be repaired in accordance with the recommendations of the condition report.

Proposals for tree felling along the banks should be carefully considered for their impact on ecological value and consideration given to alternative approaches including coppicing and tree balancing.

The Treffry Viaduct

Recommendation 17

The use of a PP liner within the aqueduct is to be preferred. Prior to repair of the leat channel a full survey of the channel should be undertaken to determine the overall condition. The recommendations for the introduction of a stabilising grout is to be re-considered in the light of the survey information and consideration given to more localised repair and re-setting if appropriate.

All survey work to be accompanied by an archaeological watching brief.

The Velvet Path

Recommendation 18

Continue to monitor the condition of the Velvet Path and consider reinforcement of the substrate where there is evidence for erosion and water logging.

Retain and maintain any verge stones and control the encroachment of vegetation and trees upon the alignment.

Manage and control the encroachment of vegetation including trees upon any significant vista and consider the selective removal of vegetation including trees on the approaches to the Treffry Viaduct so to maintain and better reveal its visual and aesthetic qualities.

Trevanney Dry

Recommendation 19

Prior to any works of repair or alteration to the structure specialist ecological advice and survey should be sought to safeguard known bat roosts.

Existing wetland habitats within the settling tanks to be maintained and their ecological values and assets safeguarded.

Quarry workings

Recommendation 20

Exposed quarry workings are to be managed to maintain ecological, geological and historical values whilst ensuring public safety.

11 Implementation and review

11.3.2 The CMP is to be regularly reviewed and updated as necessary to reflect new information and changing circumstances.

11.1 Endorsement

11.1.1 On agreement by all stakeholder groups, The Luxulyan Valley Conservation Plan and its supporting documents is to be endorsed by Cornwall Council.

11.2 Use of the Plan

11.2.1 The CMP is to be used as a basis for all future management decisions in respect of the natural and heritage assets within the plan area.

11.2.2 The policies and recommendations provide a framework for all future works within the valley subject to further detailed survey as required. Works to repair or manage assets other than the leats or viaduct will need to be undertaken following a detailed survey of their condition. In respect of the leats and viaduct the CMP recommends further targeted survey to address the issues raised in respect of the repair strategy.

11.2.3 All works of repair to all heritage assets are to be preceded by archaeological survey and all works are to be carried out under archaeological supervision so to retain and record features of archaeological significance.

11.3 Monitoring and evaluation of the CMP

11.3.1 Monitoring of the implementation of the CMP will be the responsibility of Cornwall Council and the Luxulyan Valley Partnership.

12 References

Luxulyan Valley Project ecological survey	1988	P Mason
The Luxulyan Valley An Archaeological and Historical Survey	1988	Cornwall Archaeological Unit
Luxulyan Valley an Initial Appraisal	1993	Cornwall County Council
Luxulyan Valley Land reclamation scheme geotechnical report	1997	F Sherrell Ltd
Luxulyan Valley updated Ecological Assessment	2004	Cornwall Environmental Consultants Ltd
Cornwall and West Devon Mining Landscape WHS, Management Plan	2005	Cornwall County Council
Cornish Mining WHS Interpretation Strategy	2005	Cornish Mining WHS office
Luxulyan Valley Management Plan	2007	Cornwall County Council
Conservation principles, policies and guidance	2008	English Heritage
Luxulyan Valley project – Structural Engineering Report	2011	URS Scott Wilson
Luxulyan Valley project – Condition Survey	2011	URS Scott Wilson and Architecton

Appendix 1

Public Consultation Event and Survey Results



Luxulyan Valley

Audience Development Assessment

Appendix: Public Consultation Event and Survey Results

April 2011

Revision Schedule

Luxulyan Valley
Audience development Assessment

April 2011

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	April 2011	Final	Barry Woodfin	Andrew Harris	Gordon Clarke

Scott Wilson
15th Floor
McLaren Building
46 The Priory Queensway
Birmingham
B4 7LR
United Kingdom

Tel 0121 2123035

www.urs-scottwilson.com

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1.1 Introduction

- 1.1.1 URS-Scott Wilson prepared a survey to explore some of the key management issues concerning the conservation of Luxulyan Valley with a view to receiving views and comments from the general public.
- 1.1.2 The survey has been placed online and is accessible through the Friends of Luxulyan Valley website until the 31st March. A public open day was also undertaken at Luxulyan Village Hall on the 12th March. The event was advertised locally through posters and flyers, with a press release distributed to local newspapers. The release was placed in the Cornish Guardian. A direct invitation was also mailed to the Friends of Luxulyan Valley (FoLV) members.
- 1.1.3 The purpose of the consultation day was to administer the survey face-to-face, but to also garner more detailed feedback on the issues concerning the future management of the Valley.
- 1.1.4 The following summarises the key findings of the surveys completed by the 31st March 2011.

1.2 General Overview

- 1.2.1 Altogether, 91 completed surveys have been received. 48 responses have been made by 'individuals' and 43 by FoLV members. These two respondent groups will be analysed in more detail to denote any difference of opinion in relation to management issues.
- 1.2.2 The vast majority of respondents are local residents (82%) that use the valley (81%). A small number (6 in number) of respondents work in the valley.

Q4	How Frequently do you use the Valley?	Sub-Totals
Daily	15%	(Frequently: 46%)
Several times a week	16%	
Once a week	16%	
About once a fortnight	15%	(Reasonably Regularly: 30%)
About once a month	16%	
About once every few months	15%	(Less Often: 24%)
About once a year	8%	
Occasionally	1%	
Total	100%	

- 1.2.3 Just under half of the respondents (46%) use the valley as a resource on a frequent basis (i.e. once a week or more), with more than one in 10 (15%) stating that they use the site daily.

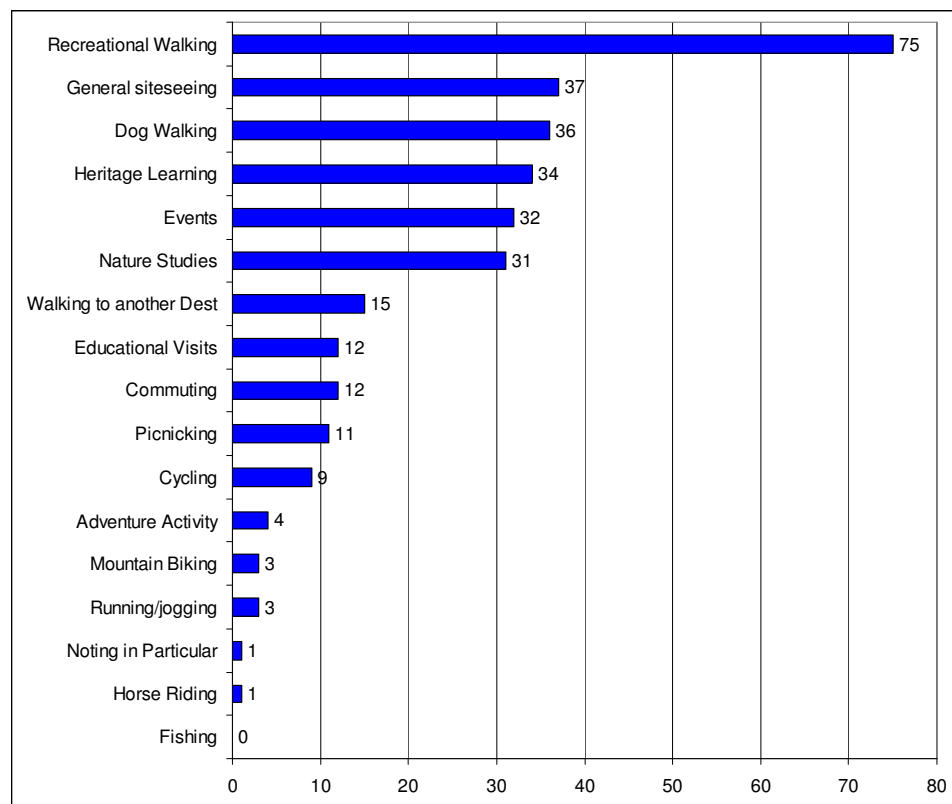
1.3 Management

- 1.3.1 Most respondents (71%) believe that the management responsibility for the Valley rests with Cornwall Council (CC) in one form or another, with nearly a third (31%) indicating that they thought the responsibility rested solely with CC. Altogether, however, there is strong appreciation of the involvement of others, particularly Serco, the Ranger and that of the FoLV.
- 1.3.2 Only four respondents mentioned the Luxulyan Valley Partnership.
- 1.3.3 There is some recognition of the role of volunteers in the management of the valley, including involvement of the British

Trust for Conservation Volunteers. Other organisations identified as having responsibility included English Heritage, the Cornish World Heritage Site, the Environment Agency, and The National Trust.

1.4 Main Activities

1.4.1 The chart below highlights the main activities undertaken in the Luxulyan Valley.



1.4.2 The main activity that the site is used for is recreational walking, with over well over 7 in every 10 (75%) respondents identifying this as their main use of the site. Including those who also walk their dog in the area (37% overall), the number of respondents using the valley for walking increases to 9 in every 10 (92%) respondents.

1.4.3 General sightseeing (37%), heritage learning (34%), events (32%), and nature studies (31%) also feature prominently. It is interesting to note that 88% identified more than one activity category, with the average number of activities mentioned being 3.6 per respondent. This means that a significant number of users of the site are already receiving multi-faceted experiences from this site.

1.4.4 Although cycling, and horse riding feature low in terms of usage (9% and 1% respectively), it needs to be recognised that overall participation levels in these activities are much lower than walking.

1.5 Barriers to Use

1.5.1 In terms of barriers to use, by far the most common observation is the general state and condition of the paths through the valley (46%). Comments included the following:

“Gets a little overgrown on the lesser used paths”

“The state of the footpaths, particularly after any rainfall”

“VERY muddy paths”

“Muddy footpaths”

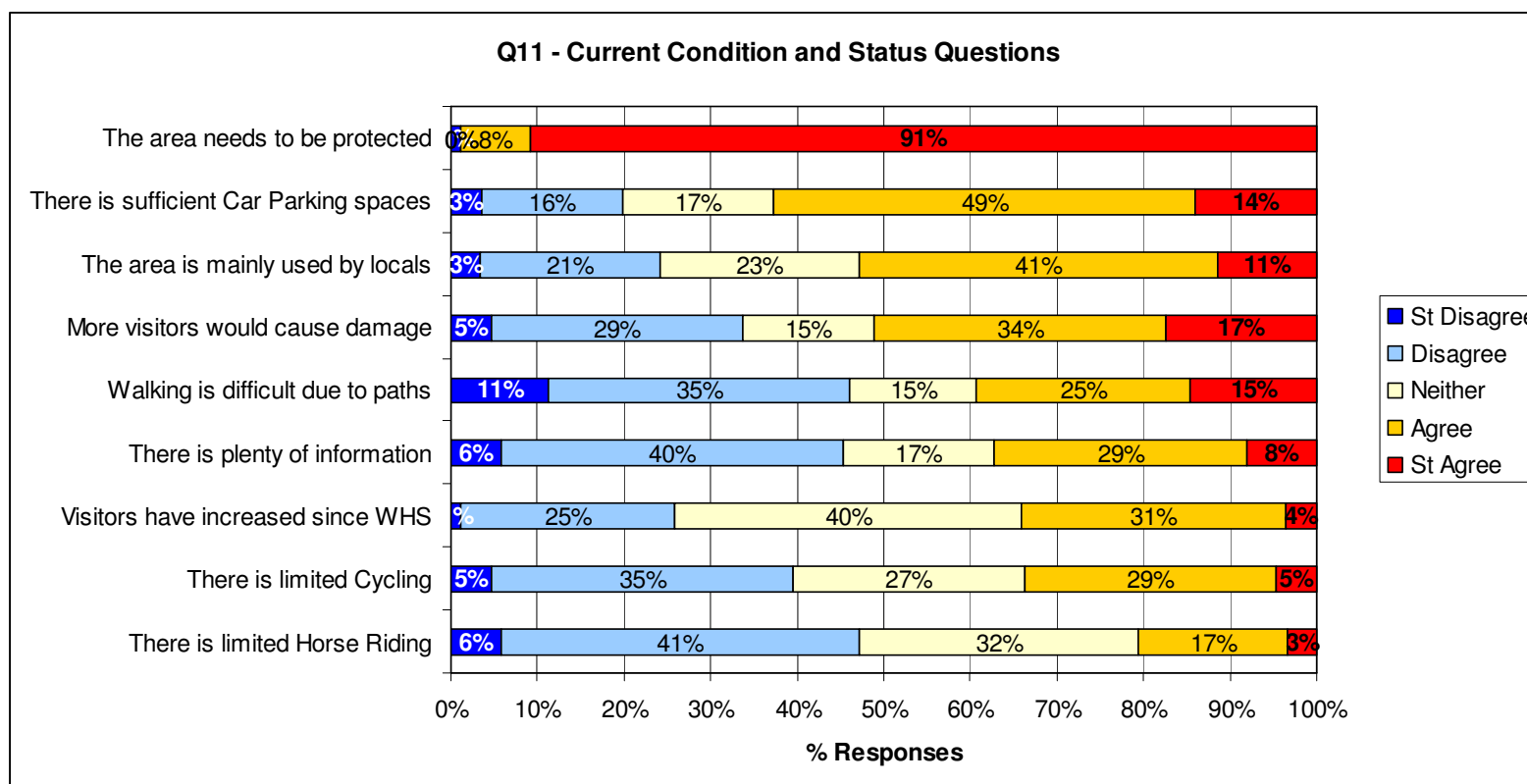
1.5.2 Although not necessarily a barrier to use, other issues raised at this stage include the following:

- incidents of illegal motorcycling (33%) which is known to be a problem in the area;
- dog fouling (12%) - only one of those raising this as an issue use the valley for walking dogs;
- horse riding (10%), with some observations relating to the use of the area for horse riding and others about the impact horse riding has on the paths.

1.5.3 Litter and general vandalism are also mentioned as problems by some. Another important barrier to use that was highlighted by one individual relates to disability access – “no disabled pathways to go and really enjoy the valley I have to park by the viaduct and stay around the road area”.

1.6 Statements on the Current Position of Luxulyan Valley

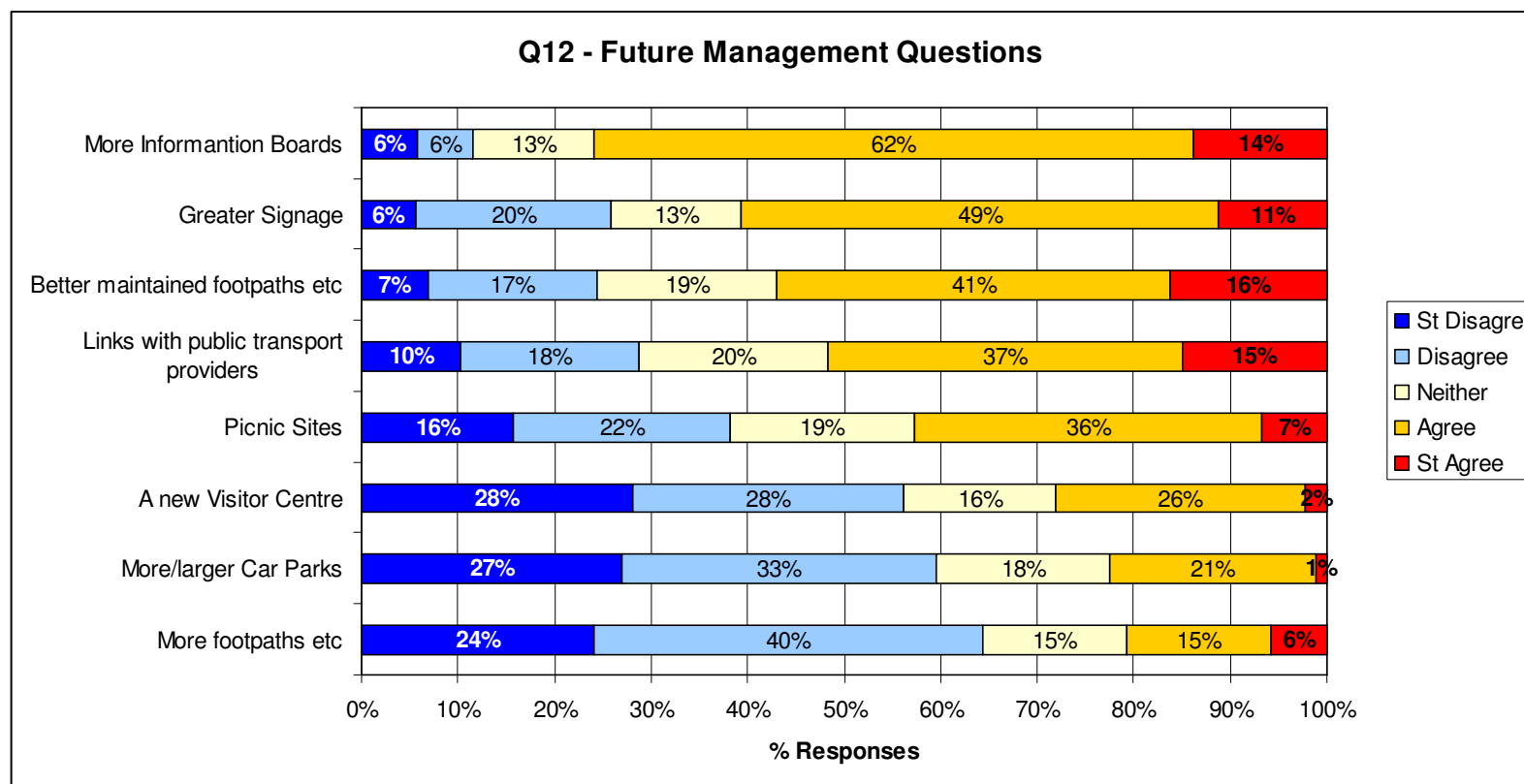
- 1.6.1 A series of statements on the current position of Luxulyan Valley have been devised. Based upon their experiences, respondents are asked to state whether they agree or disagree with the statement. The following tables highlights the 'average' score for each statement, with 5 equating to 'Strongly Agree' and 1 equating to 'Strongly Disagree'



- 1.6.2 WHS List contains 800 sites globally, which means that the A key observation from the table is that an overwhelming majority view the Luxulyan Valley is an environment that needs to be protected. The other statements that generated a greater consensus were that there is sufficient car parking spaces (64% agree/strongly agree); that the area is mainly used by locals (52%), and that more visitors would lead to more damage of the site (51%). In terms of car parking, it should be noted that the public open day did highlight that other car parking outside of the valley could be warranted.
- 1.6.3 The other statements generated much less consensus, demonstrating relatively 'neutral' positions overall. As the table demonstrates, there is evidence of some opinion polarisation in the case of the questions concerning the condition of the pathways, the level of information available, and the provision for cycling and horse riding. In these instances, there is slightly more disagreement than agreement with the sentiments of the statements, however the sample is not large enough to suggest that the differences here are significant. There is also less clarity of opinion concerning the impact of the WHS Status on visitor numbers where the option that received the largest response was 'neither agree nor disagree' (40%).
- 1.6.4 In terms of differences between individuals and members of the FoLV, the key statements that generated an observed difference relate to the following:
- the future impact of more visitors - FoLV members have a slightly greater sense that more visitors would potentially damage the character of the valley compared with individuals (60% FoLV members agree compared to 43% of individuals);
 - the users of the area – more FoLV members agree that the area is mainly used by locals (63%) compared to 'individuals' (43%); and
 - proportion of visitors since WHS – more FoLV members agree (29%) that the number of visitors in the valley has increased since attaining WHS status compared to 'individuals' (13%).
- 1.6.5 It should be noted that these noted the differences in responses are simply 'observed differences' on account of the small sample sizes for each group. However, the finding in terms of the existing visitors and prospect of more visitors does suggest a greater sense of fear amongst FoLV members about the impact that more visitors could have on the valley.

1.7 Statements on the Future Management of Luxulyan Valley

1.7.1 Respondents were asked to state whether they agree or disagree with a series of statements regarding the future management of the valley. The following tables highlights the 'average' score for each statement, with 5 equating to 'Strongly Agree' and 1 equating to 'Strongly Disagree'.



1.7.2 In terms of differences between individuals and members of the FoLV, the key statements that generated an observed difference relate to the following:

- a new visitor centre – although there was disagreement in the main for a visitor centre, fewer ‘individuals’ disagreed with this statement (45%) than FoLV members (69%);
- more footpaths – although there was general disagreement in the main, fewer ‘individuals’ disagreed with this statement (53%) than FoLV members (76%); and
- more/larger car parks – again, although there was disagreement across the board, fewer individuals disagreed with this statement (50%) than FoLV members (70%).

1.7.3 It should be noted that these noted the differences in responses are simply ‘observed differences’ on account of the small sample sizes for each group. However, these findings suggest that ‘individuals’ are more aware of certain barriers to accessing and understanding the valley compared with the FoLV members. Again, this could be symptomatic of the inherent concern that FoLV members have in terms of the future development of the valley, any changes in its character, and the prospect of more visitors.

1.8 Other Opportunities

1.8.1 The polarisation of views between those who would like the valley to be left alone and those who would like greater access and interpretation is certainly evident in the comments received relating to other opportunities.

Leave as it is – 17 comments:

“The valley's beauty is because it is not overdeveloped”

“It is essential to avoid further development. Keep this as a quiet haven”

“I think the valley should be maintained as it is and not be commercialised”

“It is a fine balance between making it more attractive to visitors and losing its charm. Its attractiveness lays in its wildness and sometimes difficulties of access. Does Cornwall need another theme park?”

“As with the Eden Project, the valley encouraging more people to visit would be a double edged sword. Cornwall panders enough to vacationers without spoiling a woodland beloved by the locals. Leave at least one space we can walk in peace during the summer month's!”

“Like it how it is now. There would be need for improvement for visitors but I do not want too many as they do not understand the valley”

“Don't want National Trust / tea room etc”

Improve access, interpretation and information – 22 comments:

“It's pretty well hidden at the moment, as if the people managing it don't want visitors. More signs would be a good start”

“Improve the links (public transport and paths) between Pontois Mill and St Blazey to open access to the valley from the South. Guided walks may encourage more seasonal visitors”

“Yes. Linking in with other attractions. Tourist information leaflets; inclusion into places to visit in Cornwall booklet; management interface with managers of other attractions. A Visitor centre =

sales = promotes interest - all to increase the general appreciation of work ethic, industrial heritage and general history"

"More information about valley and tourist centres, schools, clubs etc"

"School & youth trips guided walks re the industrial elements some low key picnic areas"

"Attractive signs / visitor centre - somewhere to buy a drink / toilet facilities / bins etc/"

"Putting leaflets in tourist information more history signs around the site balance of more visitors / maintenance/"

"Make sure maps / information are in the appropriate place make sure they are re-stocked"

"Better maintenance of footpaths visitor need more info problems of risk assessment - health & safety"

"Cafe in village information centre more benches"

"All footpaths need to be much better maintained to spread the footfall over the valley. A maintained circular bridleway would be of benefit to the pedal bikes and horses. There are a number of disused paths that could be brought back into use"

Other Comments:

"Restrict use by horses as they show little respect for other users"

"The only major work which I consider would be beneficial to the valley would be restoration of the great wheel at the top of the incline, perhaps driving a small generator to supplement existing power generation"

"Perhaps parking - near but not in - some provision of toilet facilities"

"To repair damage pathways, waterways and maintain them"

"Better disable access"

"Renovation of historical features (waterwheel) more effective site management"

"Better car park more cyclist friendly"

"Don't want natural trust / tea room etc"

"Needs to be better maintenance. CC not making most of the turbine!"

1.9 Constraints and Fears

Overdevelopment – 40 Comments

1.9.1 By far the largest fear expressed is in terms of the over-development and commercialisation of the valley, which in turn would attract [too many] visitors. In this respect, such comments have come equally from those wanting to leave the valley as it and those who suggested more information and interpretation was required.

1.9.2 Representative comments include the following:

"Obviously the valley 's character would be changed seriously if numbers visiting were to be greatly increased"

"Any significant attempts to encourage greater use will inevitably detract from the beauty and tranquillity of the valley. It would also threaten fragile ecosystems and the distinctive flora and fauna"

which are a fundamental part of the valley's attraction and importance. Existing car parks are rarely full and do not have appreciable environmental impact. Any attempt to increase usage by car-borne visitors will overload existing access roads, with significant road safety risks and inconvenience to local residents. This would lead to pressure for road improvements which would have significant adverse environmental impact"

"I think that if you encourage more people to the valley it will increase the negative effects of visitors. For example, erosion of the pathways, litter dropping, noise etc. and if you make provision for more visitors it will alter the unique character of the Luxulyan Valley. I first visited the valley when I moved to Cornwall in 1973, it has changed a lot since then and not all for the better. We have to think very carefully about making any physical changes to this area. I for one would not want to see it turned into another tourist attraction"

"The valley is not a stable enough place to bring in more visitors - will cause more damage to footpaths etc"

"No more people as a big influx would destroy the very features they had come to see. Attractiveness will be ruined if mass tourism is encouraged"

"Yes residents v's visitors no hoards of visitors; roads not fit for more traffic coaches; can't get there"

"One of the features cherished by local people is the quiet, unspoilt nature of the valley. Don't turn it into a theme park!"

Damage and Vandalism Caused by Illegal Use/Acts - 14 comments

"As above, [more development] would also ... mean more traffic more litter more expense for upkeep and infra structure"

"Horses / motorbikes and walkers don't mix create real damage cyclists need to behave themselves"

"[I think that if you encourage more people] will lead to erosion of the pathways, litter dropping, noise etc."

"Landslips must avoid encouraging motor cyclists"

"Litter increase limited road access vandalism"

"Motor bikes horses noise pollution"

"Motor cycles... are destroying the paths and endangering walkers"

"Motorcyclists, motorists, people having barbecues etc. ... will harm wildlife, destroy habitats and reduce the quality of the visits for those who regularly enjoy [the site]"

"People who don't live here may not respect it as much - eg litter"

"[there is a danger that] The valley would become noisy and the incidence of dropped litter and dog fouling would increase [with more visitors]"

"Vandalism motor bikes"

Issues between different user types – 3 comments

"Horses / motorbikes and walkers don't mix create real damage cyclists need to behave themselves"

"The roads are narrow and more traffic would increase the risk of accidents to walkers, horseriders, cyclists and other drivers"

“... and horse riders are destroying the paths and endangering walkers”

Constraints - Other Comments

“Road is too narrow for too many cars and would encourage more traffic in to the village”

“This should not be sold off to the highest bidder no local businesses should have a part as the area is fragile and this would ruin it”

“There needs to be improvements in the quality of the paths and the maintenance of them - something which has to be sustainable”

“Horses / motorbikes and walkers don't mix create real damage cyclists need to behave themselves”

1.10 Any Other Comments

1.10.1 Respondents were able to leave any final comments regarding their concerns and hopes about the future of Luxulyan Valley. The following provide a representative sample of these comments.

“It appears to be a national obsession with turning our industrial archaeological sites into “theme-parks” with interpretation centres, reconstructions etc. Whilst these are often well-meaning, they almost always lead to the degradation of the site in question. Part of the joy of places like the Luxulyan Valley is that they allow you to imagine what it was like when a hive of industry whilst wondering at the way in which nature has reclaimed it. When well done, interpretation centres etc can be impressive at the outset, with revenues adequate for their maintenance. However,

after the initial enthusiasm, self generated income falls off and they become an increasing, and substantial, drain on local authority fund. If these are not forthcoming, as in the present economic climate, the facilities become run down and dilapidated, eventually closing to leave unsightly remains which have no relationship to the history of the valley”

“The Valley is something to protect for those that want to enjoy its beauty and heritage, and not something that needs 'developing'. The income generated from the hydro electric turbine should be used for the benefit of the valley”

“I am strongly against any attempt to package or advertise the valley. It is easily accessible at the moment and, in spite of motorcyclists, fly-tippers and vandals, generally offers a pleasant, tranquil, interesting environment for those who visit”

“I think people involved with the valley do a great job and work hard, please don't change things for changes sake. I think Cornish people use the valley and will travel to visit it and appreciate it for what it is - not another Eden”

“The valley needs to be protected but enjoyed, we need to share the beauty but look after it at the same time, it does draw visitors and we should be proud to share this with them, needs more upkeep though to preserve it”

“Please don't spoil the valley it's such a wonderful spot and could easily be too built up for tourism it should be left for the people of the future to enjoy an unspoilt typical mining heritage valley and all steps should be taken to preserve nature and the environment! I was pleased to see the rhododendrons being removed as they were choking some of the native plants”

“Just one comment. No matter where you go in Cornwall it's vacationers who are cared about far more than the local folk who live, work and maintain this county during the entire year! Please consider this when making a decision about a woodland where we locals can go for respite from the hustle and bustle of the summer month's”

To support the necessary work and valley improvements as much as I can. Wouldn't it be great if all of the historical and factual information about this whole mining area, GWR connections, JE Treffry history and valley info, be printed or recorded into one book, manuscript or DVD as a lasting reference”

“Thinning of certain trees / maintenance of ivy growth, promote wildlife, since cc have taken over maintenance issues have been neglected”

“Can't take too many visitors paths are unsafe”

“The appeal of the valley is the peace and wildness of the place”

“We pay council tax for the council to maintain this area and produce a proper management plan - but they do not keep any interested parties informed”

“This survey has obviously arranged by cc as a prelude to shedding the responsibility it is a unique site and should be kept as such”

“Problems with diseased plants better access for elderly / disabled people h & s issues”

“Disable access - need to encourage”

“Whilst I welcome more visitors to our wonderful valley I am concerned that over commercialisation will destroy the place for

ever. A balance has to be struck between informing visitors and maintaining the history. i.e. not too many signs, picnic areas etc”