

Knepp Wildland Project 2000-2011

1. Evolution of the Wildland Project.

The lively Steering group meeting on 6th November 2011 indicated some considerable degree of confusion as to why a number of fairly fundamental aspects of the Knepp Wildland Project (WP) had not been resolved years previously. Conversations with some of the new recruits to the Steering Group outside the meeting convinced me that it might be helpful if the drivers for the earlier years of the WP were reviewed. This review is based on documents from both Knepp and from those whose expertise has over the years helped shape or inform the WP. I am retaining the term 'Steering Group' simply because that was what it was called in earlier documents. 'Advisory Group or Committee' could be a more appropriate term.

2. 2000 – 2005: In the beginning....

The WP essentially started with the decision in 2000/2001 to restore the historic deer park which at that time was under intensive arable and grass production. Restoration (Phase 1) duly commenced in 2001. Details of the early restoration can be seen on Knepp's website. As this area had Historic Parkland status, this restoration was possible under Defra's Countryside Stewardship Scheme. Charlie Burrell soon expanded his vision for a wider area of the Estate, and Phase 2 saw the south end of the Park included. Keith Kirby of the then English Nature, took a keen interest in the WP at this stage, as it was ideologically compatible with the increasing interest at that time in more naturalistic grazing regimes at a landscape scale. Together with Sussex Wildlife Trust, funding was made available to carry out a preliminary ecological scoping report and subsequent baseline ecological survey.

By 2005, more people had been approached to advise and inform the WP and it was enlarged in 2005 (Phase 3) by some 322ha north of the A272. This extension included a collaboration with Charlie Burrell's neighbour (and cousin) Anthony Burrell, who included his Brickkiln Farm within the ring fence. Frans Vera's dissertation on grazing ecology and forest history, published in 2000, was becoming widely known and had supporters and critics. Oostvaardersplassen, the huge 5,600ha nature reserve formed from reclaimed polder land in Holland, was inspiring many conservationists at this time, and together with Frans Vera's and Hans Kampf's theories and work, Oostvaardersplassen was hugely influential on the Knepp WP. It was recognised that there would be hurdles to overcome from animal welfare to capital taxation, but the aspiration was that the project could **"become an ecologically viable alternative to food production on marginal lowland in the UK."**

3. The first Steering Group Meeting.

May 2006 saw the inaugural meeting of the Steering Group. Of the 14 attendees, 9 are still on the Group. The introductory notes give the background and vision for the project, which might help to explain how some of seemingly anomalous aspects have come about:-

"Over the last few years, a group of Sussex farmers, landowners and conservationists has become inspired by the theories of Dutch ecologist Frans Vera. He believes that a true wilderness in this part of Europe would have been driven by disturbance from

wild grazing herbivores. Wilderness might therefore have looked more like pasture woodland than dense, closed-canopy forest. Having visited the Oostvaardersplassen, in Holland, where these re-wilding ideas are being put into practice, this group considered that there should be a similar experiment here in lowland Britain. The Knepp Estate, consisting of about 1400ha (3500 acres) of the Sussex Low Weald, provides a potential location where this approach could be trialed.”

This document went on to acknowledge that Vera’s work was controversial but that the consensus was that the development of conservation management systems that make more use of browsing and grazing animals could prove an effective conservation tool.

The Vision for the land management of the Estate was thus that natural processes would predominate and long-term financial stability would be achieved **outside** of an agricultural framework. It would deliver environmental and landscape enhancement through “re-wilding”, seen as a new approach to biodiversity management. To achieve this vision, in 2006 it was anticipated that there would be an enlargement of the area in the project, and that the herbivores would either be wild animals or domestic analogues that would in effect drive the ‘Vera’ cycle – although such optimism was tempered by accepting that if the long-term vision was not achieved, the steps towards it would have been worthwhile.

This vision was understandable given that Charlie needed to secure the financial viability of the Estate at a time when there was a decline in both commercial forestry and agriculture on its heavy clay land, but it was a brave leap to:

“commit long-term to this wilderness scheme, which it is envisaged will financially provide a suitable alternative land use to agriculture and commercial forestry, and aesthetically enhance the estate.”

These were the issues considered relevant at the time:-

- Agricultural incentive schemes (CSS at that time) & cross-compliance
- Animal husbandry & legislation. There was great uncertainty how these would constrain the project.
- Health & Safety. Something to be assessed.
- Sources of revenue funding and commercial opportunities. What would be the potential income streams to compensate for loss of agricultural income? Would tourism provide a commercial opportunity? Would ‘bushmeat’ and other produce provide an income?
- Highway and legislative issues. Change of use, fencing, the possibility or otherwise of cattle grids etc.
- Public attitude. How would the public react to the considerable changes brought about by the implementation of the vision? How could fears be addressed?
- Length of Agreement & exit strategies. The timescale from an ecological perspective was estimated at 20 years.
- Environmental designations. A worry expressed that enhanced ecological value might lead to statutory designations that may curtail future use.
- Landscape issues. Acknowledgement that ceasing traditional agricultural management would lead to an ‘untidy’ countryside.

- Injurious weeds & Weeds Act. Statement that this needed to be considered.
- Financial Issues. Long-term financial stability an essential element of the vision. Public sector funding an option for the short-term. Hope that producing a landscape driven by naturalistic grazing, together with other income streams from tourism and other opportunities, would produce financial security.

The minutes of the first Steering Group Meeting record that the expertise of those present had a great deal to offer to the project – advice on livestock and ecology; giving the project credence; helping with an interpretation strategy; commenting on a business plan (Kernon Consultants) and production of a management plan for the project's expansion.

No practical advice on stocking ratios or specific management was forthcoming. There was discussion regarding the relative merits of 'wild' type herbivores versus domestic analogues. More questions were posed than answered regarding livestock within naturalistic grazing. There was a query whether the validity of the project would be jeopardised if agricultural husbandry were to continue.

After the 2006 meeting.

Attendees of the inaugural meeting went away to explore further the issues raised. Hans Kampf (Large Herbivore Foundation) produced a document aimed at guiding the large herbivore management on Knepp from the viewpoint of the LHF. The naturalistic grazing regime proposed in the document, which was at the time in line with the overall views of the Steering Group members, was that stock numbers should essentially be governed by animal welfare and compatibility with other estate activities but primarily by the maximum carrying capacity based on food availability – with no additional feeding provided. To adhere to the intention that the project should strive for maximum wildness, Hans reviewed existing and future stock, in brief advocating Exmoor ponies rather than Konig ponies but proposing a gradual replacement of longhorn cattle by Heck cattle and of Tamworth pigs by wild boar. As farming was not an objective of the project, culling by means of hunting was advised, although not of the ponies as this would be unacceptable to the public. He also advocated the introduction of red deer and the cautious introduction of European bison. In time, he felt that beaver, lynx, wildcat and otter might be a consideration.

Also in 2006, the Knepp castle Estate Baseline Ecological Survey was published as an English Nature Research Report. Further to this, with Keith Kirby's support, EN funded a further swathe of survey work, according to a monitoring programme drawn up by and costed by Tony Whitbread and Theresa Greenaway (both Sussex Wildlife Trust). The supporting document within the contractual agreement with EN stated that:-

"Monitoring can be defined as surveillance undertaken to determine the extent of compliance with a predetermined standard or the degree of deviation from an expected norm. In the case of the Knepp grazing project, this 'norm' is the sum of the attributes, or characteristics, of the land at the point it was taken out of arable production. Surveillance will serve to monitor the deviation away from ex-arable and other biotopes at this point as a result of the implementation of the more natural grazing regime comprising low numbers of cattle, ponies, pigs and deer."

These were the objectives:

- To explore and evaluate the effects of a more natural grazing regime on a range of habitats including arable reversion and woodland.
- To identify and evaluate the changes in vascular plant composition as a result of the more natural grazing regime.
- To evaluate the effects of a more natural grazing regime on selected groups of fauna, identifying positive and negative impacts on biodiversity of these groups with particular reference to species of conservation interest.
- To continue to inform the River Adur Restoration project, any future survey work for which will be funded separately.

But as soon as July 2006, it was becoming clear that there were going to be considerable constraints on the original wilderness premise. Although the facilitation of natural processes remained the underlying rationale, constraints caused considerable modifications to the original wilderness ethic:-

- Some level of agricultural product must be sold from the estate for tax /VAT reasons.
- Compliance with CSS funding required some control over pernicious weeds and ex-arable land to be maintained 'in good agricultural condition'.
- Compatibility with other estate activities including polo, pheasant shooting needed.
- The production of cattle and pigs destined for human consumption controlled by considerable legislation.
- Exmoor ponies needed to be managed along the lines of domestic ponies regarding animal welfare issues.

In order to address and limit the impact of these constraints, certain measures were proposed, including:-

- Use a scale of grazing definitions from intensive to naturalistic and rank each herbivore type as far towards the naturalistic end of the scale as possible.
- Not all surplus herbivores necessarily for human consumption, so different groups subject to different legislative constraints, which will mean some herbivores can be further along the scale towards naturalistic grazing than others, eg deer ('wild' venison can be sold for human consumption) and ponies.
- The estate to set a minimum annual income from agricultural produce that satisfies tax / VAT issues and its own economic requirements.
- Exploration of the extent to which meat production can comply with the natural 'boom & bust' cycle of natural systems by harvesting surplus stock sporadically according to numbers and market prices.
- A list of questions that needed putting to GAP to achieve minimum management.
- Limited control of pernicious weeds to the most visible areas and those next to neighbour boundaries.
- Elicit agreement from Defra regarding the minimum acceptable definition of 'acceptable agricultural condition'.

Pork and beef for human consumption requires the compliance with some fairly weighty legislation; this was thought possible under a more-natural grazing regime but it was also thought likely that handling 'rewilded' cattle unused to human contact would be difficult, hazardous for the stockmen and particularly stressful for the stock. There were still queries concerning stock, and the Grazing Animals Project (GAP) was consulted on the following:-

- Will the estate need to get sows registered with Defra & Animal Health Office before the owner of the boar agrees to run boar on estate?
- Will the breeding stock of cattle need to be eartagged as well as those for market?
- Is introducing the Heck bloodline going to be compatible with complete compliance with legislation affecting the production of meat for human consumption?
- Could such cattle be handled without unacceptable risk to stockman and stress to animals?
- What are the animal welfare issues and stockman safety issues with catching & transporting 'rewilded' young cattle for ear-tagging, transport & slaughter?
- What, if any, strategies are needed for dealing with / enclosing 'wild' animals in worst-case scenarios of disease outbreak such as Foot & Mouth, tuberculosis etc?

These issues proved to be sticking points for the project at this time. Attempts to define grazing to move the project forward were made by Tony Whitbread and Theresa Greenaway, resulting in an assessment that fallow deer grazing would be naturalistic, with culling as required; Exmoor ponies would be more-natural /naturalistic, depending on impacts with polo ponies, welfare issues, public relations and the fate of surplus offspring. The grazing regime of pigs and cattle would come under the heading of organic / traditional extensive because meat has to be sold for human consumption. But it was still hoped that the system could be adjusted so that cattle and pig grazing could be shifted further towards the naturalistic end of the grazing spectrum.

4. 2007 - the debate continued.

These issues were still the subject of much debate in 2007. There was no clear consensus when to put stock, and how much, onto the northern block. Konig ponies and Heck cattle were still being considered. One option put forward by Jonathan Spencer was that the three areas of the estate could be managed separately, such that there would be a Longhorn herd in the north, a parkland regime around the House/lake, and a potential Heck/wild herbivore regime in the area south of the minor road), with each area having the potential for different potential income streams. The rationale of observing the changes rather than working towards a specific outcome was upheld – ie the project should generate the observations and science rather than the science dictating the project.

Overgrazing of some area, particularly the deer park, was now becoming apparent, as the fallow deer numbers grew despite culling.

5. 2008.

In 2008, the constraints from RPA funding were making themselves felt, and a number of us wrote supporting the application for a derogation to avoid having to top the land taken out of arable in 2004. Ragwort and other weeds were a problem in the Repton restoration area, as well as in the as yet unfenced Southern Block. There were no funds available to fence the

Southern block, on which, ungrazed except by roe deer and rabbits, scrub was developing as well as ragwort. The ragwort was causing so much bad feeling among adjacent landowners that in an attempt to reassure the public and satisfy the requirements of both agri-funding and the law, I produced the Knepp Policy for Injurious Weed Control (see the Knepp website), based on the Defra Code of Practice for Ragwort Control.

The mix of livestock remained unchanged in the park, consisting of longhorn cattle, Exmoor ponies, fallow deer and Tamworth pigs. Longhorn cattle had by now been put onto the Pondtail area (Northern block). The Steering Group met in summer 2008, it was essentially an open air meeting, I have no record of the minutes.

6. 2009.

In January 2009, the Steering group Meeting comprised 18 attendees and was very different from the 2006 line-up. Those present were Rob Fuller (BTO), Charlie Burrell, Jason Emrich, Dave Mercer (Natural England), Jill Butler (Woodland Trust), Richard Bradbury (RSPB), Paul Buckland, Patrick Toe, Mick Crawley (Imperial College), Robin Gill (Forest Research), Duncan Golicher (Bournemouth University), Ted Green (Ancient Tree Forum), Theresa Greenaway (Ecological Consultant), Matt Heard (CEH), Adrian Newton (Bournemouth University), Suzanne Perry (Natural England), Ken Smith (unattached), Tony Whitbread (Sussex WT).

The project had by now moved right away from the creation of a wilderness with Heck cattle. The emphasis of this meeting was more concerned with the focus of the monitoring, the research potential of the project and possible funding opportunities.

Monitoring

Following the baseline survey in 2005 annual monitoring was funded by the Knepp Estate, SWT and NE. Given the extent of the project and the resources available, it was acknowledged that the monitoring was inevitably somewhat broad-brush and did not cover all taxa. It was agreed that it represented a valuable resource, but was probably not capturing the complex spatial habitat patterns and mosaics that were developing, and that good quality aerial photographs would be useful. The group favoured using remote sensed images (aerials or satellites) and ground truthing to establish a sampling framework for the developing habitats. This has proved to be more difficult and expensive than anticipated; in July 2009 the estate commissioned aerial photos from an unmanned aircraft system (UAS) of the whole estate. The contractor took 955 images but failed to cover more than just a part of the project. To date the photos have not been georectified or had the corresponding GIS layer created, but work is in hand to achieve this over the winter.

The southern block was finally fenced in early 2009, after funding was sourced from NE. This followed consultation with local residents over the location of the new fencing adjacent to their properties and for the first time the project generated some outspoken animosity from some locals. Efforts were made to engage with the local communities via the estate's website and various tractor tours involving SWT, but generally the project retains various critics from the local community.

The fencing offered a good opportunity to collect additional baseline data before livestock was put on. Matt Heard offered 20 person days from his CEH team to survey botanical

quadrats in summer 2009; the eventual CEH survey work covered invertebrates and soil sampling as well as botanical surveys. The Estate bought a herd of longhorn cattle and introduced them to the new enclosure in 2009, hoping that pigs and deer would use a river culvert connecting the southern block with the park (Middle Block). The Exmoor herd was split in half and about a dozen Exmoors were also moved to the new enclosure.

At the time some local horse riders expressed concern at the presence of free roaming animals over the new enclosure's public rights of way network and other riding routes. Charlie Burrell encouraged all local riders to join him for a ride in the Knepp Park where domestic horses and Exmoors had co-existed for the past four years without incident.

Ecosystem services were, I believe for the first time, becoming a topic for discussion. Knepp, including the R Adur restoration project, offered a unique opportunity in the English lowlands to undertake a large-scale study of the potential ecosystem services/functions (ranging across flood reduction, water quality improvement, carbon sequestration, climate change adaptation, biodiversity enhancement) associated with naturalistic grazing. It was agreed to pursue a project along these lines.

Direct studies of animal behaviour and patterns of habitat usage were felt to be important, but there were few suggestions as to who would undertake this aspect. This is another issue that has repeatedly surfaced, with everyone agreeing it would be valuable, but no means of achieving it have yet been resolved. Animal GPS collars were finally used in 2010.

Possible funding sources and research consortia

The NERC Living with Environmental Change (LWEC) programme was thought to be the most promising source for major research funding for ecosystem-scale work associated with the project. Adrian Newton agreed to produce a draft concept note for work evaluating the ecosystem services/functions provided by the project by the end of February 2009. The research consortium was to include Knepp Estate, Sussex WT, Bournemouth University, Imperial College, CEH, Forest Research and BTO. Tony Whitbread addressed the ecosystem services concept in a document circulated in February 2009, following the discussion in the Steering group meeting, suggesting a possible structure for an ecosystem assessment of the Knepp estate based on various Defra sources.

7. 2010

The 2010 Steering Group Meeting was held on 25th June. 25 people attended (Appendix).

The major issues were:

- The mismatch between the Single Farm Payment (SFP) and HLS Scheme funding which is designed to deliver objective led nature conservation, and the WP whose primary objective is to study and evaluate natural processes. Paul Goriup said that it was very difficult to have this sort of process led nature within the law; Jim Seymour said the HLS could fail if the Code of Good Farming Practice was not met; Matt Heard thought this should have been sorted before the scheme commenced.
- The estate had applied to the RPA for a derogation to allow the spread of injurious weeds within the project (whilst complying with the Weeds Act by controlling the boundaries), and the development of scrub to continue. Failure to obtain

derogations will put funding at risk. Jim also pointed out that large expanses of injurious weeds could cause a problem with eligibility for funding under the SFP.

- Significant management changes with the cattle. Joep concerned that goals had moved more towards meat production rather than the original objectives. Charlie said it was necessary to consider replacing some of the at-risk subsidies; and felt that by producing c100 tons of meat with positive nature results, still maintaining some unconventional practices such as keeping barren cows to maintain some sort of herd structure, the original objectives may be diluted but are still more natural than conventional agriculture. The sheer time it had taken to check the cattle when calving all year round was instrumental in making this decision.
- The Northern Block - questions posed about when it was felt to be appropriate to introduce the three other main herbivores, as only cattle have grazed this block now since 2004. Joep felt that ideally the other animals should be introduced however there was no hurry and it was a good opportunity to study the effects of just having cattle for a few more years before introducing the other species.
- Scrub 'surprisingly' being very slow to establish in the northern block (*NB there is never any account taken of the effects of roe deer*). Jonathan Spencer's preferred option to simulate a protracted "bust" in herbivore populations to stimulate regeneration. Differences of opinion over the solution to grazing vs scrub.
- Vegetation Monitoring – a repeat of the 2005 survey to take place in 2015, although scrub classification difficult under NVC. The estate had a proportion of the ground photographed from the air, and is planning to buy software to georectify these 1000 images to create a GI layer – this in the event was not entirely satisfactory.
- Ecosystem Services - Mick Crawley trying to pull together a consortium of three organizations to take forward carbon sequestrations in soils, the river restoration and birds for an ecosystem services study.
- CEH Monitoring - Matt Heard explained the various types of monitoring that CEH did with vegetation, invertebrates and soils. 16 enclosures built. The estate to rabbit fence these to ensure complete exclusion of grazers.
- Reintroduction of Species - a general discussion about whether to reintroduce species. Differing opinions.
- Public Consultation - David Meadows, chairman of the local Parish Council, sent in some comments from a quick survey around the Parish. This was not discussed openly but was discussed in detail with several individual members of the steering group, suggestions such as adding Convenient Walks to the website, restoring footpaths, erecting interpretation and generally working harder on public liaison all thought beneficial.

For the first time in April 2010 the estate produced a Newsletter which was posted or given out to over a thousand people highlighting the successes of the project and the wider estate.

The main public right of way through the centre of the Southern Block was improved through the efforts of conservation volunteers and estate contractors, and additional permissive rights of way were created in consultation with local access rangers and parish councils.

8. 2011.

The 2011 Steering Group meeting was held on 6th November 2011. There were 27 attendees, seven of which were new to the group (Appendix). The Minutes of this meeting are extensive and have been circulated to all present, so the main issues are summarised here to assist the overall picture of how the project has developed:-

- The river Adur restoration project has (finally) commenced; the lake dredging project has now received planning permission (including importation of inert waste).
- Deer numbers have been reduced in the middle block and some deer have been transferred to the southern block.
- Knepp's "nearly wild" game shoot has employed a gamekeeper and hopes this will be the last year where birds are artificially released (numbers released at present are very modest at just 1 pheasant per hectare). This aspect of estate activities has not featured significantly, but does entail some predator control.

Natural England perspective

Jim Seymour confirmed there is national support for the project, but is trying to ascertain local support. Recently he has engaged with locals to discuss their concerns and pointed out that without local support the project will continue to be challenged. Maarten Boers confirmed that in his meetings with local farmers, they see a productive estate being overgrown with weeds and scrub and are quite cynical. Jim sees the main challenges as:

- Animal welfare concerns, but Maarten Boers' recent talk has mitigated these.
- Ragwort – there is a perception that it is increasing and that the control zone is not working. At present the control zone is quite artificial being a 50m strip – should more natural barriers be used rather than using existing hedge lines etc. even if this goes against the principles of the project? Should the control zone be extended to 100m against neighbour pasture? However, there is a risk in giving the impression that all ragwort is coming from Knepp, 2011 a bad year for ragwort nationally; the situation needs to be put into perspective.
- An ideological question on the use of public money.
- Is the right monitoring in place to enable debate in 10 years time?
- Could improve interpretation for the public and publish / inform stocking levels in each enclosure. How far along this line do other agri-businesses go?

Livestock issues.

Various questions were raised on each of the enclosures as follows:

Northern Block – Stocking rate of less than 0.2glu/ha. The feeling was that the number of cattle should continue to increase in this enclosure. The question of whether to introduce pigs was raised after the meeting last year. Pigs have not yet been introduced, mainly for management reasons, but this is still on the agenda as a possibility.

Whether to introduce Exmoor ponies into the northern block is still open for discussion. There is one bridleway so risks to riders from stallions will limit the natural herd structure that can be introduced. At present about 40 domestic horses are wintered in the enclosure

so there is a certain amount of mixed stocking. Introducing red deer into this enclosure is still a possibility and has not happened to date - it is a cost with no financial reward and is therefore a low priority. The large area of woodland in the middle of the northern block, Horsham Common, is an SSSI for ground flora. Any future introductions of livestock into this enclosure must take that into account.

Middle Block – the results of the last year's monitoring and a survey that followed last year's Steering Group meeting on stocking levels in the middle block led to a reduction in deer and pony numbers in this enclosure. Cattle numbers have also remained static, as there has been a higher cull of older animals and also a poor calving. The Exmoor herd in the middle block has been relocated or culled. There is a high population of rabbits in the middle block, with some control taking place around areas of historic importance such as the Scheduled Ancient Monument.

Southern Block – some extra deer have been relocated from the middle block into this enclosure taking the numbers to about 110 after fawning, however they have finally started using the underpass between the middle and southern blocks posing additional challenges in controlling numbers. The physical task of controlling the deer in the southern block will be challenging, but the intention is that numbers should not increase to anything like the density in middle block. The Exmoor herd, despite having no stallions, has increased due to the relocation of a few animals from middle block as explained above, and the estate has not yet worked out how to overcome the issue of stallions with this herd due to the large number of public bridleways etc. Roe deer and rabbits are thriving & numbers increasing.

Charlie confirmed that the original intention was that all three enclosures would have the full mix of animals and that over time the numbers would increase to a level of about 0.35glu/ha. But it was generally felt that having the three enclosures with different grazing regimes was an advantage, and the hope was that monitoring would demonstrate different results and help to identify the drivers for change.

There was debate over the mix and levels of stocking. The only clear comments resulting were that with only 8% of the project's income coming from meat sales at present, it would never be economically sustainable without subsidy, albeit it is hoped that the revenue from meat sales may one day take up the slack should the Single Farm Payment disappear. The project's ecological ambition has to be supported through agri-environment subsidies, as not even conventional (intensive) beef production is economically sustainable without some form of subsidy.

Vet Report

There were a number of animal welfare concerns that required treatment - cattle in the southern were vaccinated against BVD and leptospirosis; cattle that were poorly in summer 2010 were found to be suffering from and treated for liver fluke and had not suffered ragwort poisoning; the acorn mast year (2011) has caused symptoms of poisoning in calves, which are also being treated. In a truly wilderness scenario, such treatments would not have been administered.

Stockman's Report

This was the first year for the new spring calving regime, which suited both calves and cows. 69 new calves were born in total. The cattle herds in each of the three blocks are exhibiting somewhat different behaviour patterns.

Ecosystem service studies

Kathy Hodder's study Evaluating The Benefits For People and Wildlife of Landscape Scale Conservation included Knepp and other large-scale schemes. The project concluded that the Knepp project would sequester large amounts of carbon and scored very well on the other matters analysed (food, energy, water quality, flood protection, recreation, and aesthetics). This report can be emailed or downloaded from the website.

Mick Crawley explained his NERC bid for an ecosystem services study over five years at Knepp. He felt that the Wildland Project presented a wonderful opportunity to quantify ecological changes. The proposal had been received fairly enthusiastically in the first stages, but there was strong competition and no guarantee of success. The closing date for applications is the 1st December, and if successful (which will be known by July 2012) then the project would start in January 2013 and run for five years. Anthony Burrell commented that large corporations such as BP were doing eco-system services work and wondered if there could be some sort of collaboration if the NERC bid failed.

Monitoring

The 2011 monitoring had been circulated with the Agenda and stimulated debate on where the monitoring programme was going. Jim Seymour said that it was a condition of the scheme that it had to be monitored and that the monitoring must be robust enough. There were differences of opinion regarding the efficacy of the current monitoring schedule, which as it was drawn up some years ago is probably now not entirely suited to the changed emphasis of the project. The budget I have drawn up for 2012-2015 has been accepted by the estate, but I feel that the project does now need a small, well-balanced monitoring committee to carry forward future surveillance / monitoring. This is all the more urgent because as I am now living in Wales, it is increasingly difficult to run the monitoring by myself and effectively.

One overall issue is monitoring detail vs coverage. I think both have a part to play but that both should be planned as part of an improved strategy. As has often been suggested in previous years, using volunteers to assist in survey / monitoring was brought into the discussion. Undoubtedly volunteers can be very valuable but in practice there can be problems – level of expertise, difficulties in achieving uniformity of work, commitment and sheer availability. Much of the voluntary effort to date has not been overwhelmingly constructive. Increasing volunteer effort on key monitoring needs to be carefully planned and will need a co-ordinator if it is to be scientifically rigorous.

More specifically, Rob Fuller thought one BBS square (TQ1520) monitored as part of the BTO scheme was insufficient and that more volunteers should be sought to survey more squares using BBS methodology – but the local organiser has raised issues over this and is at present reluctant to commit her volunteers. Two further comments - Matthew Oates suggested that specialists such as Butterfly Conservation could perhaps give the monitoring the wow factor that it needs, and Paul Goriup opined that when he was running Gurston Down it only took one year to show the benefits rather than years of repeat monitoring.

Also to monitor

- Animal behaviour - with Ken Smith's help, collars had been fitted to some of the cows and there is a project waiting to be done on matching vegetation with cattle movements.
- The estate still needs help deciding how to create a GIS layer with the aerial photographs that have been taken and anyone with any expertise in this subject should please assist.
- The estate has recently 'gardened' an SNCI in the middle of the northern block to save ground flora from encroaching bramble & woodland etc. Monitoring the resurgence of rare plants should be done and also over time monitoring of their spread into the adjacent grazing land. The Horsham Common SNCI was surveyed by Kate Ryland (Dolphin Ecological Surveys) in 2008 at the request of NE.

Ragwort & the Single Farm Payment

The ragwort issue has become somewhat out of proportion, with local opinion and funders clearly and incontrovertibly at odds with the very well-documented studies on ragwort. It is costing the estate a great deal of money to get nowhere. It could be said that Knepp is being held to ransom over a plant that would remain widespread and abundant even if every last plant had been eradicated from Knepp. Jim Seymour said that unless the issue of Ragwort was agreed with the RPA (Rural Payments Agency) not only would the Single Farm Payment be lost, the HLS funding would also go. This is 92% of this year's funding and therefore represents a massive threat. It is imperative that a firm directive is formulated here.

New Projects - Million ponds project

The Million Ponds Project offers great potential to create new small ponds and pools that would have been abundant before drainage and land intensification. This would help maintain and enhance fresh water biodiversity and would complement work already in progress. Although undoubtedly this will result in habitat enhancement, it is not strictly speaking a natural process driven by large herbivores.

9. Summary

The aspiration in 2005 was to create an experimental wilderness that would become an ecologically viable alternative to food production on marginal lowland in the UK. This wilderness, grazed by wild boar, Exmoor ponies or possibly Konig ponies, fallow, roe and possibly red deer, bison and longhorn cattle would it was hoped provide a financially robust alternative land use to agriculture and commercial forestry as well as aesthetically enhancing the estate. Monitoring would be focussed on recording ecological deviation from the intensive agricultural regime in place prior to 2000, with natural processes seen as the key objective rather than pre-determined targets.

What we have now is a far more natural grazing regime than seen in typical agriculturally managed land, with low-intensity organic production of beef, pork and venison. This has already resulted in advantageous changes both to the vegetation structure in some areas of the project and in biodiversity.

Major constraints to the original ideology have been animal welfare, the need for agricultural output and the mismatches between agri-funding schemes and wildland principles. Ragwort has been a problematic issue as well as the lack of support demonstrated by some local residents. Allowing the project to be 'process-led' rather than assessed against set targets is currently preventing a coherent advance in monitoring and evaluating the project.

Wider trends are now influencing the project, chief among which is the concept of ecosystem services. I feel it is now important to look at where the project has come from and to get the Steering Group all pulling in the same direction, which is one that will have to work for the Knepp Estate now and hopefully into the future.

Theresa Greenaway
November 2011.

APPENDIX

2010 Steering group Meeting Attendees.

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| Paul Buckland | Environmental Archaeology academic |
| Charlie Burrell | Owner of the Knepp Castle Estate |
| Jill Butler | Woodland Trust Conservation Officer |
| Mick Crawley | Plant Ecology Department of Biological Sciences, Imperial College |
| Jason Emrich | Knepp Estate Land Agent |
| Bruce Fowkes | RSPB |
| Rob Fuller | BTO, Director of Science (Ecological Change) |
| Emma Goldberg | Forestry and Woodland Officer, Natural England |
| Paul Goriup | Fieldfare International Ecological Development plc |
| Ted Green | Ancient Tree Forum |
| Theresa Greenaway | Retired Survey & Research Officer Sussex Biodiversity Record Centre |
| Matthew Heard | Head of Biodiversity & Conservation Management Group NERC |
| Hans Kampf | Executive Director Large Herbivore Foundation |
| Jason Lavender | Joint Director High weald AONB Unit |
| David Meadows | Chairman of Shipley Parish Council |
| Peter Miller | Estate and Farm Manager Dragons Estate |
| Sophie Miller | Botanist |
| Matthew Oates | National Trust Nature Conservation Adviser |
| James Seymour | SE Regional Land Management Programme Manager, Natural England |
| Julian Smith | Trustee to the Knepp Castle Estate |
| Ken Smith | Retired from the RSPB as head of Aquatic Research |
| Jonathan Spencer | Senior Ecologist Forestry Commission |
| Patrick Toe | Stockman Knepp Castle Estate |
| Brian Unwin | President of the European Centre for Nature Conservation |
| Joep van de Vlasakker | Flaxfield Nature |
| Frans Vera | Grazing Ecology and Forest History |
| Tony Whitbread | Chief Executive Sussex Wildlife Trust |

STEERING / ADVISORY GROUP MEETING 6th NOVEMBER 2011

ATTENDEES

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| Maarten Boers | Livestock Partnership – Knepp's Vet |
| Anthony Burrell | Owner of part of the Northern Block |
| Sir Charles Burrell | Owner of the Knepp Castle Estate |
| Jill Butler | Woodland Trust Conservation Officer |
| Mick Crawley | Plant Ecology Department of Biological Sciences, Imperial College |
| Jason Emrich | Knepp Estate Land Agent |
| Alison Field | Forestry Commission Regional Director for South East and London |
| Rob Fuller | BTO, Director of Science (Ecological Change) |
| Emma Goldberg | Natural England Forestry and Woodland Officer |
| Paul Goriup | Fieldfare International Ecological Development plc |
| David Green | Chairman West Grinstead Parish Council |
| Ted Green | Ancient Tree Forum |
| Theresa Greenaway | Retired Survey & Research Officer Sussex Biodiversity Record Centre |
| Matthew Heard | Head of Biodiversity & Conservation Management Group NERC |
| Neil Hulme | Chair of Butterfly Conservation in Sussex |
| Hans Kampf | Executive Director Large Herbivore Network |
| Jason Lavender | Joint Director High weald AONB Unit |
| Andy Meadows | Stockman Bakers Farm (Northern Block) |

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| Pascale Nicolet | Senior Freshwater Ecologist National Coordinator of the Million Ponds Project |
| Matthew Oates | National Trust Nature Conservation Adviser |
| Christine Reid | Natural England Senior Woodlands Specialist |
| James Seymour | Natural England Area Manager Kent & Sussex |
| Julian Smith | Trustee to the Knepp Castle Estate |
| Ken Smith | Retired from the RSPB as head of Aquatic Research |
| Jonathan Spencer | Forestry Commission Head of Environment (England) |
| Patrick Toe | Stockman Knepp Castle Estate |
| Tony Whitbread | Chief Executive Sussex Wildlife Trust |

APOLOGIES

| | |
|-----------------------|------------------------------------|
| Joep van de Vlasakker | Flaxfield Nature |
| Frans Vera | Grazing Ecology & Forest History |
| Paul Buckland | Environmental Archaeology Academic |