

Committee(s):	Date(s):	Item no.
Epping Forest and Commons Committee	5 th November 2012	
Subject: Outcome of Phase 1 of the Invisible fencing/virtual grid trials at Burnham Beeches	Public	
Report of: Superintendent of Burnham Beeches and Stoke Common	For Information	
<p><u>Summary</u></p> <p>Approval for a phased and expanding trial of ‘Invisible Fencing’ and ‘Virtual Cattle Grids’ at Burnham Beeches during the Higher Level Stewardship period was given by this committee in May 2012.</p> <p>This report provides members with the results of the September - October 2012 trial and confirms that further trials will be pursued in 2013 at a cost of approximately £15,000.</p> <p>Recommendations</p> <ul style="list-style-type: none"> • To receive this report. 		

Main Report

Background

1. In May 2012 your Committee approved a report from the Superintendent that set out a phased and expanding trial of invisible fencing and virtual cattle grids at Burnham Beeches National Nature Reserve (NNR).
2. Each phase of the trials has been designed to test the technical reliability of the invisible fencing equipment under a variety of conditions. The phasing also reflects an increased level of trust in the system as risks, such as traffic volume and boundary complexity, grow.
3. If the trials are successful around 95% of the site will be grazed by livestock by 2014 or shortly thereafter.

Current Position

4. The ‘Phase 1’ trial ran for three weeks i.e. from 12th September to 3rd October and enclosed approximately 15ha on the North West boundary of the Beeches.

5. The trial enclosure included a short length of public highway on Park Lane which is classified as a 'C' road. This required the use of virtual cattle grids for the first time at Burnham Beeches.
6. The cable loop that carries the radio signal was installed by the Rangers in the first week of September. An approved contractor was used to 'chase' the cabling into the highway and make good and to provide road markings. The signal generator and battery were located in a small underground chamber and protected from moisture.

Marketing and Consultation

7. A marketing programme was delivered to prepare visitors and motorists for the trial. A large plywood cow placed on the green roof of the Information Point. Two large ply wood cows placed adjacent to the virtual grids on park lane. Extensive use of the 'Grazing it's Amazing' logo and table talkers at the Burnham Beeches Café. See Appendix 1 and 2.
8. Letters were sent informing neighbouring land owners of the trial that would shortly take place on their boundary. No comments were received. The Superintendent also gave presentations to the District Council's Environment Committee and the Burnham Local Area Forum who expressed their support.
9. Two British White Cows were released into the area by the Chairman Gordon Haines and Councillor Peter Hardy, Buckinghamshire County Council's Cabinet Member for Transportation and the Environment.

Monitoring and risk management

10. Every aspect of the trial was closely monitored to identify and reduce risks and to help to evolve future working practices. The monitoring programme included:
 - Regular checks of all equipment including loops, batteries, signal generators and livestock. These occurred at 00.00, 04.00, 08.00, 12.00, 16.00 and 20.00 each day for the trial period.
 - Ensuring the availability of spare equipment and tools to resolve any equipment failure or identify problems with the livestock.
11. The risk to livestock and others using the public highway was managed by:
 - Use of reflective leg bands on the cattle.
 - Use of additional highway signs warning of the presence of livestock.
 - Use of road markings to indicate the location of the 'virtual grids'.

- Use of gateway fencing to indicate the start and finish points of the trial area.

Outcomes -

12. Prior to the release of the cattle the radio signal generator was installed and connected to the battery. The equipment appeared to work well for the first few hours and was left on overnight. The early morning check of the equipment showed that the radio signal was not circulating around the cable.
13. Several tests were carried out on both the equipment and battery and it was concluded that the signal generator was faulty. This was replaced with a second device that worked faultlessly throughout the three week trial.
14. Cabling remained undisturbed by visitors and wildlife during the period.
15. The cattle quickly explored and learned the boundary of their new enclosure. The cattle were not disturbed by dogs despite this being an unusual area for dog walkers to come across livestock.
16. The experiment was a popular topic of conversation between staff and visitors with great interest shown in the technology and the general feedback being very positive.
17. No incidents were reported by road users or other visitors during the trial.
18. The trial attracted positive press coverage including local newspapers and a brief article in The Times (City Page).
19. Whilst there was an early technical problem with the signal generator it was identified at a very early stage i.e. before the animals were released and via the checking procedures developed specifically for the trial. As such the Phase 1 trial was a useful learning process and ultimately a success. I am now confident that a further expansion of the trials in 2013 is appropriate.
20. It remains important to continue to work closely with the manufacturer to seek improvements in reliability and design over the coming years. To date staff at Epping Forest and Burnham Beeches have influenced the design of a new livestock collar and tested the technology on a variety of terrains and conditions including the use of conduits under tarmac.

Financial and Risk Implications

21. It is estimated that the cost of designing and delivering the trials leading to 95% coverage of the site will be as follows:

• Phase 1 (2012)	- creation of a single enclosure.	£5,000
• Phase 2 (2013)	– creation of further enclosures.	£15,000
• Phase 3 (2014 on)	– expansion across the site.	£20,000
• Purchase of livestock	– possibly phased	£20,000
Total		<u>£60,000</u>

22. The costs outlined above will be refined as the project is developed but are expected to represent excellent value for money when compared to the cost of cattle grids and associated infrastructure.
23. The Superintendent will apply for 80% capital funding from Natural England’s Higher Level Stewardship (HLS) scheme to fund the cost of installing the invisible fencing and virtual grids. The remaining 20% will be provided from local risk budgets. Delivery remains possible without external funding if necessary.
24. A decision is now required as to how best to acquire, manage the livestock and over-winter the livestock. The Superintendent will evaluate the options and report his findings to this Committee in 2013.

Legal Implications

25. The installation of the Boviguard system required the Corporation to obtain a street works licence from the local highway authority under the New Roads and Street Works Act 1991. This was a largely administrative cost with some legal costs payable to the grantor of the licence. The licence for each highway location is required to enable the laying of cable apparatus in the public highway.
26. An agreement between the City of London and Buckinghamshire County Council has been entered into in respect of the road markings installed in connection with the “virtual grids” and following consultation with relevant Buckinghamshire County Council officers about the proposals..

Property Implications

27. The Superintendent remains responsible for ensuring that the implementation and use of the invisible fencing along with the subsequent animal grazing continues to be appropriate for the conservation of Burnham Beeches. In addition the operation of the trial should take place with minimal impact on any existing infrastructure or buildings located at the Beeches.

HR Implications

28. The expansion of the grazing herd (estimated as between 25 and 40 livestock units when 95% of the Beeches is grazed)) will alter the emphasis of this element of our work and require more staff time than presently available to ensure its effective management.
29. The Superintendent will liaise closely with the Human Resources Department to consider how best to accommodate this change in emphasis in staff responsibilities and provide a report to this committee in 2013.

Strategic Implications

30. The production of the management plan supports the 'Protect, promote and enhance the environment' and 'Support Communities' elements of the 'City Together Strategy'.
31. The plan to expand conservation grazing across Burnham Beeches is a key project within the Departmental Business plan.
32. The provision of conservation grazing across Burnham Beeches will assist the City to:

Economic

- Prepare for and adapt to the likely impacts of climate change.
- Support local workforces, SME's and community activities.

Environment

- Encourage best environmental practice in service delivery by the City Corporation, its stakeholders and contractors.
- Encourage walking, cycling and the use of public transport.
- Improve or create habitats for wildlife.

Social

- Enhance and encourage preventative health services, activities and education.
- Consult, inform and engage the community in decision making.
- Reduce crime and fear of crime.

33. An Equality Impact Assessment has been produced for this project and has concluded 'no negative' impacts to the relevant groups.

Conclusion

34. The Phase 1 trial of invisible fencing has been a success with regard to the testing of equipment, use of virtual grids, health and safety of the animals / visitors and public reaction. The trial was also useful in establishing an adequate monitoring scheme for future trials. As such it appears appropriate to move to Phase 2 of the expansion. The Phase 2 area will be determined over the winter months and may be an extension of Phase 1.

35. Costs for project delivery remain as expected.
36. It remains important to work closely with the manufacturer to seek further improvements in reliability and design of the equipment.
37. The Superintendent must now consider the available options concerning the procurement and management of additional livestock including the implications this has in terms of staffing issues. These issues will be the subject of further reports to this committee in 2013.

Background Papers:

- Report to Epping Forest and Commons Committee – *A 5 year trial of 'Invisible Fencing' at Burnham Beeches. Expansion of the Conservation Grazing Scheme at Burnham Beeches.* May 2012

Contact:

Andy Barnard

0207 332 6676

andy.barnard@cityoflondon.gov.uk