

<b>Committees:</b>	<b>Dates:</b>
Epping Forest and Commons Projects Sub	07 March 2016 25 February 2016
<b>Subject:</b> Gateway 7 Outcome Report: <b>Branching Out Project – Grazing &amp; Keystone Tree Strategies</b> (SEF 12/16)	<b>Public</b>
<b>Report of:</b> Director of Open Spaces	<b>For Decision</b>
<b><u>Summary</u></b>	
Project status - GREEN	
Original approved budget (May 2008): £1,114,822	
Expenditure for Grazing & Trees: £1,020,690	
<u>Project summary:</u> There were eight success criteria of which five have been achieved fully and a sixth the growth of a cattle herd (funded separately), is on target. A highlight was the successful completion of 15 arborist apprenticeships as part of the 5-year Keystone Tree programme. The target 350ha of Forest grazing requires modifications to the invisible fencing circuits (part of a separately-funded project). The deadline for the completion of the conservation work on the 1,200 Keystone Trees was extended by agreement with the Heritage Lottery Fund (HLF) to allow flexibility in order to accommodate adverse weather conditions and ensure optimum tree vitality. This work on 137 trees will be incorporated into the next two annual work programmes under Local Risk expenditure. The scale and importance of the conservation work already achieved on 1,063 ancient Oaks and Beech is without precedent in the UK.	
The total expenditure was £1,020,690 over 5 years, delivered within budget. The monies left over from this theme have been redistributed across other parts of the <i>Branching Out</i> Project, including the gateways.	
<b>Recommendations</b> It is recommended that lessons learnt are noted and this part of the <i>Branching Out</i> Project is closed. The outstanding Keystone Tree work is to be completed as part of the legacy programme agreed with HLF and incorporated into the annual work programme. The grazing area expansion and invisible fencing is to be completed as part of the separately-funded Stewardship programme.	

### **Main Report**

<b>1. Brief description of project</b>	The implementation of a long-term grazing strategy to enhance wood-pasture landscapes with an extended season, increased, sustainable herd numbers and 350ha of additional grazing within 10 years. Conservation work by crown reductions of 1,200 ancient pollard trees employing a new Team Leader, 15 apprentices and new equipment.
<b>2. Assessment</b>	Success criteria are:

<p><b>of project against success criteria</b></p>	<ol style="list-style-type: none"> <li>1. Increase grazed area to 350 hectare of wood-pasture</li> <li>2. Erect and maintain a wooden barrier fence with access gates and squeeze gaps along 4km of the A104 and A121</li> <li>3. Extend grazing season by 3-months to November each year</li> <li>4. Increase herd size to 150 cattle able to graze Forest Land effectively within 10 years.</li> <li>5. Complete haloing and crown reduction conservation operations for 1,200 selected, ancient Keystone Trees</li> <li>6. Purchase and use 30m high, tracked Hi-lift <i>Teupen</i> platform to access pollards and allow safer crown reduction work of Keystone Trees</li> <li>7. Purchase and use <i>Timberwolf</i> tracked chipper to allow access into areas of high tree density in order to manage woody arisings from tree operations</li> <li>8. Employ and train 15 apprentice arborists across the 5-year project</li> </ol>
<p><b>3. Was the project</b></p>	<p>No</p>
<p><b>specification delivered?</b></p>	<p>Six out of the eight success criteria have been met. The two remaining criteria (1 and 5) are detailed in Section 4 below.</p>
<p><b>4. Programme</b></p>	<p>The project was not completed within the agreed programme</p> <p>In Section 3. above the project specification is not yet fully delivered. Two of the eight main elements of the programme are not complete because success criteria 1 and 5 (see Section 2. above) are still to be met. The Heritage Lottery Fund (HLF) has been kept fully up to date at the quarterly meetings throughout this complex project and has approved the alterations to the programme. The state of progress, therefore, is as follows:</p> <ol style="list-style-type: none"> <li>1. An area of Forest Land well in excess of 350ha now has the potential to be grazed safely and effectively. Of this area, 335ha is encompassed by invisible fencing and an additional 44ha of fenced or electric-fenced grazing area is grazeable annually. However, there are teething problems with the longer circuits within the <i>Boviguard</i><sup>TM</sup> invisible fencing network, which has been developed as a separately-funded project. In 2016, therefore, it is expected that at least 188ha of Forest will be grazed whilst the <i>Boviguard</i><sup>TM</sup> system is being modified in liaison with the manufacturers, Lacmé.</li> <li>2. Completed as planned at a reduced cost.</li> <li>3. Achieved as planned</li> <li>4. On target. Current herd size is over 80 adult cows and increasing towards the target of 150 within 10 years.</li> <li>5. A total of 1,063 Keystone trees has been achieved. A year-long moratorium on work in the middle of the programme was agreed with HLF due to a period of adverse weather conditions affecting tree vitality. The target for completion of the remaining 137 trees has been extended to 2017.</li> <li>6. &amp; 7. Both purchases completed and both have worked well. The <i>Teupen</i> hi-lift, in particular, has transformed our approach and allowed Beech pollards be tackled where climbing would not have been possible. This approach to crown reduction work has now been followed at other sites in the UK. Both machines have been operated for over 6 years now with further use expected for at least 4 more years</li> </ol>

	with the <i>Teupen</i> and 1 – 2 years with the <i>Timberwolf</i> . 8. As planned, 15 apprentices successfully completed their year-long training at the Forest and Capel Manor College. Three apprentices were employed each year, closely mentored and trained by both Capel Manor instructors and by the Epping Forest Arborist teams.																																													
<b>5. Budget</b>	The project was completed within the agreed budget																																													
<b>Final Account Verification</b>	<table border="1"> <thead> <tr> <th colspan="3">Approved budget (£'s) (May 2008)</th> <th colspan="3">Revised approved budget (£'s) (January 2014)</th> <th colspan="3">Final out-turn expenditure (£'s) (January 2016)</th> </tr> <tr> <th>Capital**</th> <th>Revenue*</th> <th>TOTAL</th> <th>Capital**</th> <th>Revenue*</th> <th>TOTAL</th> <th>Capital**</th> <th>Revenue*</th> <th>TOTAL</th> </tr> </thead> <tbody> <tr> <td>328,691</td> <td>786,131</td> <td>1,114,822</td> <td>331,509</td> <td>716,428</td> <td>1,047,937</td> <td>292,299.15</td> <td>610,346.43</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>102,433 (Lodges)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>15,611 (Husqvarna equipment)</td> <td>1,020,689.58</td> </tr> </tbody> </table>	Approved budget (£'s) (May 2008)			Revised approved budget (£'s) (January 2014)			Final out-turn expenditure (£'s) (January 2016)			Capital**	Revenue*	TOTAL	Capital**	Revenue*	TOTAL	Capital**	Revenue*	TOTAL	328,691	786,131	1,114,822	331,509	716,428	1,047,937	292,299.15	610,346.43									102,433 (Lodges)									15,611 (Husqvarna equipment)	1,020,689.58
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*Revenue included Project Manager costs, Arborist Team Leader, Apprentices (x15), Lodge accommodation, training and recruitment. **Capital costs were wooden fencing, gates, <i>Teupen</i> hi-lift and <i>Timberwolf</i> chipper																																														
<b>Not Verified</b>			<b>Awaiting verification</b>																																											

## Review of Team Performance

<b>6. Key strengths</b>	<p>1. The incorporation and mentoring of 15 apprentices across five years was a success and highlight of this part of the project. All 15 apprentices completed their 1-year apprenticeships and each achieved the Level 2 work-based diploma.</p> <p>2. The completion of haloing and crown reductions on 530 ancient Oak and 533 ancient Beech is a major conservation achievement, as it is on an unprecedented scale in the UK. A conference in 2017 is proposed at which this achievement can be reviewed and shared with other land managers and conservationists.</p>
<b>7. Areas for improvement</b>	<p>Although not a direct part of this programme the invisible fencing project is yet to achieve its full potential and currently grazing cannot be achieved across the 350ha area.</p> <p>The cattle herd expansion, not directly funded as part of this project programme, requires review to ensure best value and this will be carried out as part of a separate exercise under the Environmental Stewardship project.</p> <p>The self-closing, hydraulic horse-gates in the wooden barrier fence are gradually to be replaced with wooden gravity-closing gates because of maintenance costs. A wooden gravity closing gate has already replaced the gate at the Lincoln's Lane crossing.</p> <p>Nonetheless, in 2015, the six remaining hydraulic gates all performed</p>

	efficiently without incident.
<b>8. Special recognition</b>	In addition to the measurable success of the apprentices' achievements (see Section 6. above), the mentoring of them by the arborist teams also provided opportunities for the personal and professional development of CoL staff. CoL staff commented on the value of this to them during the project. Also the majority of the apprentices gave very appreciative feedback about the benefits of this mentoring and the special working environment provided by the Forest. Indeed Capel Manor tutors and other apprentices on the same arborist course, but with placements elsewhere, considered that Epping Forest was the best place for such training.

## Lessons Learnt

<b>9. Key lessons</b>	<p>1. A target of around 900 Keystone trees would have been easier to achieve, would have allowed more flexibility to respond to weather events and other work programme pressures as well as allowing more time to tackle the really large Beech pollards. The locations of those trees and difficulties of access had a major bearing on the speed of work as did the use of the <i>Teupen</i> as opposed to climbing: the <i>Teupen</i> allowed work to more difficult trees but was slower overall.</p> <p>2. For the barrier fencing, the fence post specification should have been more precise in the original order. It should have specified UC4 standard throughout. As a result of this omission the posts had to be double-handled and re-treated with more robust chemical treatment before installation. The extra cost was relatively small ((£3,360) but the treatment may not prove to be as effective as a factory treatment.</p>
<b>10. Plan for lessons learnt</b>	<p>1. In planning for future keystone tree work and wood-pasture restoration the lessons learnt in terms of time required for each job, as affected by access, location and individual tree characteristics will be taken into account in greater detail.</p> <p>2. Future fence specifications, including replacement fencing will consider either a minimum specification of UC4 (or updated industry standard) or the use of more durable wood such as chestnut posts.</p>

## Appendices

<b>Appendix 1</b>	Location and Species Distribution Map of the completed Keystone Trees
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## Contact

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