


**Burnham Beeches
& Stoke Common**
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Basque pollards: cultural and biodiversity icons

Helen Read, David Humphries & Alasdair Nicoll



This is one of 14 green spaces managed by the City of London at little cost to the general public.

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Talk outline


- Introduction
- Beech pollards in the Basque country
- Experience of cutting the trees
- Fungi
- Perceptions of risk
- Conclusions



Photo: Zuz Featherstone

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Pollards: An ancient management technique

- Trees cut repeatedly at 'head' height
- Cut for wood or leaves
- Cut on a regular cycle
- Land under trees grazed or cultivated




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Types of pollards in the Basque Country

- 'Normal' trasmochos
- Guided trees with 'horca y pendor'



Aragon 2001

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Basque pollard 'orchards' & commons

- Cultural importance
- Specific landscape appearance
- High biodiversity value
- Some are Natura 2000 sites



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UK Situation in 2003 (e.g. Burnham Beeches)

- Over 150 years since trees were last cut.
- Concern about tree decline.
- A few attempts to work on old trees.
- One small study looking at responses of lapsed pollards to cutting.
- Few people cutting new pollards.
 >Churchill Fellowship



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Basque country 2003

- Some trees barely out of cutting rotation.
- Charcoal makers still alive who cut trees.
- Very little awareness of their importance.
- Recent historical study.
- (Different approach to H&S issues!)



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History of visits


- 2005 Churchill Fellowship
- 2007 Cutting trees
- 2009 Measuring trees
- 2017 & 2022 Conference
- 2015 'rough & ready study'

+ Reciprocal visits of individual staff, additional research, scientific papers





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Site locations



- 1 - Matute de la Sierra
- 2 - Valonsadero
- 3 - El Rojo
- 4 - Valdeavallano de Tera
- 5 - El Rojo
- 6 - Almarza
- 7 - Sierra Andia
- 8 - Leitza
- 9 - Olanleku
- 10 - Urkiola

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Initial research at Burnham Beeches Evaluation of responses


- Observation from ground
- Time since last cut (recent better)
- Stubs (longer better)
- Branch diameter (NS)
- Tree girth (NS)
- Tree surgeon (NS)



Read, Wheater, Forbes & Young 2010, Quarterly Journal Of Forestry

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Studies in the Basque Country

1. Leitzza/Aiko Harria:
 - ‘Traditional’ cuts and ‘restoration’ cuts
 - Axe vs chainsaw
2. Gorbeia:
 - Moon phase
3. Leitzza/Pagoeta/Aizkorri-Aratz/Aiko Harria
 - Cutting method



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1. Leitzza/Aiako Harria (2009)

Traditional vs restoration

Traditional cuts have:

- Longer stub length
- Bigger diameter
- More clusters (not more shoots)
- More dieback



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1. Leitzza/Aiako Harria (2009)

Axe vs chainsaw

Axe cut branches had:

- Longer stubs
- More new shoots
- More clusters
- More chance of epicormic growth, and longer, on bolling



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1. Leitzza/Aiako Harria (2009)

Impact of tree condition before cutting

- High tree vitality - better callus
- High ground compaction - more dieback
- Less shade - more branches with new shoots



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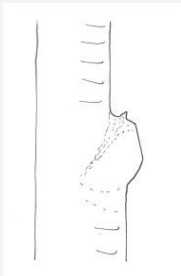


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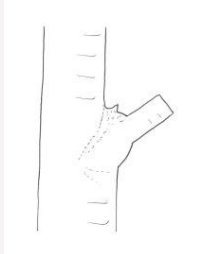
The importance of leaving stubs

Longer stubs:
More new shoots,
more clusters &
longer shoots

**Leave a stub of
at least 50cm**




Target prune (no
stub)



Stub left

Read, Dagley, Elosegui, Sicilia & Wheeler 2013 Arboricultural Journal

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2. Gorbeia: Importance of moon phase

18 trees cut traditional way
when moon waxing or waning.
After 4 growing seasons:

- Significantly more shoots in 'wrong' moon phase

BUT: These had significantly smaller stub diameters
(Beech should be cut on a waxing/growing moon)



Read, Alvarez, Wheeler & Sicilia 2018, Arboricultural Journal

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3. Pagoeta/Leitza etc. Cutting method

Leitza & Aiako Harria after 9 growing seasons plus more trees cut in LIFE project

250 trees – ‘quick & dirty’

Comparison of traditional vs restoration cutting (H, M & L)




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3. Pagoeta/Leitza etc. Cutting method

- Traditional is high risk
- Leave at least three branches uncut
- Cut smaller branches (under 30 cm diameter)
- Leave as much retained growth as possible



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3. Pagoeta/Leitza etc. Cutting method

Choose trees:

- More branches (> 10)
- In semi shade
- With good epicormic growth (with a tutu)





Read, Bengtsson, Castro, Harris & Wheeler 2021, Arboricultural Journal.

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In conclusion: Traditional or restoration cuts?




- Traditional is high risk strategy
- May get good response
- Trees may grow initially but then die
- Restoration cuts are lower risk strategy, but more time consuming = expensive

But in SE England 'traditional' cuts would almost certainly kill the tree


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In conclusion: High cuts or 'stage reduction'

- First reduction is good
- Second cuts are below first cuts and remove new growth
- Is this good for the tree?



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Summary: How to cut lapsed beech pollards

- Leave stubs of at least 50cm
- Keep the connection between the roots and the shoots
- Ensure enough light
- Avoid ground compaction
- Chose trees most likely to respond
- Keep cutting!
- Moon phase?
- Axe or chain saw?



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Nature conservation and resilience

Biodiversity value

Observing fungal species, ecology, tree host associations




Tree health - forest Mycorrhiza
Amanita, Bolete, Russula sp



Saproxyllic (dead wood) diversity
Hericium


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Biodiversity value

Fomitopsis pinicola - Red banded Polypore - example of changing tree **host & type** association




Białowieża Poland, with conifer




Burnham Beeches with Beech

Frequently associating with coniferous species in mainland Europe, but increasingly recorded on coniferous 'and' broadleaf species in the south and southeast of the UK



Basque Country with conifer



Burnham Beeches with Birch

Opportunity to compare the ecology of this species whilst on this visit.

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Biodiversity value

Observing fungal species, ecology tree host associations

Visits like this study tour to the Basque Country and other European areas have increased knowledge on Fungi and led (in part) to the 2021 Arboricultural Association publication

FUNGI ON TREES: A PHOTOGRAPHIC REFERENCE



Ecologist Ted Green



CoL employees



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Biodiversity value

Cerambyx cerdo, Capricorn Beetle

C. scopoli noted in the Basque Country

Creates and provides dead wood habitat eg; bats

Structural effects

Hosts mainly on oak but also noted on beech, ash, elm, plane, chestnut, cherry
Varying concerns amongst tree/site managers across Europe.
C. cerdo extinct in the UK but Imported into timber yards
Do *Cerambyx* species have potential to threaten UK trees?

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Perception of risk

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Perception of risk


Tree Safety vs Bull Running




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Conclusions

- Over 15 CoL staff involved in 'formal' exchanges & other colleagues
- Experience exchange (UK/Basque Country/Spain)
- Raising awareness (LIFE project)
- Making links between arbs and 'research'
- Learning how to cut lapsed beech pollards
- VETree/VETcert
- Lots of spin offs.... more to learn!

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