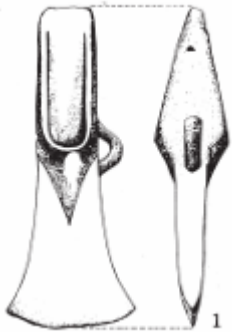
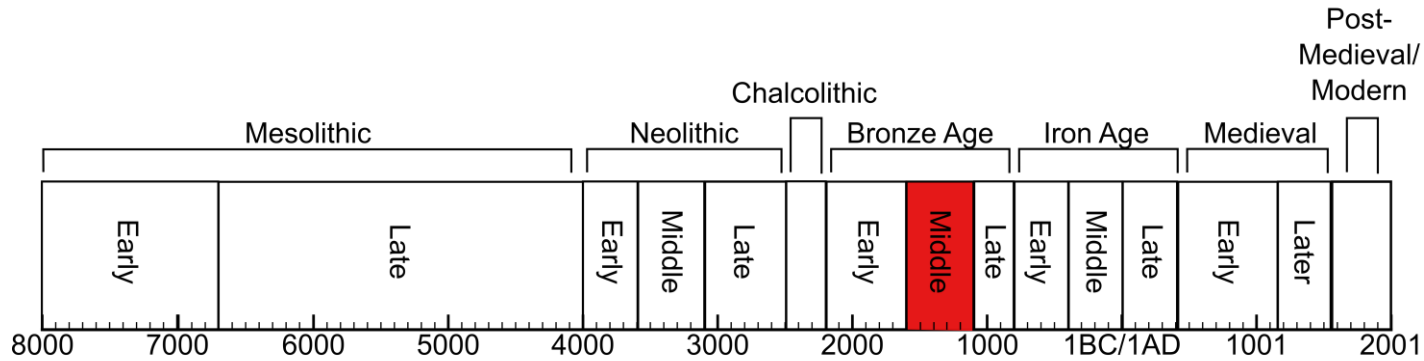


# Fiery Death and Memorials on New Frontiers

Dr Ben Spillane

# Setting the Scene: Middle Bronze Age Ireland



Wexford gold torcs

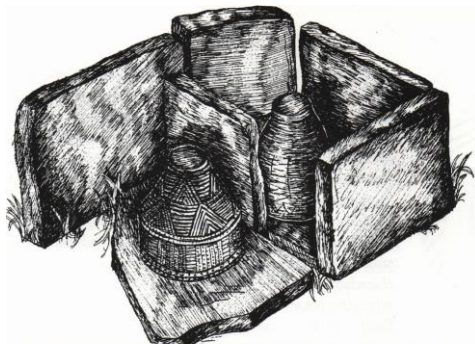
Enniscorthy (top)

Toberduff (bottom)

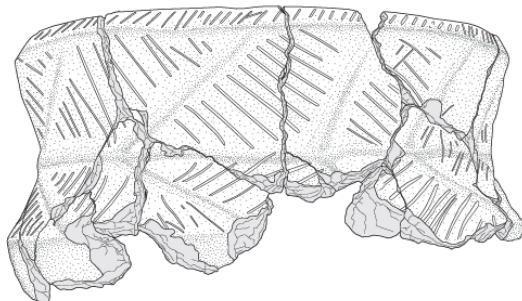
Bronze palstaves, rapiers and spearheads (Waddell 1998)

© NMI

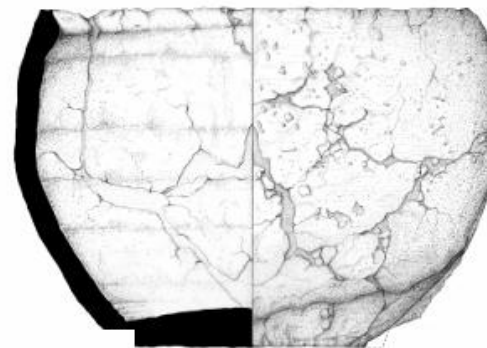
# Funerary Practices: From Early Bronze Age Finery to Middle Bronze Age Coarseness and Tokenism



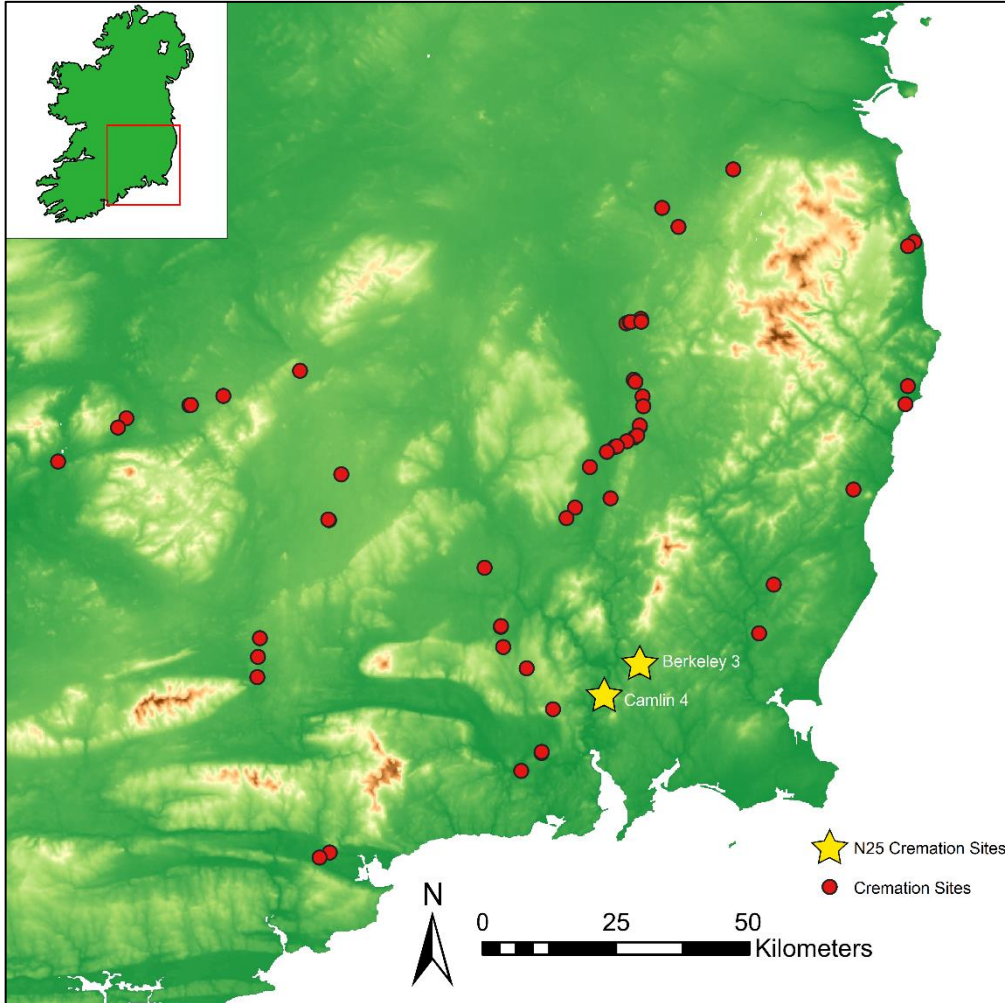
Left: EBA urns and a crouched inhumation (Ryan 1991; Stephens & Hourihan 2014)



Right: MBA token cremation pits and a coarseware cremation vessel (Doody 2008; Stevens 2011)

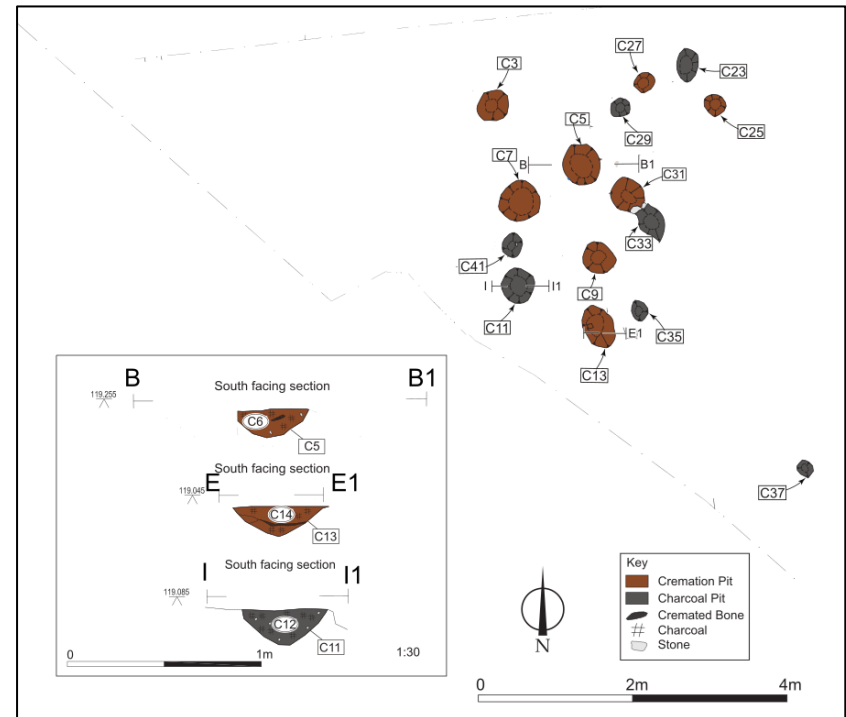
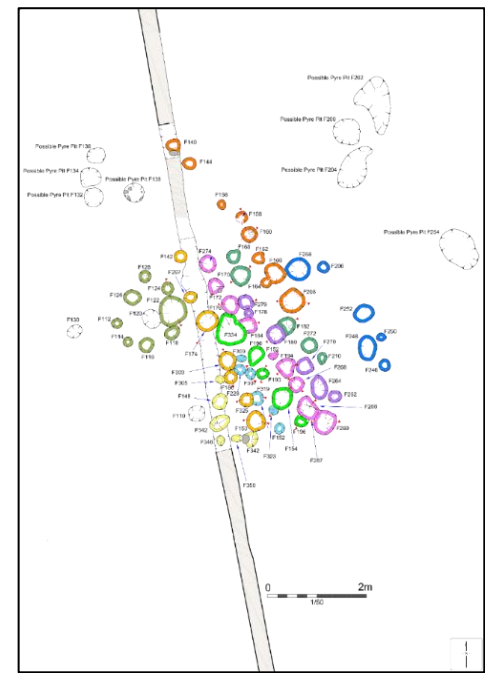


# Token Cremation in Middle Bronze Age Ireland

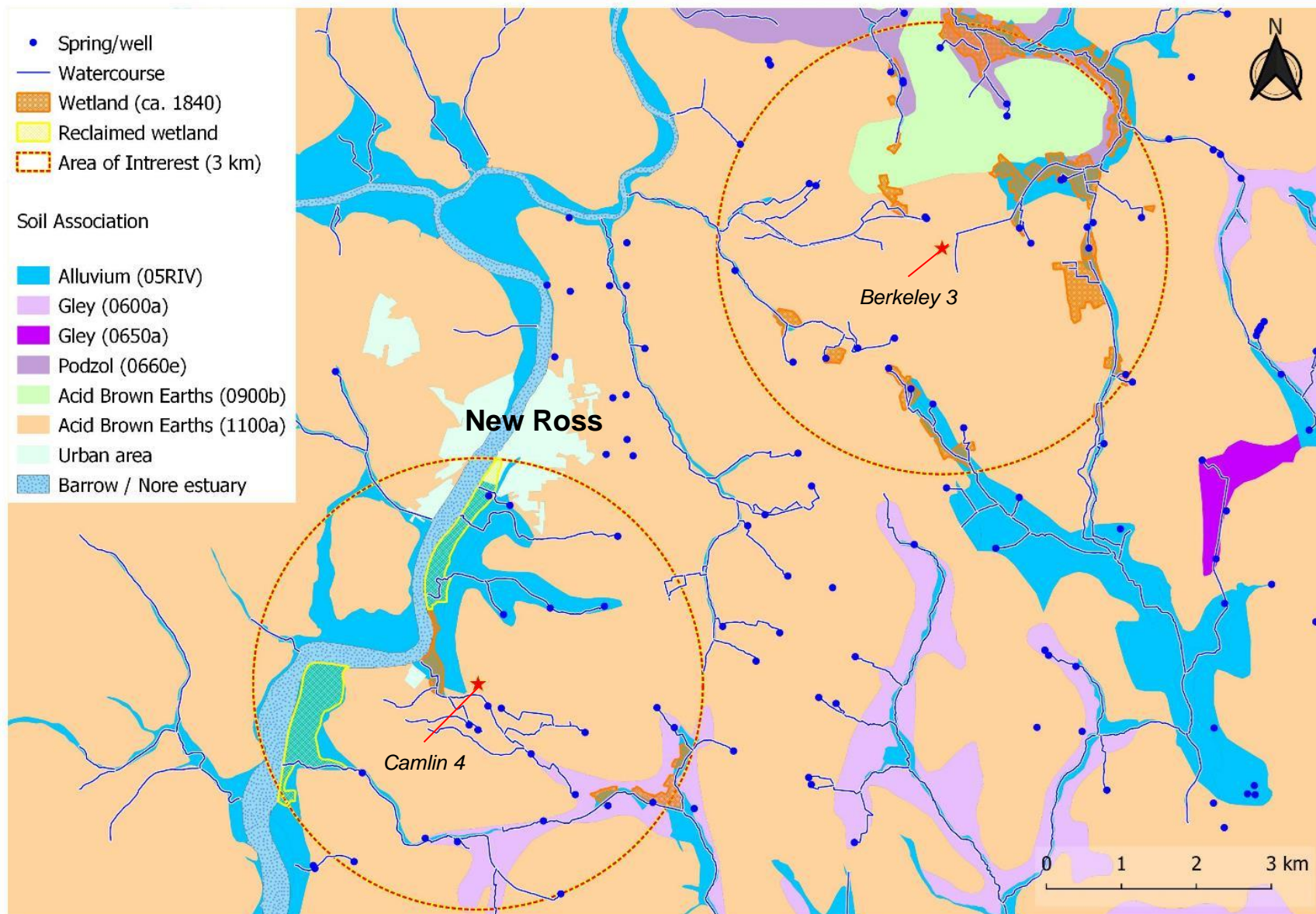


Borris, Co. Tipperary  
(Conboy *et al.* 2008)

Templenoce,  
Co. Tipperary  
(Doody 2008)









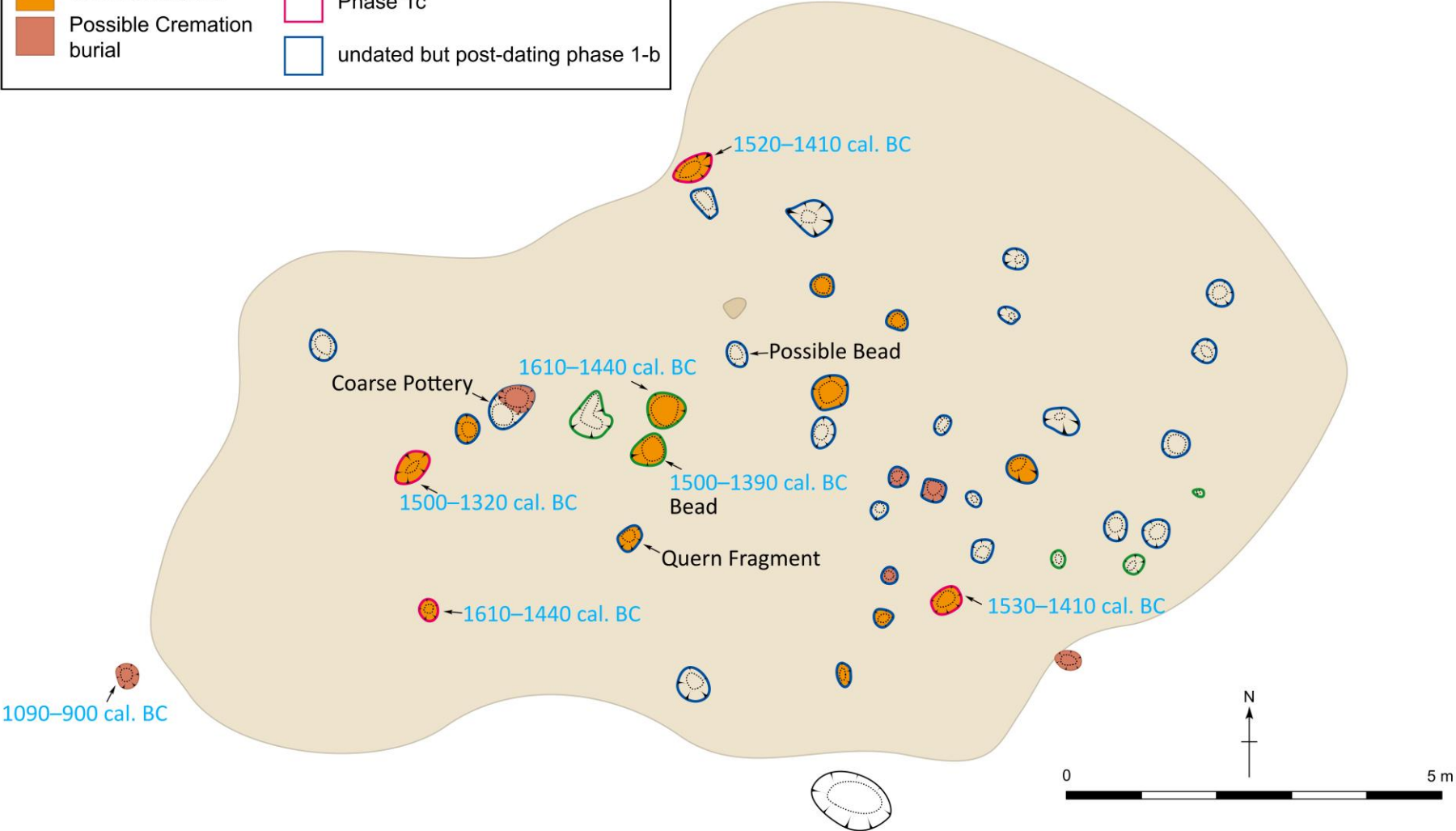
# Local Environmental Context: Soils & Drainage

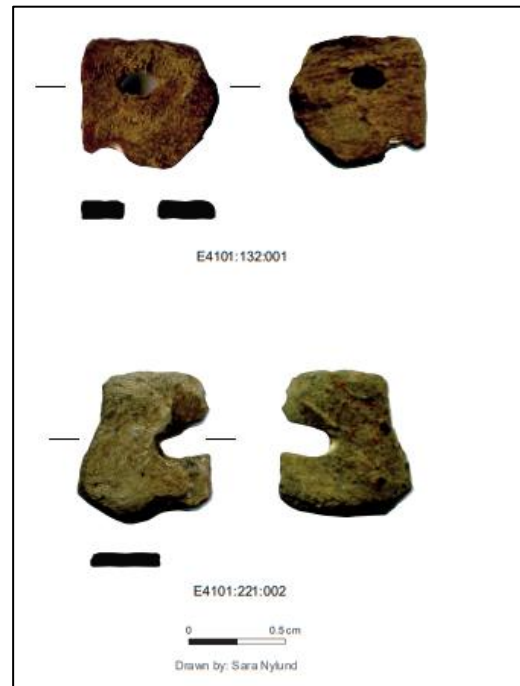
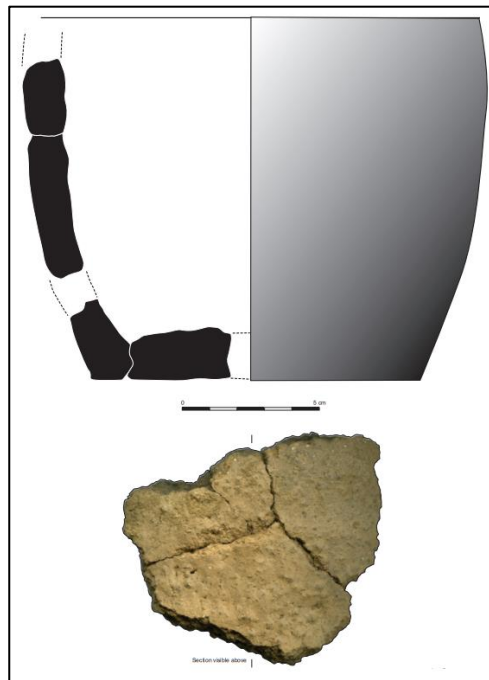


# Camlin 4 (E4101)

**KEY**

 Deposit	 Phase 1a
 Cremation burial	 Phase 1c
 Possible Cremation burial	 undated but post-dating phase 1-b

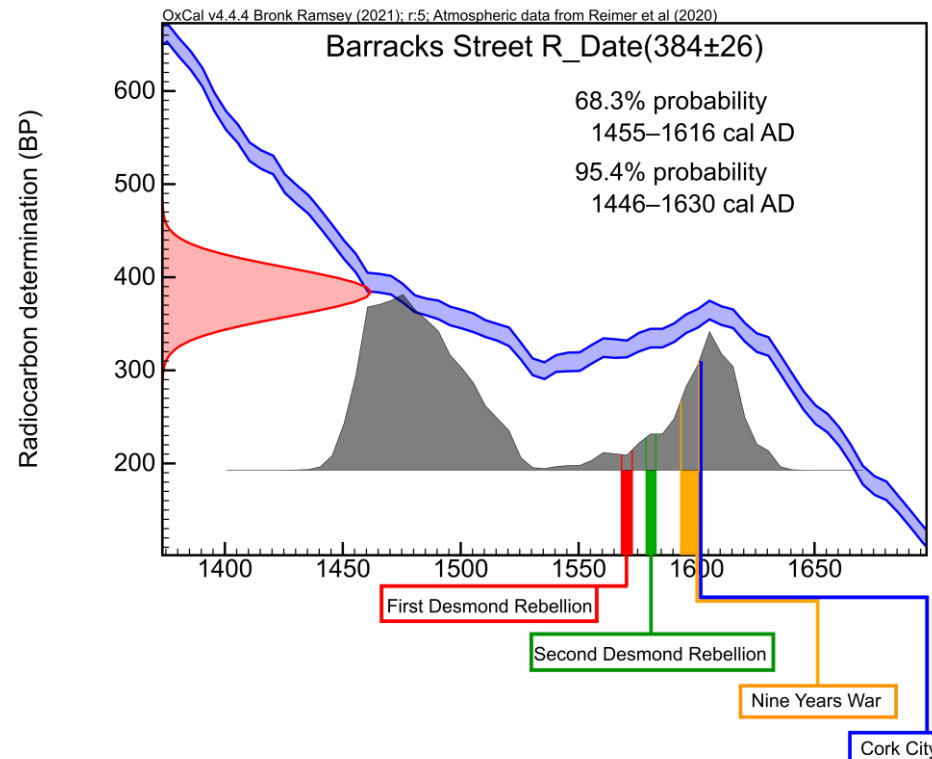
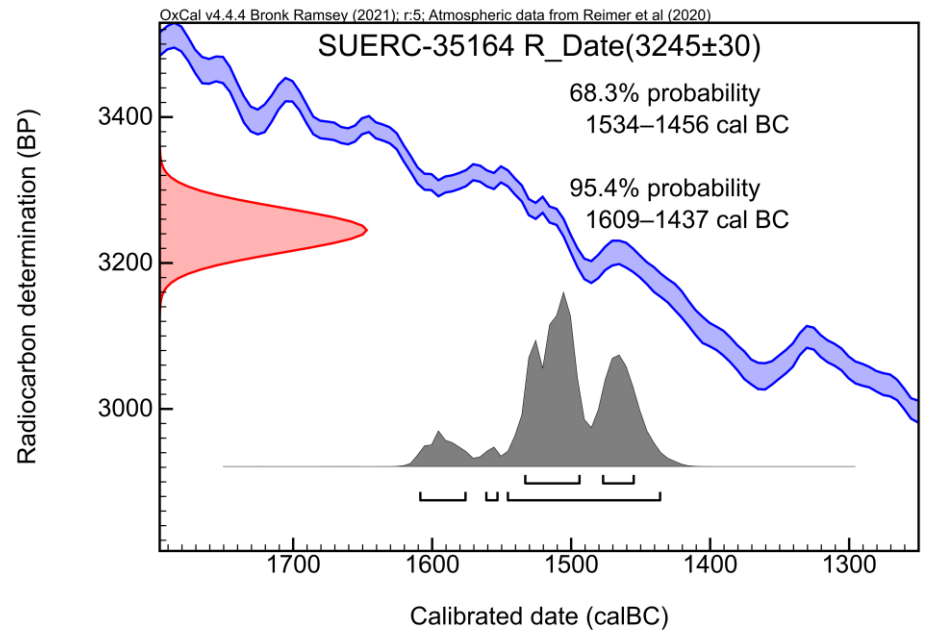




# The Problem with Radiocarbon Dates



Kelleher, O. 12 Jun 2022 ([www.journal.ie](http://www.journal.ie))

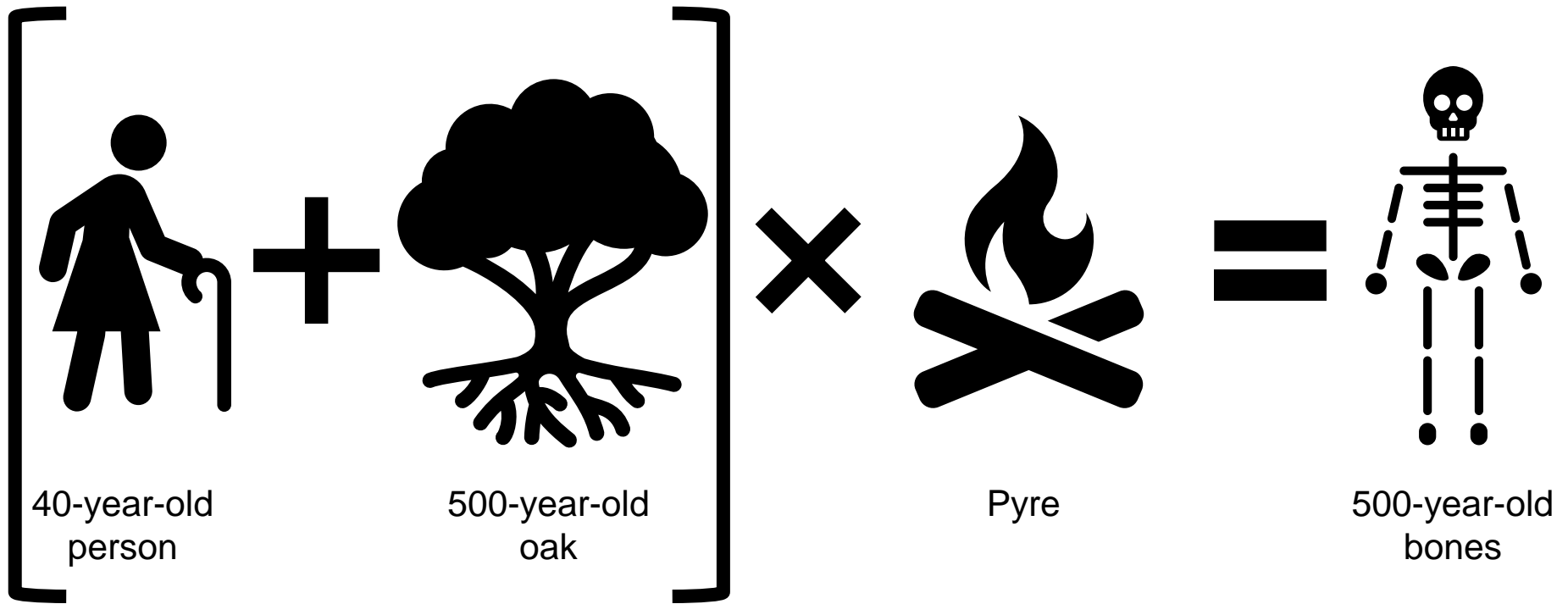




# The Problem with Radiocarbon Dates from Cremated Bone

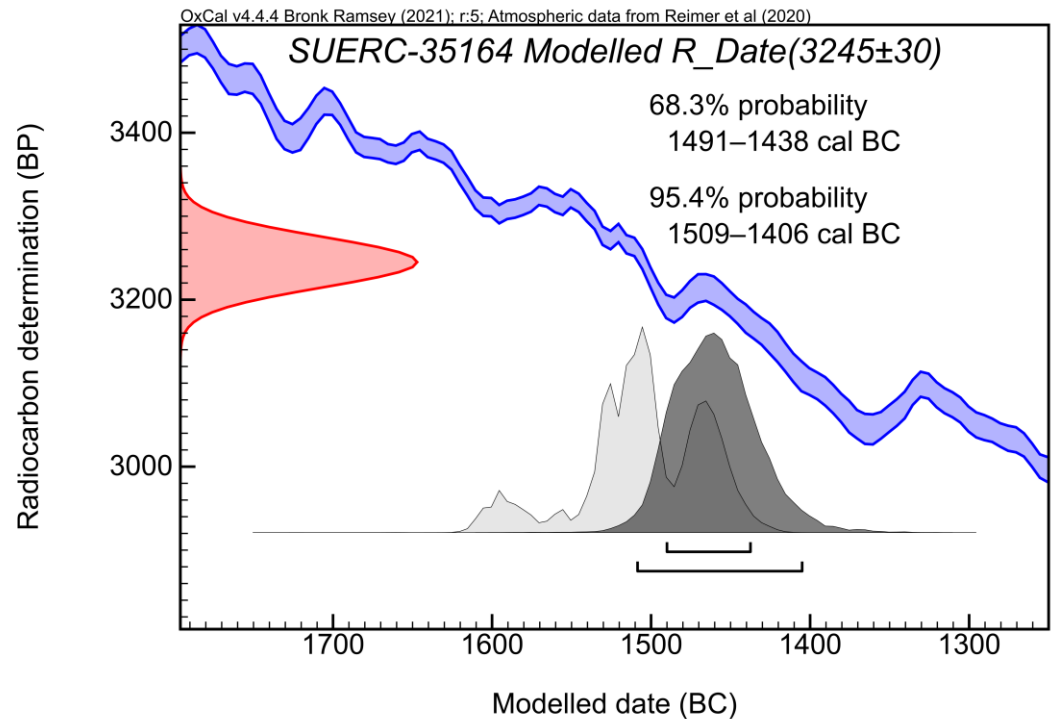
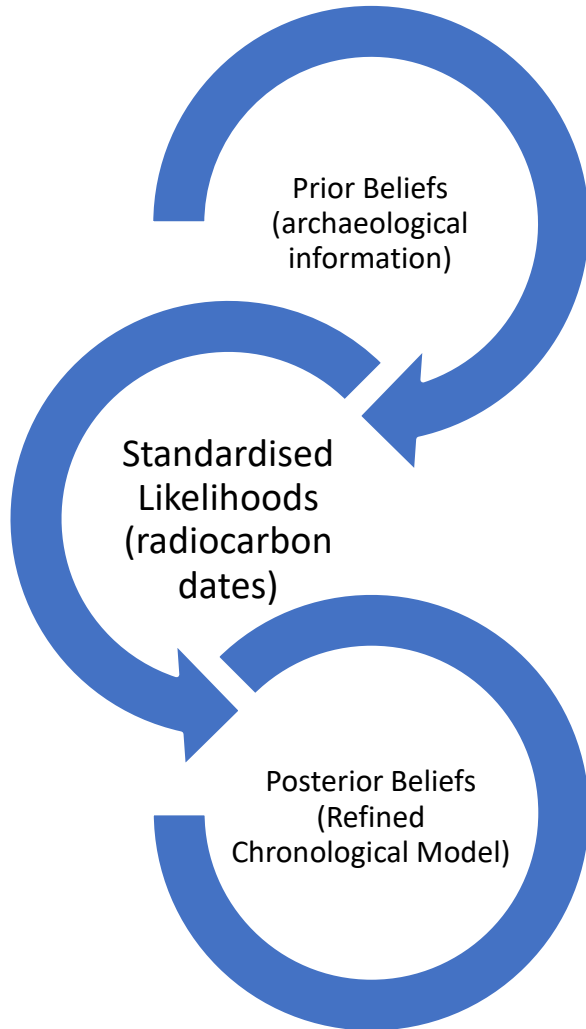


# Cremated Bone and the Old Wood Effect



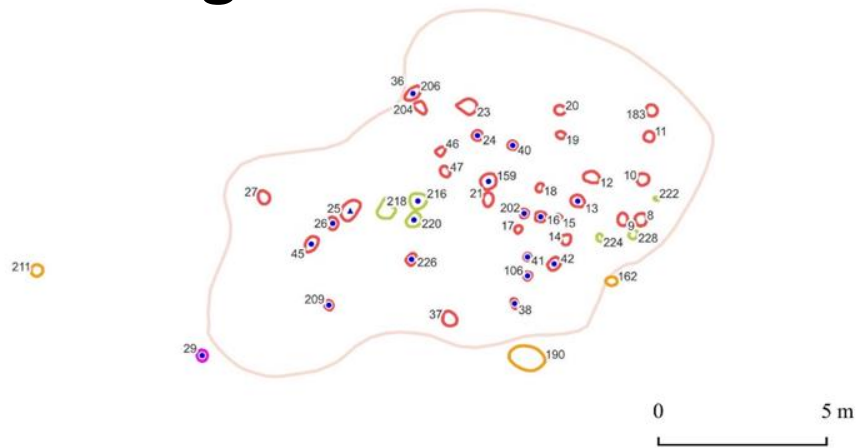
# Bayesian Chronological Modelling

$$p(\mathbf{t}|\mathbf{y}) \propto p(\mathbf{y}|\mathbf{t})p(\mathbf{t})$$



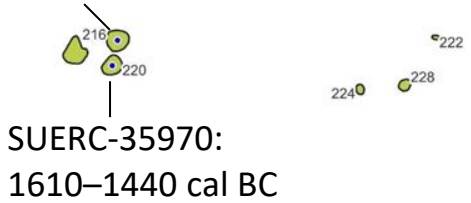
# Bayesian Chronological Modelling: Camlin 4

All Phases

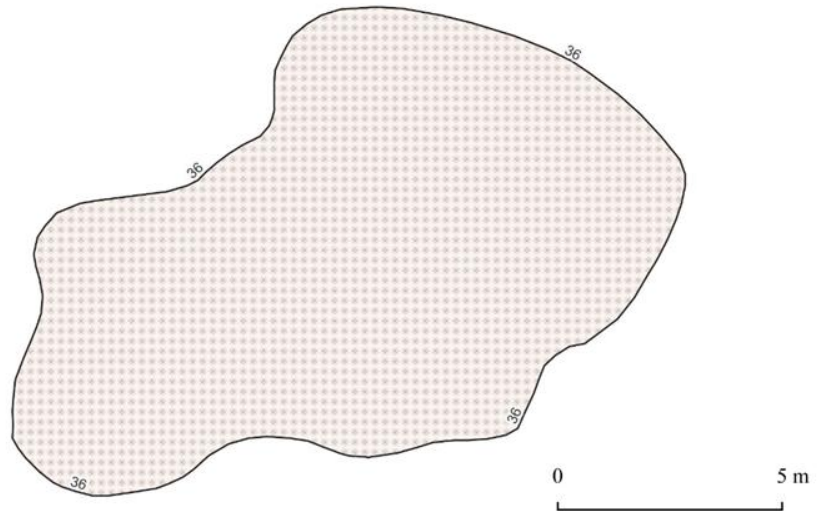


Phase 1a

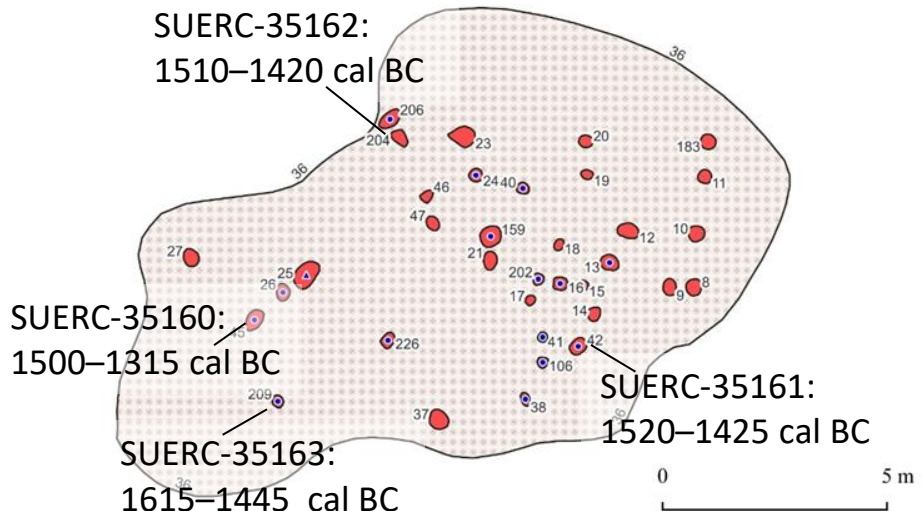
SUERC-35164:  
1610–1440 cal BC



Phase 1b



Phase 1c



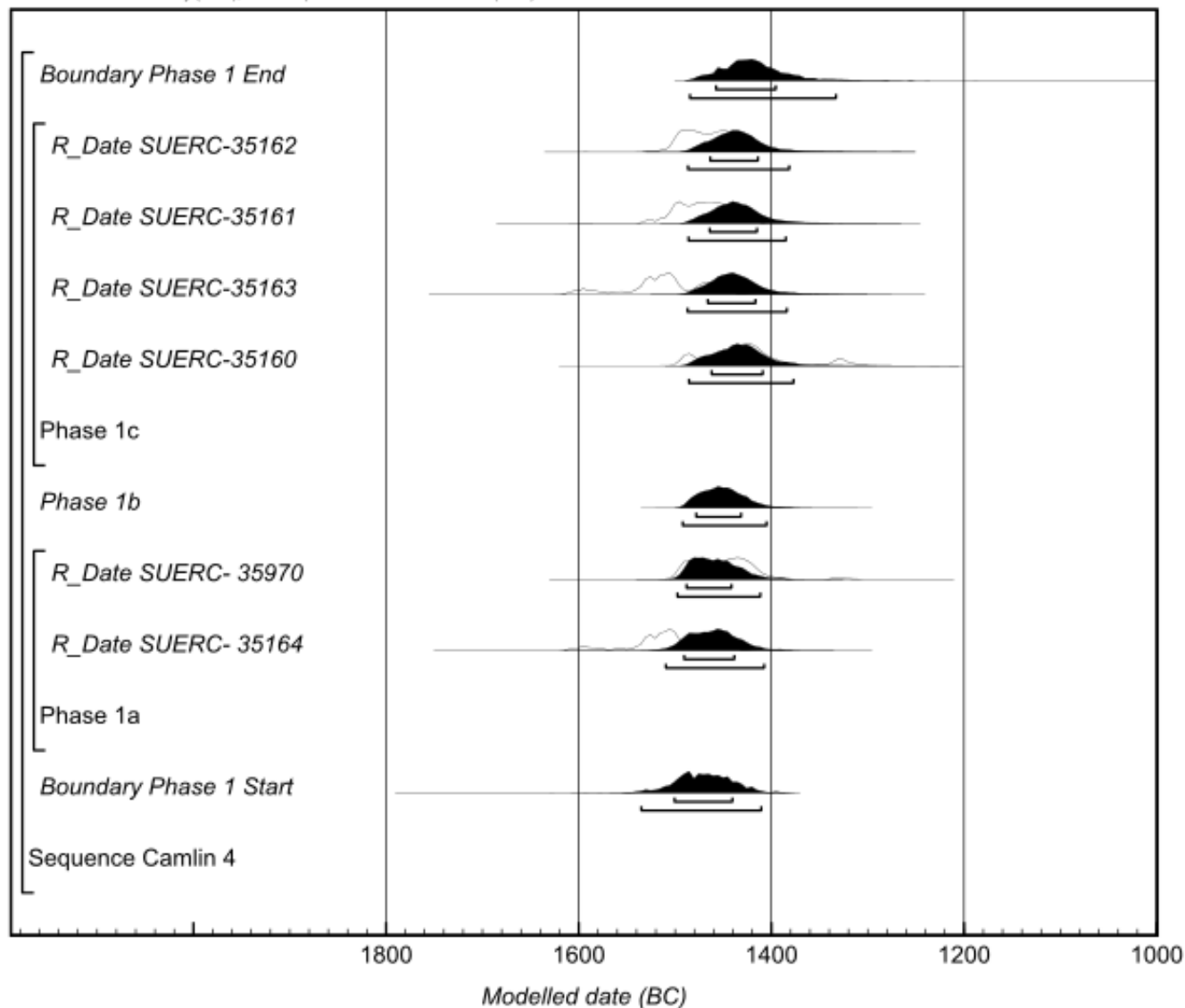
Camlin 4 (E4101) Phased Plans

- Ph 1a
- Ph 1b
- Ph 1c
- Ph 2
- Unphased
- Cremation
- Pottery



# Camlin 4: Bayesian Modelling Results

OxCal v4.4.4 Bronk Ramsey (2021); r:5 Atmospheric data from Reimer et al (2020)



## Phase 1 End

1490–1330 cal BC  
(95.4% probability)

1460–1390 cal BC  
(68.3% probability)

## Phase 1b

1500–1400 cal BC  
(95.4% probability)

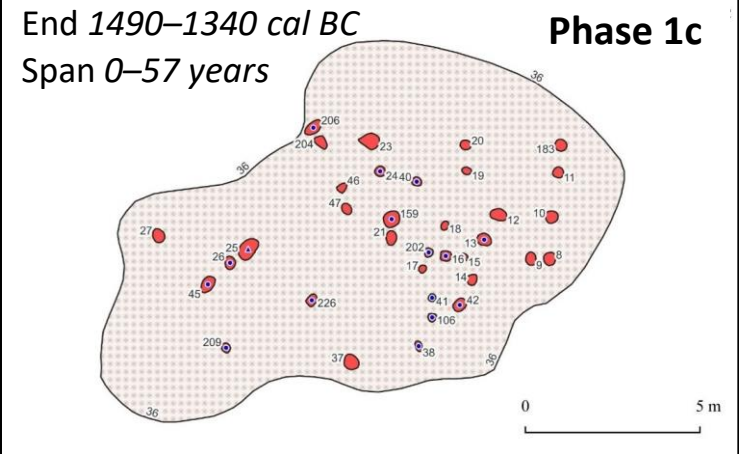
1480–1430 cal BC  
(68.3% probability)

## Phase 1a

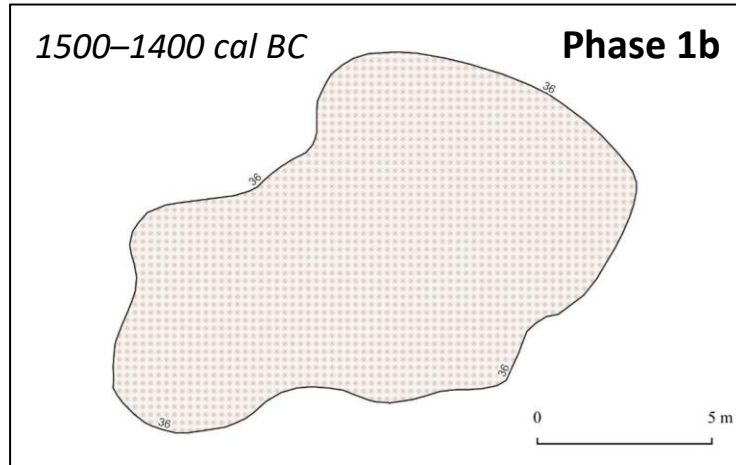
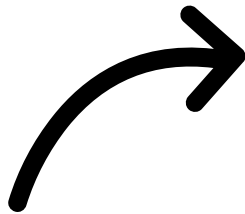
1540–1410 cal BC  
(95.4% probability)

1510–1440 cal BC  
(68.3% probability)

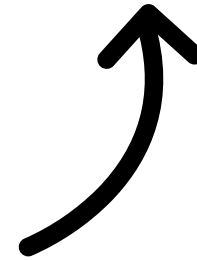
# The Temporal Sequence of Activity at Camlin 4



0-67 (probably 25) years later



0-94 (probably 41) years later

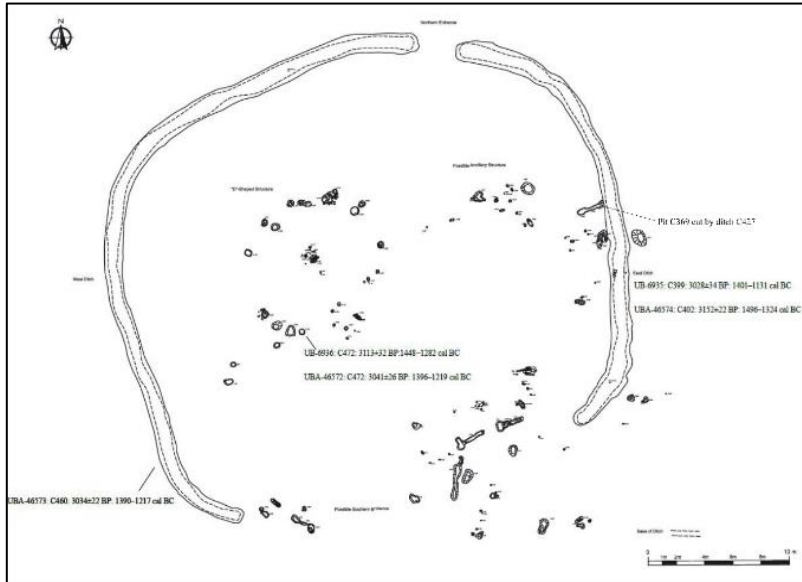


Start 1540–1410 cal BC  
Span 0–30 years

**Phase 1a**

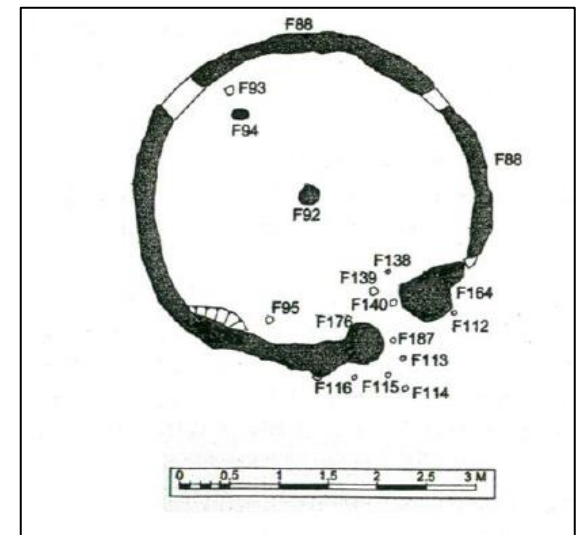
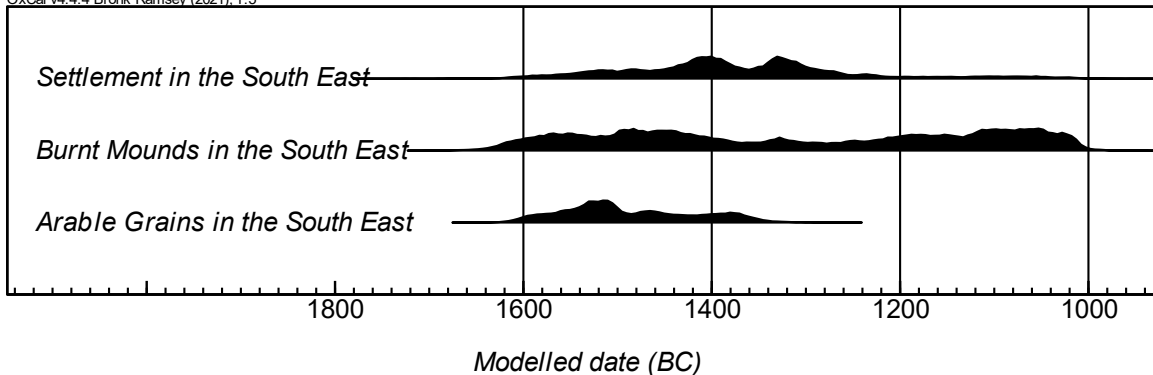


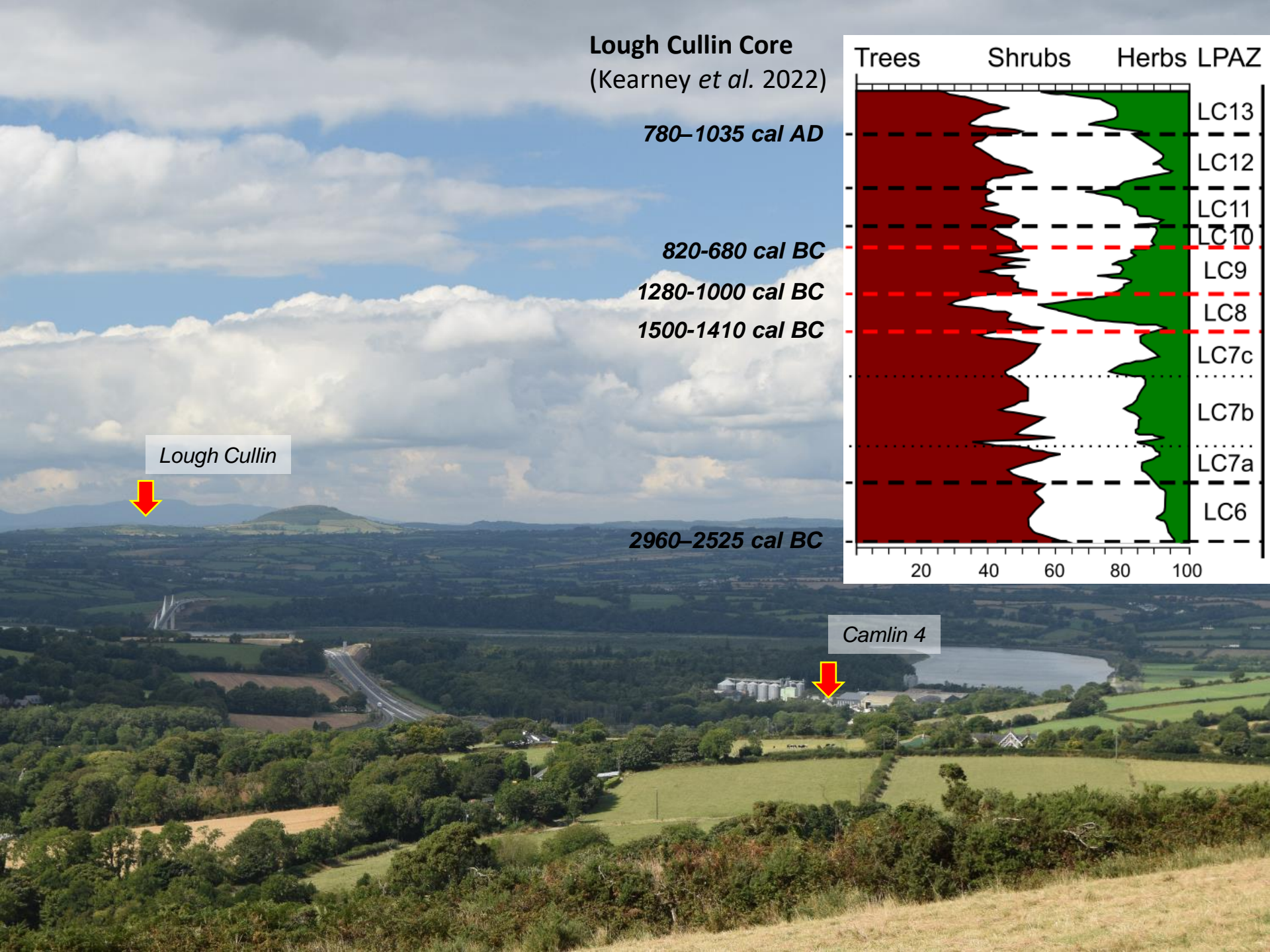
# New token frontiers? Comparisons with the contemporaneous developments.



Knockhouse Lower Enclosure (left) and roundhouse (bottom right), *Fulacht Fiadh* Trough at Berkeley 2 (Johnston 2006; McQuade 2005; Clark 2016, Plate 2).

OxCal v4.4.4 Bronk, Ramsey (2021); r:5





**Lough Cullin Core**  
(Kearney *et al.* 2022)

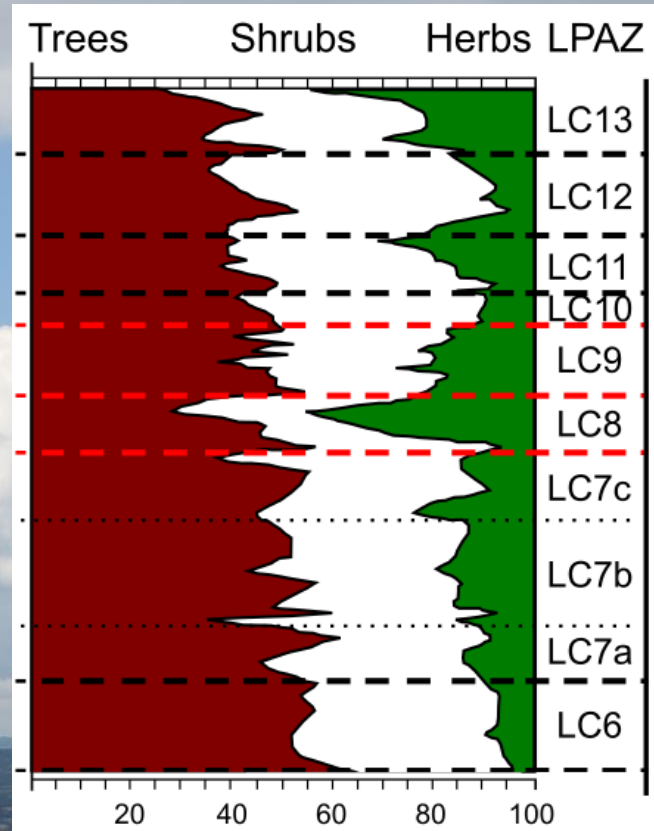
**780–1035 cal AD**

**820-680 cal BC**

**1280-1000 cal BC**

**1500-1410 cal BC**

**2960–2525 cal BC**



Lough Cullin

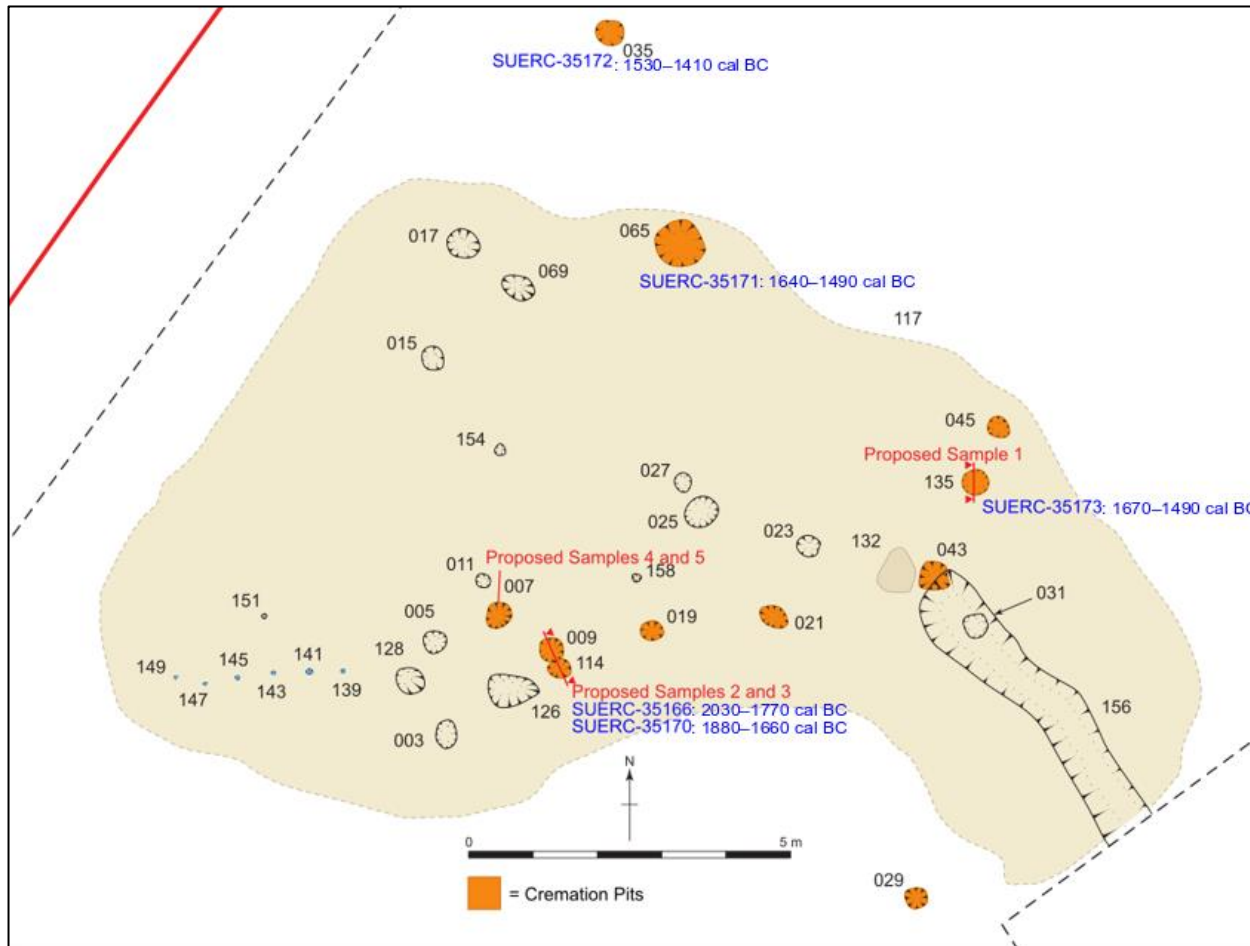


Camlin 4

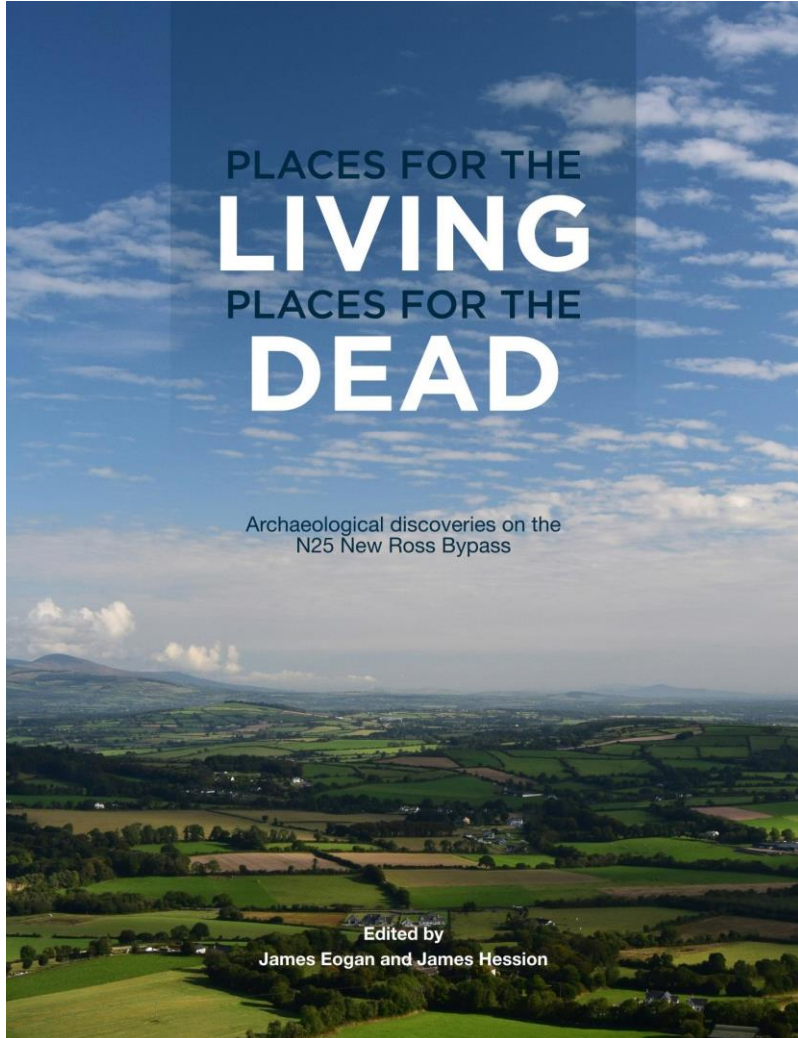




# Berkeley 3 (E4122): Royal Irish Academy-funded Project for the Acquisition of New Radiocarbon Dates



# Publication



***Book available for purchase at: [www.wordwellbooks.com](http://www.wordwellbooks.com).***  
***Available as an EPUB at: <https://www.tii.ie/technical-services/archaeology/publications/tii-heritage/>***

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