

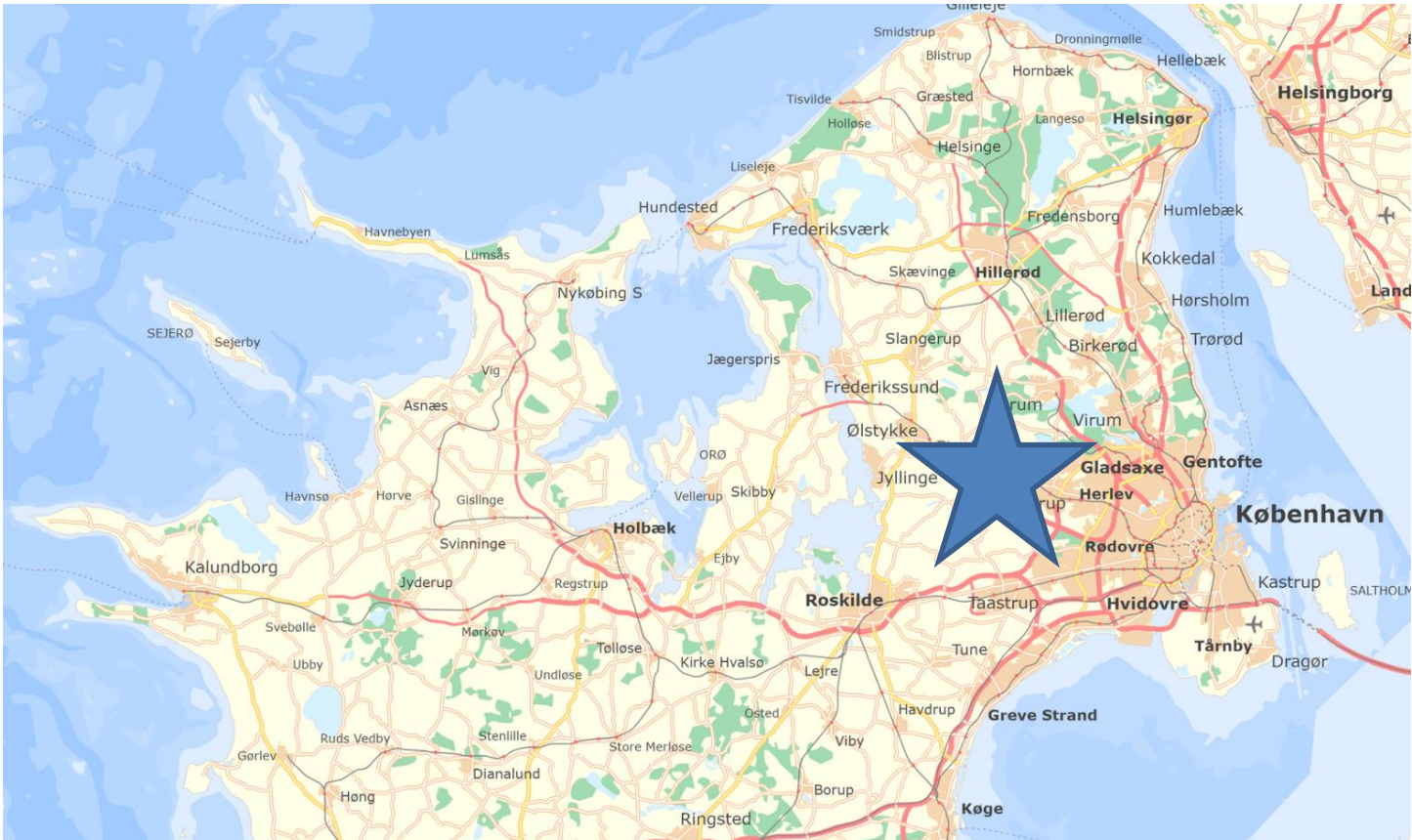


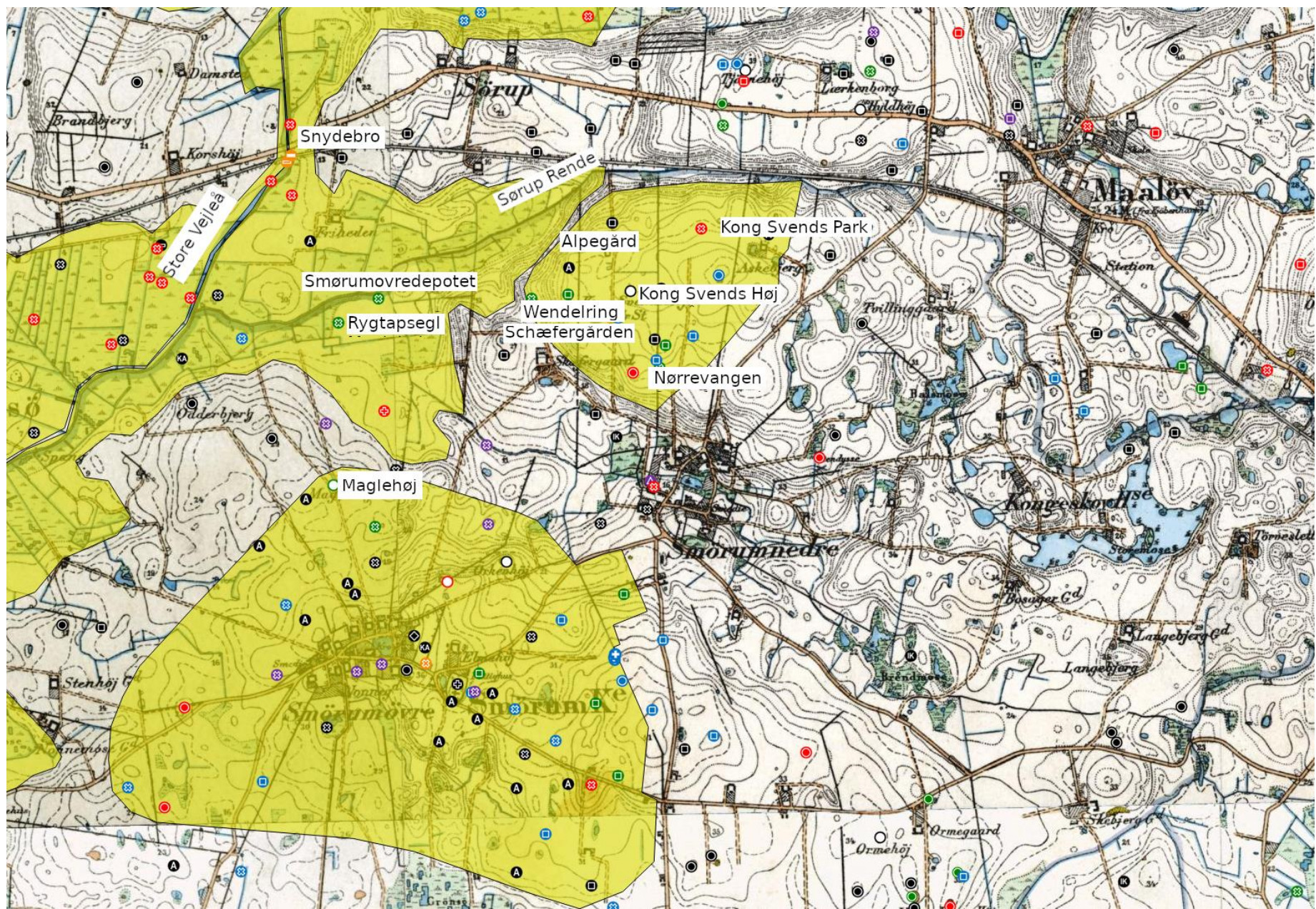
Alpegård near Smørum

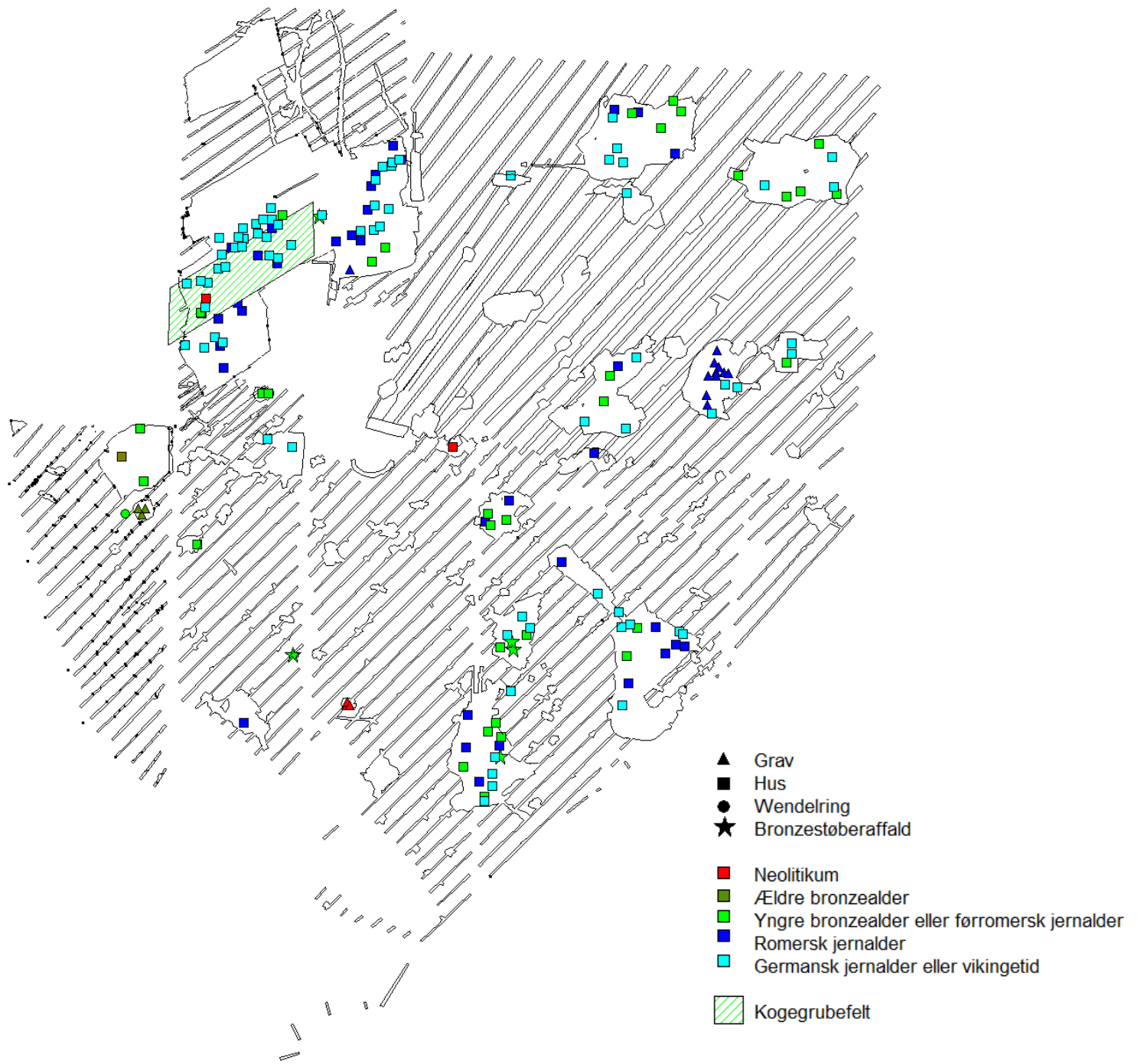
Bo Jensen, Kroppedal Museum

Today...

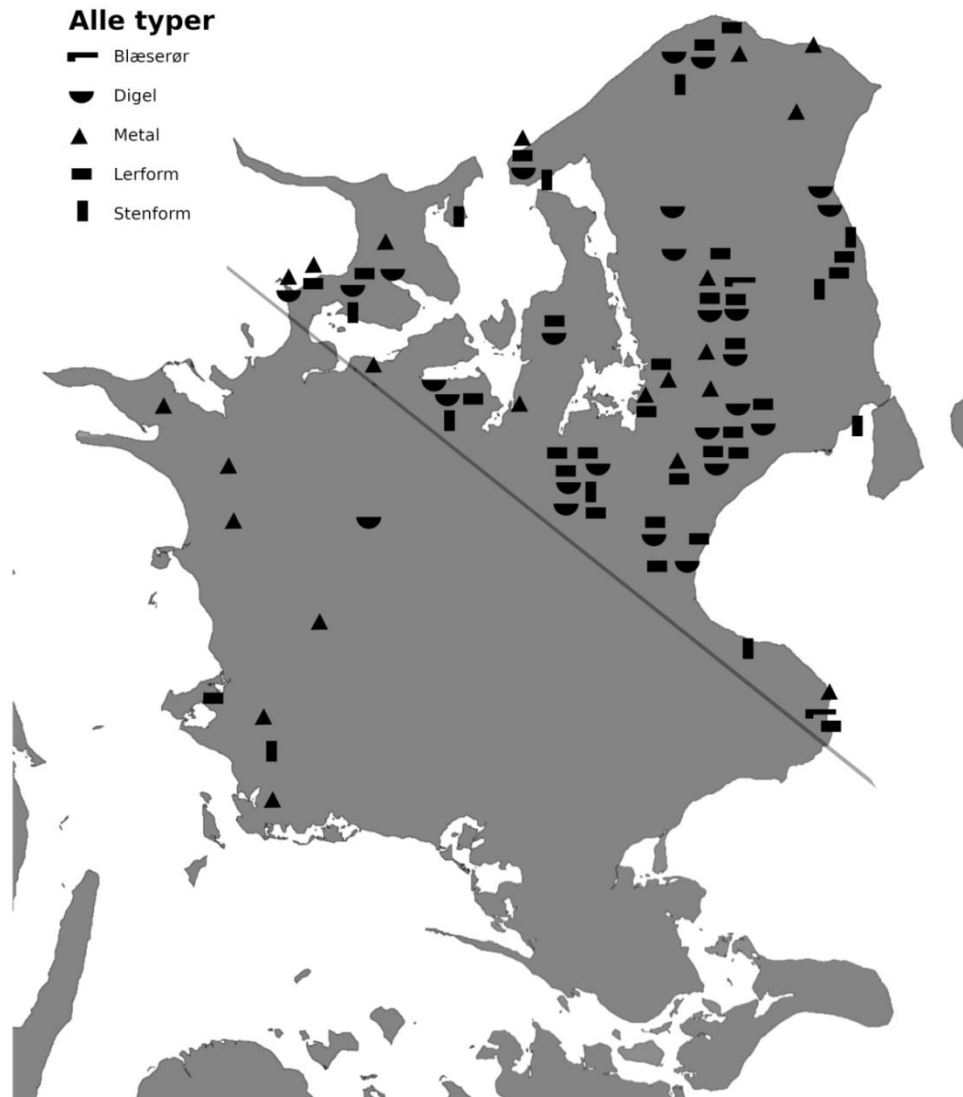
- The site, and its interpretation
- C14-chronology
- Methodology – data collection
- Reflections: what needs improving? What worked well?





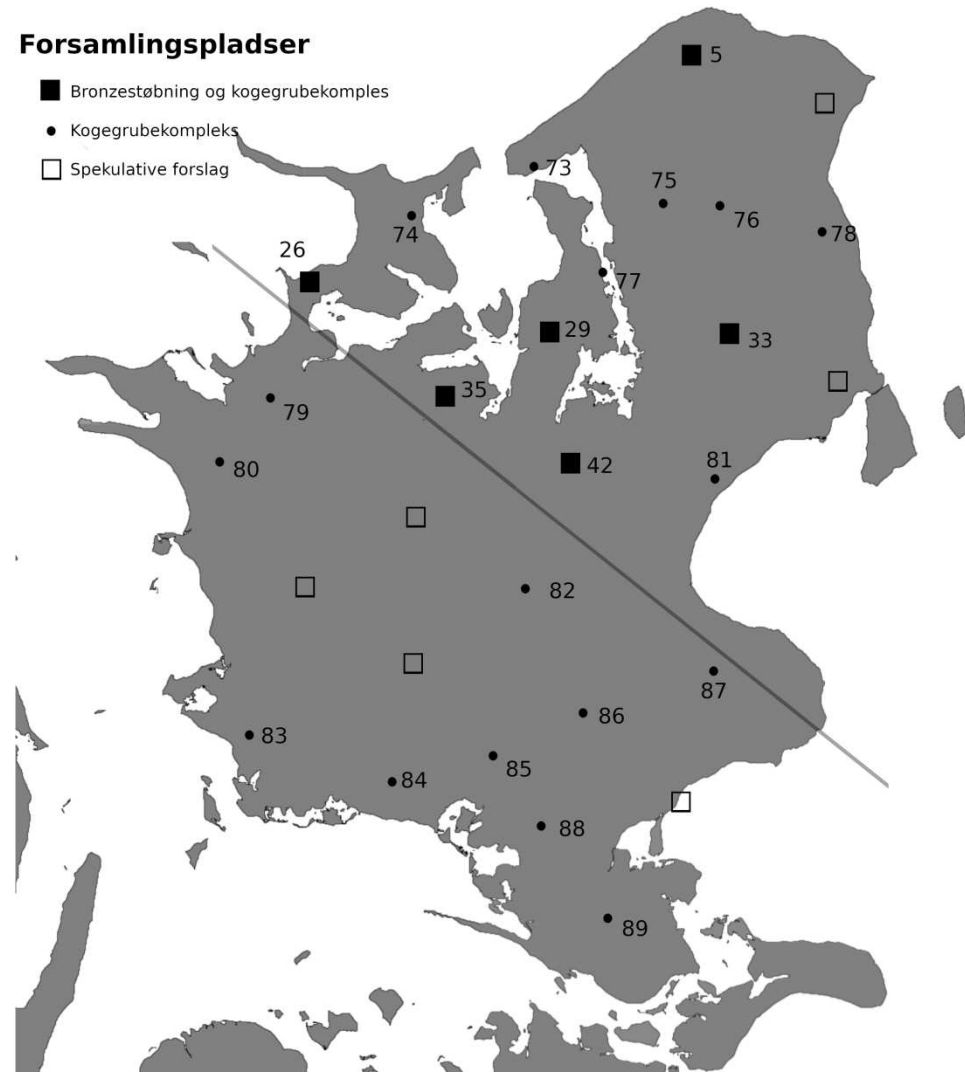


Bronze Age bronze casting sites



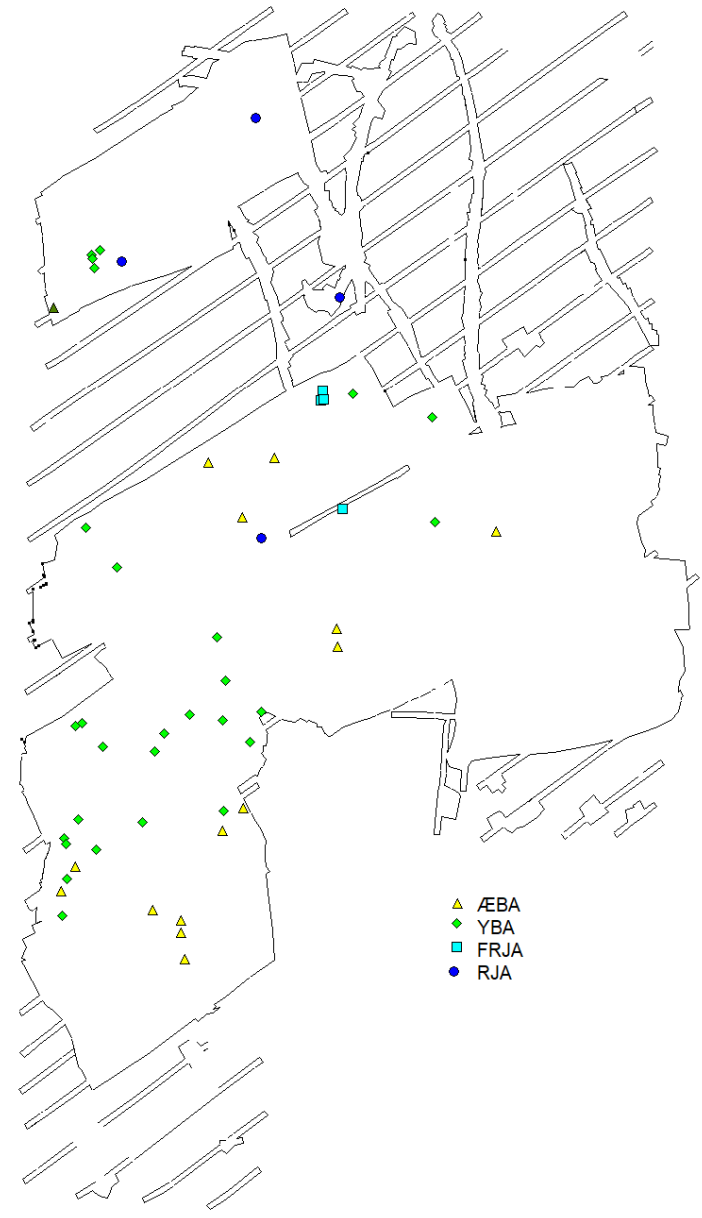
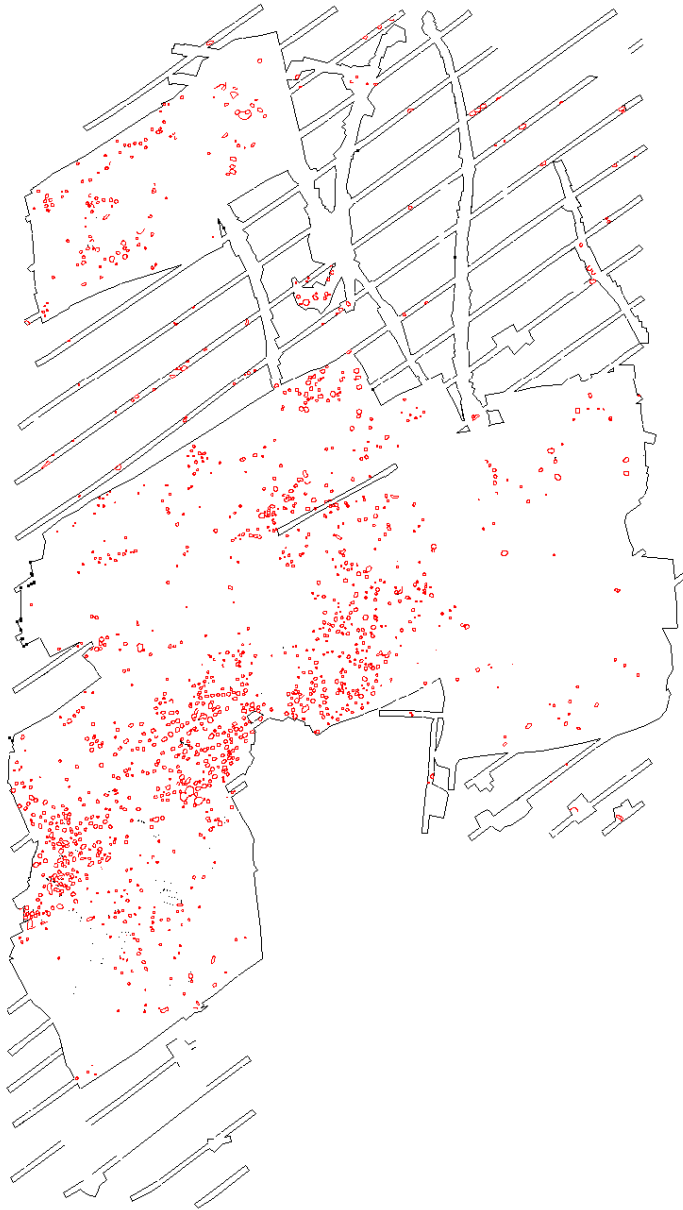
Bronze casting sites with large numbers of Cooking Stone Features

- 6 sites with both evidence of Bronze Age bronze casting and large CSF clusters /alignments (black squares)
- 15 sites with large CSF clusters /alignments but no evidence of Bronze Age bronze casting (dots)
- 5 proposed sites with neither (empty squares)
- This accounts for more than half the known sites with with large CSF clusters /alignments
- Sites are 20-25 km apart, evenly spaced according to Thiessen polygon structure.

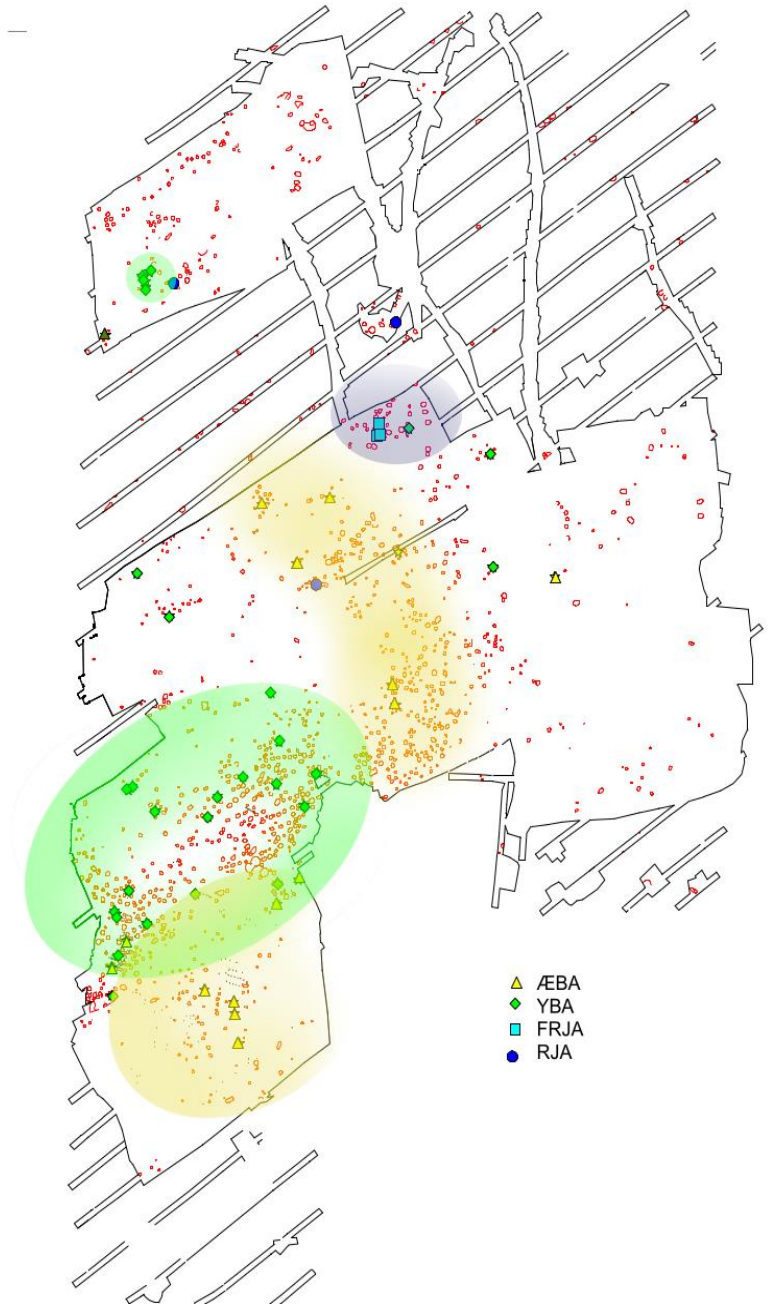


Radiocarbon chronology





- Yellow: BA, period III to IV. ~ 5 meters apart, unstructured. Hill top and upper slope.
- Green: LBA, period V to VI, < 1 m apart, rows. Upper and ?lower slope.
- Pale blue: PRIA, < 1 m apart, unstructured, halfway down.
- Dark blue: LIA, c. 400 AD, 10 m apart, unstructured, lower slope.



- Long chronology, low intensity: 1110 registered CSFs over some 1500 years ~ less than one per year.
- Much more activity in BA V-VI, perhaps three to four pits each year – still not many.
- Fairly continuous use at least from BC 1100 to AD 100, possible hiatus, renewed activity c. AD 400.
- This long chronology is *only visible* because of 108 dates. Any ten or twenty dates, however representative would not allow this detailed understanding.

Data Collection

The Sheet

Udgravningsskema kogegruber		Initialer:	Dato:
Journalnummer: 14/1597	Stednavn: Mipegård		
Anlægsnummer:			
Feltnummer:	Tegningsnummer:		
Jordprøvenummer:	Fotonummer:		

Fladebeskrivelse

Form i fladen	Rund	Oval	Rektangulær	Langstrakt		
Fyld i fladen	Trækul	Ildsk. sten	Oldsager	Zoologisk	Brdt. ler	Andet
Fladebeskrivelse - farve						

Snitbeskrivelse

Form i snit	Rundbund	Spidsbund	Fladbund	Lige kant	Skrå kant		
Fyld i snit	Trækul	Ildsk. sten	Oldsager	Zoologisk	Brdt. ler	Andet	
Lagbeskrivelse - farve							

Dimentioner	Diameter	Dybde
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Beskrivelse af sten

Størrelsen på sten	1-5 cm	5-10 cm	10-15 cm	15-20 cm	20-25 cm	25 cm+
Bevaringsgrad	Intakte	Smuldrende	Sprængte	Kantede	Ildskørnet	
Ildskørnede	0-25%	25-50%	50-75%	75-100%		

Fund

Fundgrupper	Trækul	Keramik	Ildsk. flint	Zoologisk	Brdt. ler	Andet
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Bemærkninger

Pit-falls

- Metric and non-metric data
- Redundancies
- Omissions
- Subjectivity

Udgravningsskema kogegruber		Initialer:	Dato:			
Journalnummer: Y4J 1337	Stednavn: Kispagård					
Anlægsnummer:						
Feltnummer:	Tegningsnummer:					
Jordprøvenummer:	Fotonummer:					

Fladebeskrivelse						
Form i fladen	Rund	Oval	Rektangulær	Langstrakt		
Fyld i fladen	Trækul	Ildsk. sten	Oldsager	Zoologisk	Brdt. ler	Andet
Fladebeskrivelse - farve						

Snitbeskrivelse						
Form i snit	Rundbund	Spidsbund	Fladbund		Lige kant	Skrå kant
Fyld i snit	Trækul	Ildsk. sten	Oldsager	Zoologisk	Brdt. ler	Andet
Lagbeskrivelse - farve						

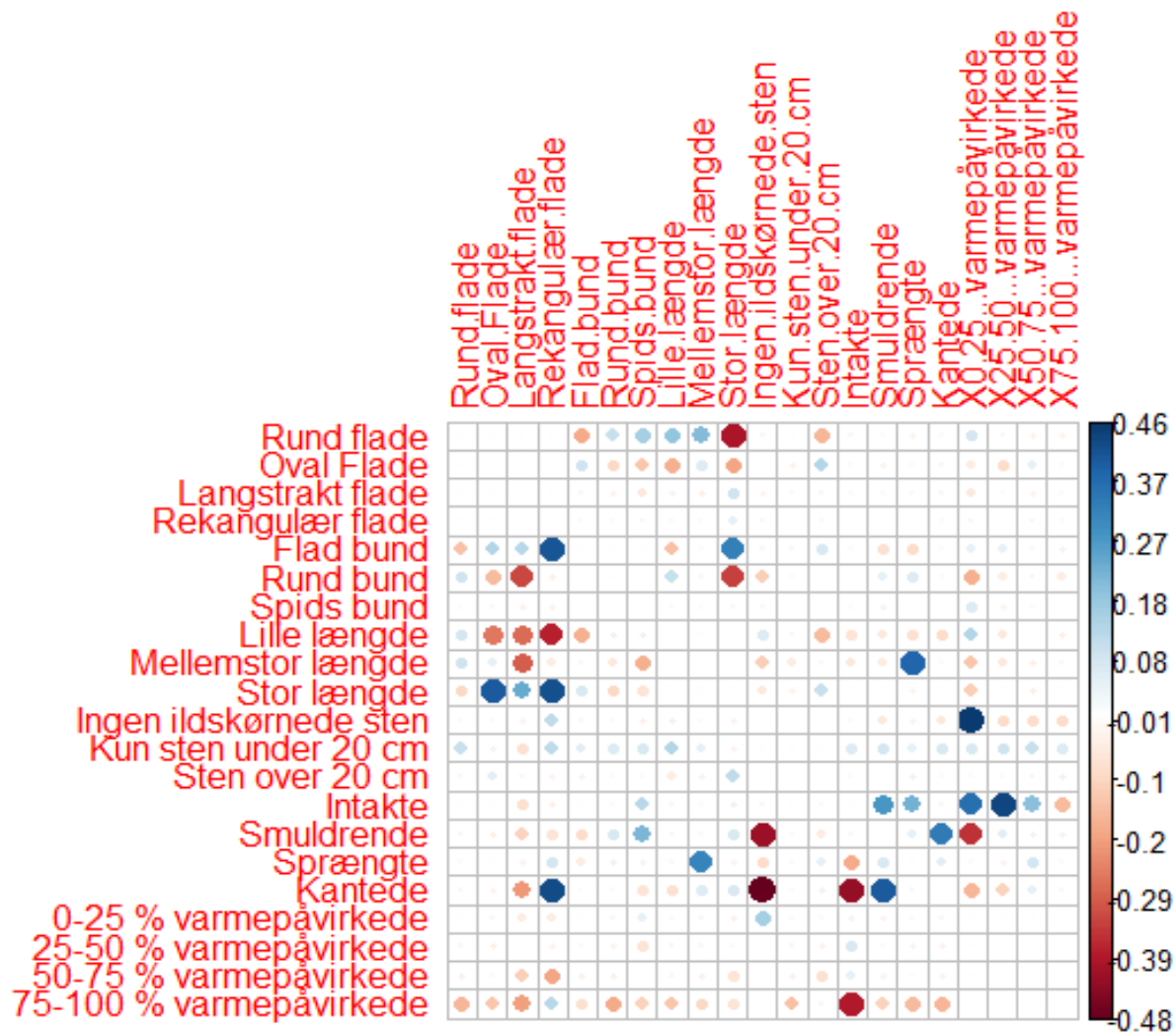
Dimensioner			Diameter	Dybde		
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Fund						
Fundgrupper	Trækul	Keramik	Ildsk. flint	Zoologisk	Brdt. ler	Andet

Bemærkninger

Corplot

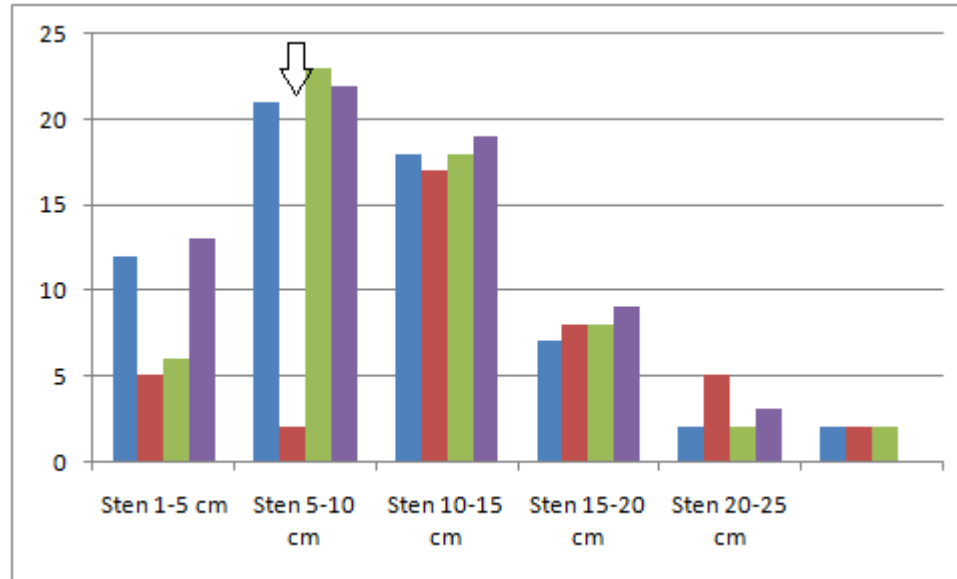


Radiocarbon and qualitative variables



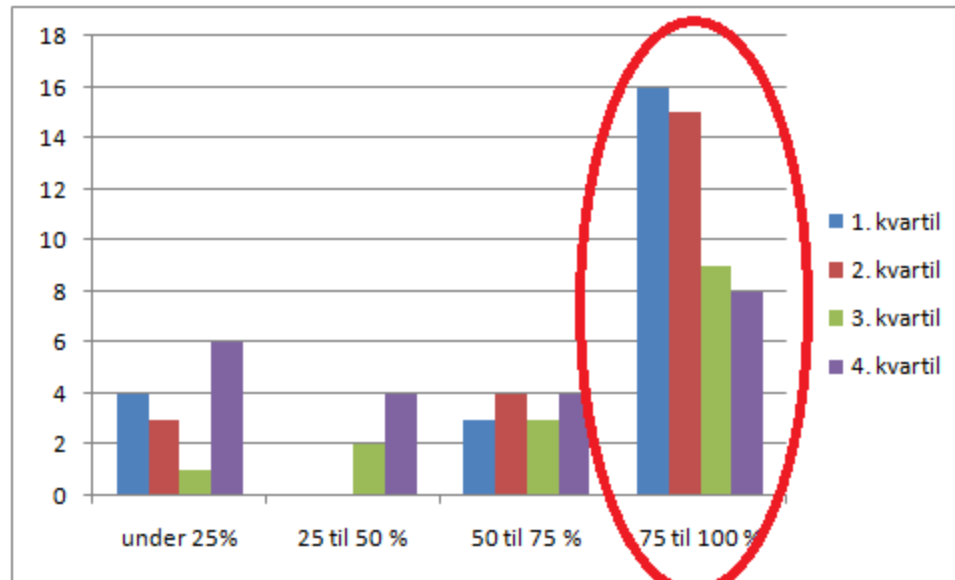
- Round pits early, oval pits later, elongated pits latest – but lots of overlap.
- Small pits early, large pits often late, lots of overlap.
- Most pits of all shapes and sizes date to LBA per. V and VI.
- All this is unsurprising. The main surprise is the degree of overlap.

Stone size and C14



- In the second quartile (~period V), there is a selection against stones sized 5-10 cms, otherwise the most popular size.
- Does this mean anything?

Fraction of visibly fired stones and C14



- Late pits – fewer visibly fired stones – less re-use?
Lower temperatures?

Conclusions

- Pit design (size, shape) has a clear chronology, but big overlaps.
- Stone selection does not.
- Pit design ~ quantity, scale of activity; bigger production over time – more participants? Or less diversity?
- Stone selection ~ quality, nature of activity; little chronological development.
- People were performing the same basic processes (boiling, baking, brewing) in the same place for 1500 years, but the social framework developed over time.

... and an unexpected bonus:

- Three pits yield plenty of carbonized grain, some seeds of whitethorn, some crushing-stones... evidence of brewing?!
- This was realised because we sampled for diversity, and through pure luck.

The economy of data collection

- Total field-work: 50 person-months
- Data entry: one person-month
- In-field data collection: one person month total?
- Pilot project (15 pits re-excavated): one and a half person month.
- Statistical analysis: 2-3 person months, steep learning curve.
- Most conclusions are banal.
- Paper-based data collection is cheap. We might as well do it.
- Improved excavation is very expensive. Early assessments and clear objectives are needed.

Further agendas

- We need many C14-dates. We need budgets for these.
- Better data on stones? Input from Geologists and experimental archaeology?
- Quantitative stone data? Weight and numbers?
- Other pilot projects? Map fired/unfired stones in pits?