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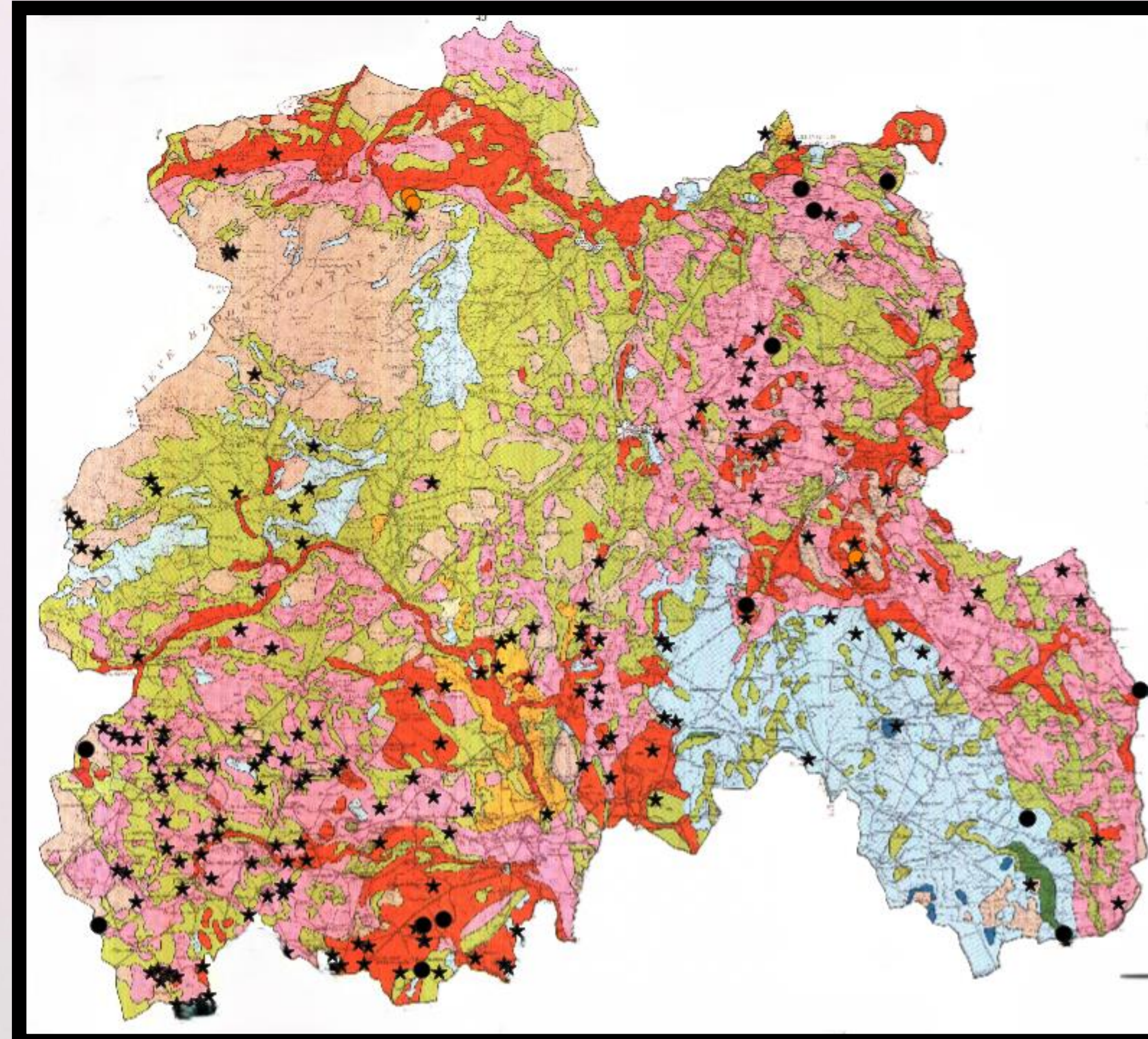
## Introduction:

Wilderness areas, due to their immense size and general inaccessibility, constitute a significant barrier to archaeological discovery. This research, focusing on an area familiar to the author, a non-wilderness one, demonstrates the potential of the software GIS (Geographic Information System) as a predictive tool in assessing the archaeological potential of vast areas of land where the alternative, field-surveying, would not be feasible, and demonstrates a concept and methodology which can be utilised in any environment, terrestrial or marine, on earth.

## Methodology:

### Step 1: GIS Survey & Complimentary Research

This project's chosen area was the Irish Midlands, and the chosen settlement type was ringforts, one most prevalent in early medieval Ireland (500CE – 1000CE). The primary determining factor of a ringfort's location was identified as high-fertility pastoral land. Maps of pastoral farming quality were then layered with maps of known ringfort sites through GIS. A large area was located where pastoral land quality was high, but the number of known ringfort sites was uncharacteristically low.



Centre Image: Map of Pastoral Land quality in county Laois (National Soil Survey of Ireland, 1984) with known ringfort locations in the county superimposed in black. High pastoral land quality is represented in pink on the map, ringforts clearly cluster in these areas but note the region in the south-east of the county with high pastoral land quality and a scarcity of known ringforts. Satellite photography of this area was surveyed.

### Step 2: Aerial Survey

Having narrowed the search area through GIS, satellite photography of the area in question was examined. Within the area of high pastoral land quality, multiple potential ringfort sites were identified by comparing their site typologies with those of confirmed ringfort sites elsewhere.

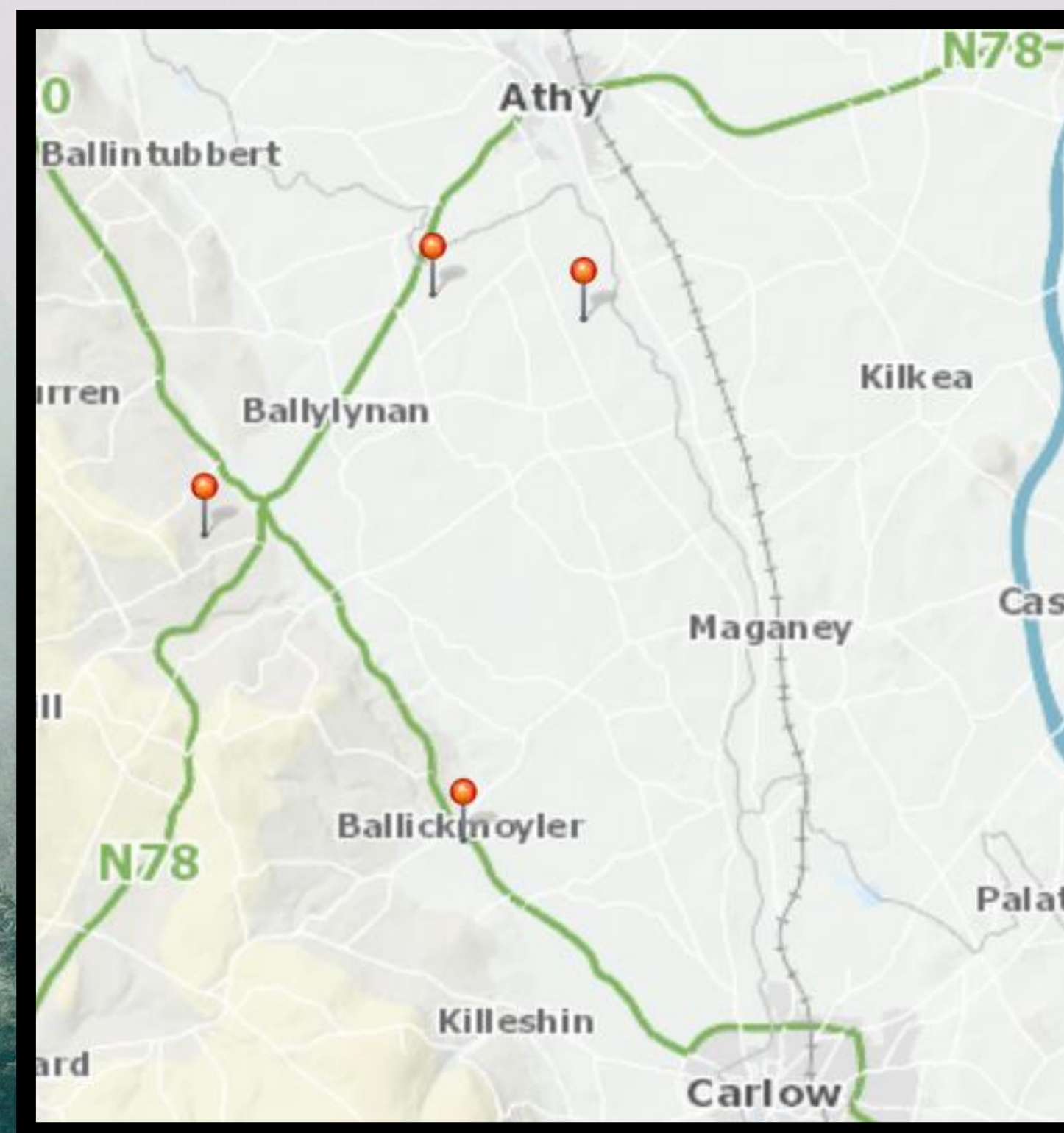
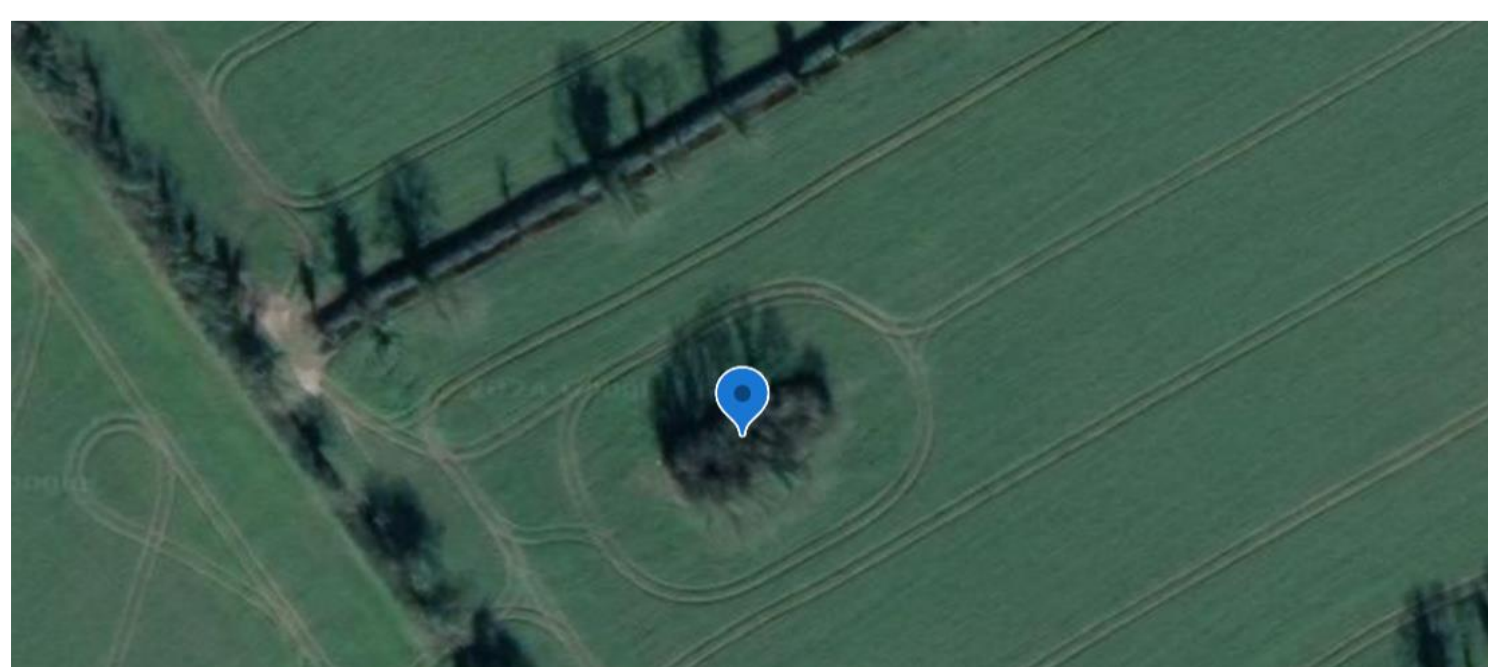


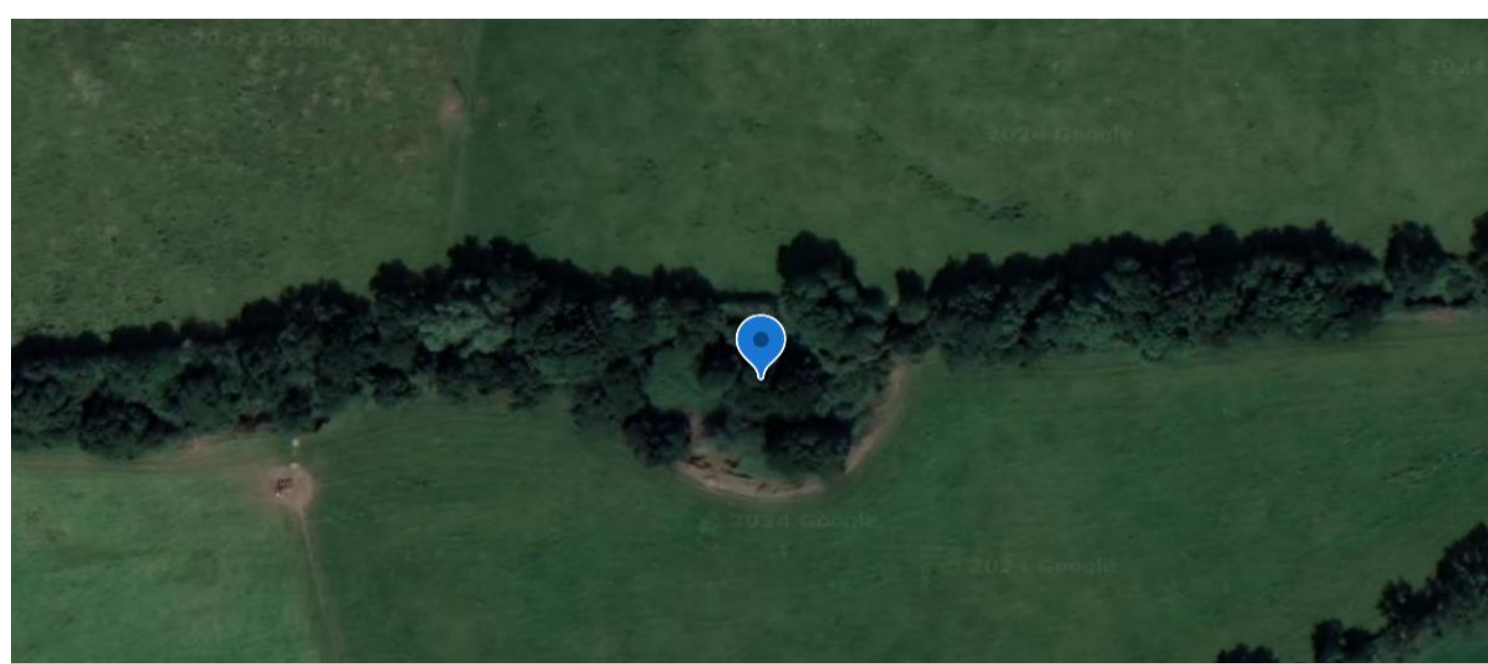
Image: Area which was surveyed in county Laois. The identified potential ringfort sites are highlighted.

### Step 3: Field Survey

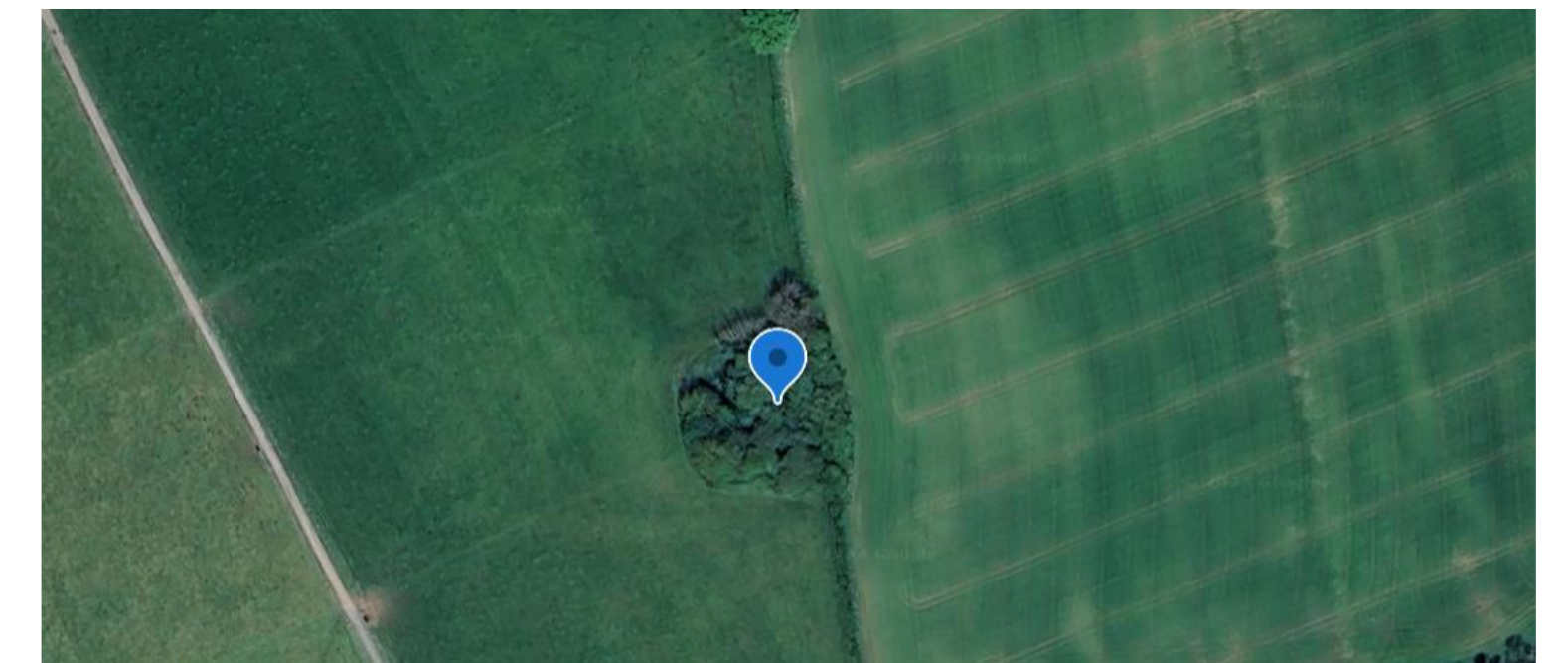
Though the six-week period did not allow, the final step would be field surveying, to confirm those sites potentially identified through satellite imagery.



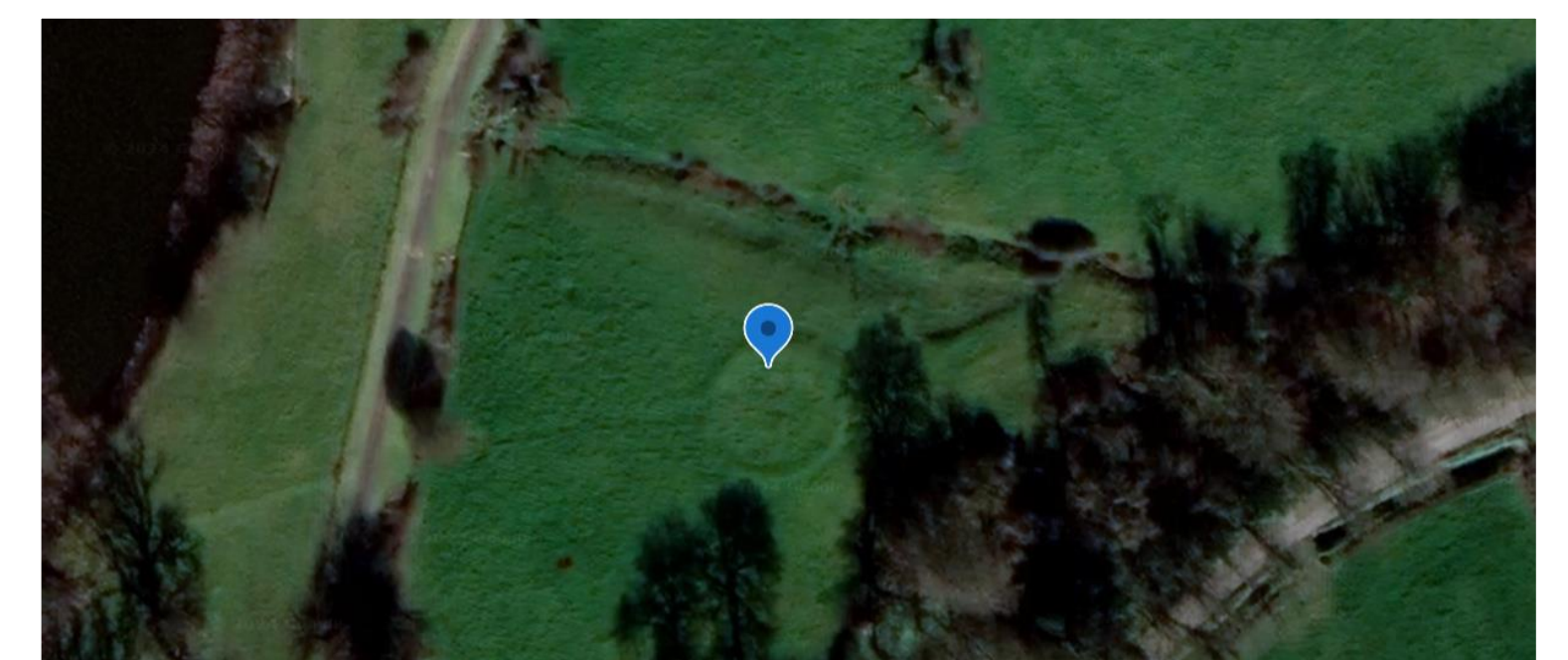
52°57'32"N 7°00'58"W



52°52'24"N 7°00'36"W



52°57'16"N 6°58'39"W



52°55'18"N 7°04'32"W

## Results:

These four potential ringfort sites were identified during the period of research. The site coordinates are provided.

It is important to note that there was no previous record of any archaeological monument at these coordinates, or indeed, in their immediate vicinity.

## Conclusion:

Although field-surveying remains essential for site identification, the use of GIS and Satellite imagery make that process far more focussed and efficient. I intend to apply this research in New Zealand's wilderness areas in S2 of my Laidlaw Scholarship, with the ambition of discovering previously unrecorded archaeological sites.

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