

Status of Muntjac deer on the Ards Peninsula

AECOM

NIEA

Muntjac

Muntiacus reevesi

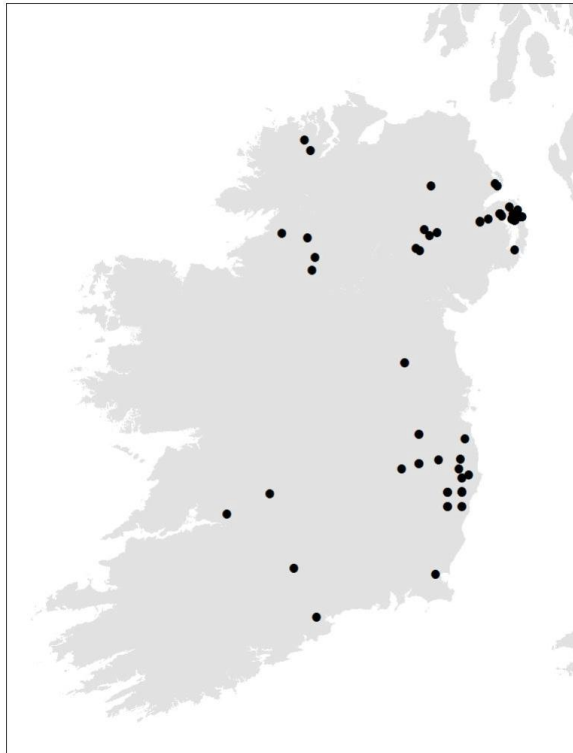
- Introduced from China to England in late 19th Century.
- Highly invasive – causes extensive ecological and economic damage to biodiversity, forestry, crops etc.
- Breeds quickly, often attains high densities.
- Small and secretive – hard to detect at low densities.



History in Ireland

First unverified sighting dates back to 1994 – single animal from Carrowdore, Ards Peninsula.

Numerous unverified sightings from 2000 – 2009, small groups of two or three individuals - both within the Ards Peninsula and across Northern Ireland.



Verified records

2007 – Young buck culled near Avoca, Wicklow

2009 – Young buck DVC north-east of Newtownards

2009 – Males and females in Wicklow

2011 – Young buck culled in Mount Stewart Estate

QUB research – camera trapping in 2013. All Mount Stewart and likely 2 females.



QUB research – camera trapping in 2016. Carrowdore & Mount Stewart. Confirmed breeding.



In total: 5 muntjac culled and 3 killed in DVC.

Since 2017 no systematic and dedicated monitoring of muntjac in Ards Peninsula or Northern Ireland.

NIEA commissioned AECOM to confirm current status, estimate abundance and determine total range.

Methods

Three broad areas suggested by NIEA:

- Core area - majority of recent sightings and evidence of breeding.
- Peripheral area – red
- Outer area – rest of peninsula



Suitable habitat (woodland and scrub) identified using aerial imagery.

Known landowners contacted for permission by letter or in person.

Where unknown – details requested from Land Registry and sent letter.

Camera trapping

Survey focussed on camera trapping using remote sensing camera traps.

Used as many cameras as possible to provide greater coverage and increase likelihood of detecting deer.

Deployed in each location for 1-2 months, checks every 1-2 weeks to replace batteries and memory cards.



Results

Survey effort

Total of 180 camera deployments, using 53 cameras between 16 September 2024 and 24 March 2025.

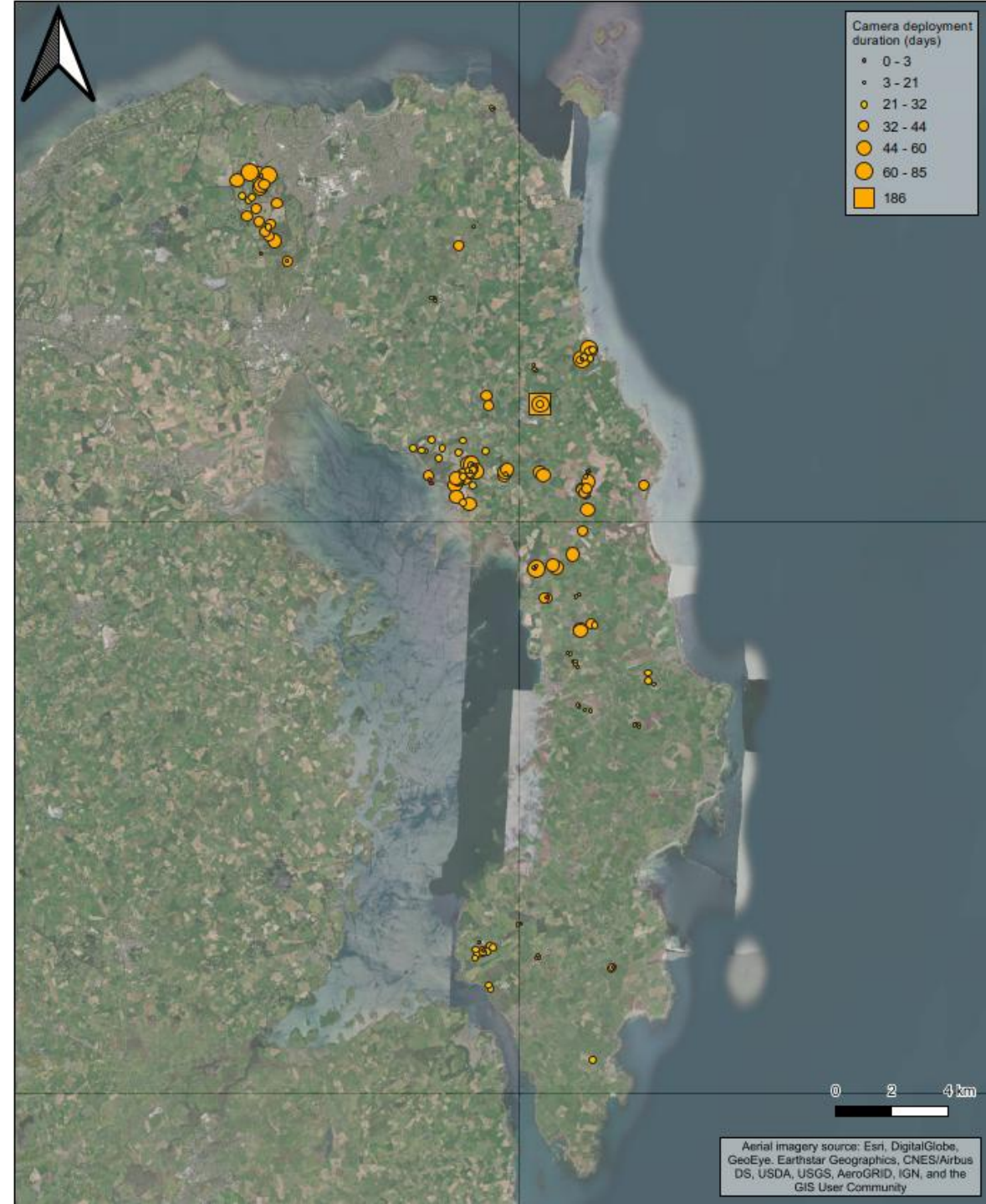
Longest camera recording for 186 days at Carrowdore – last known location of live muntjac.

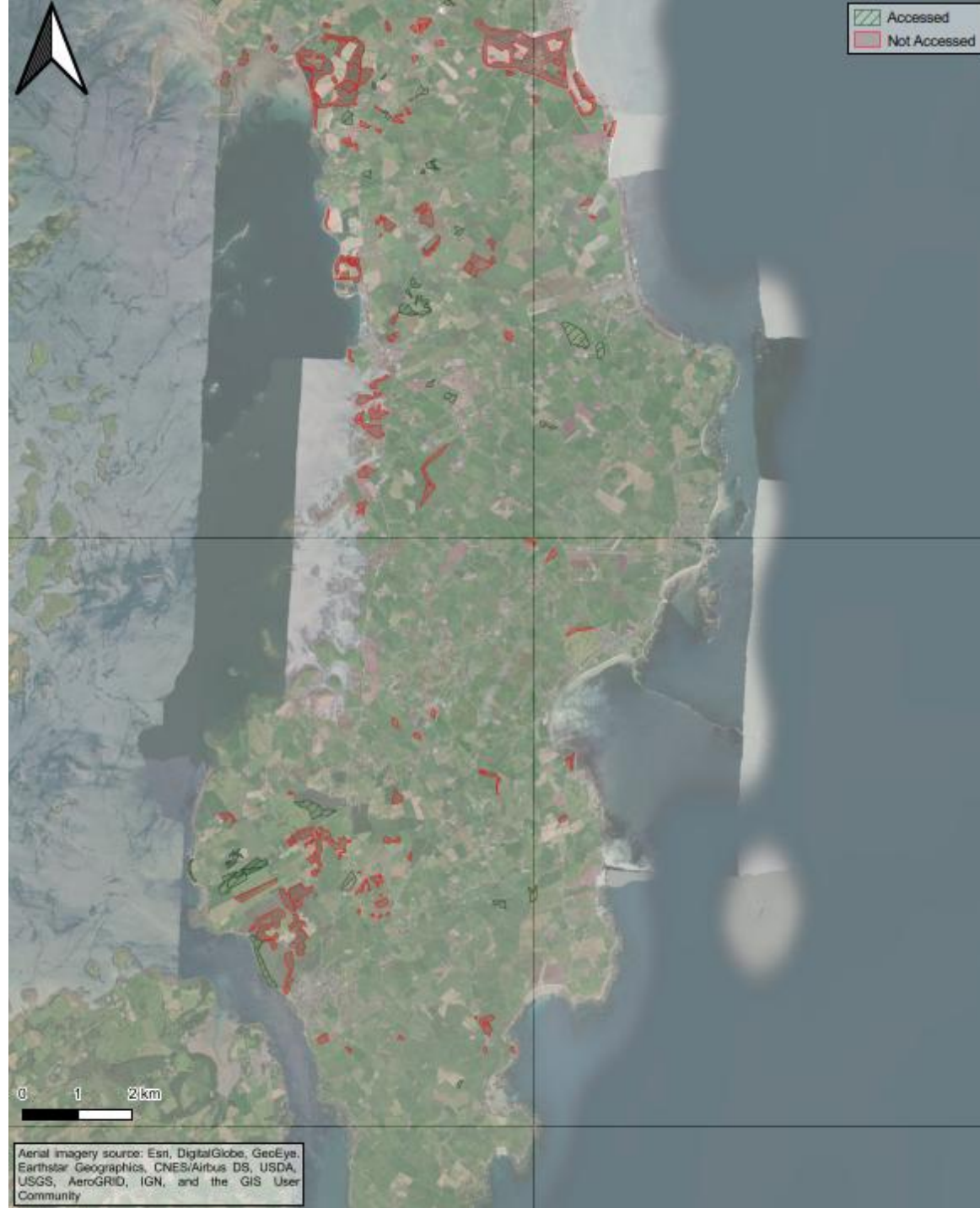
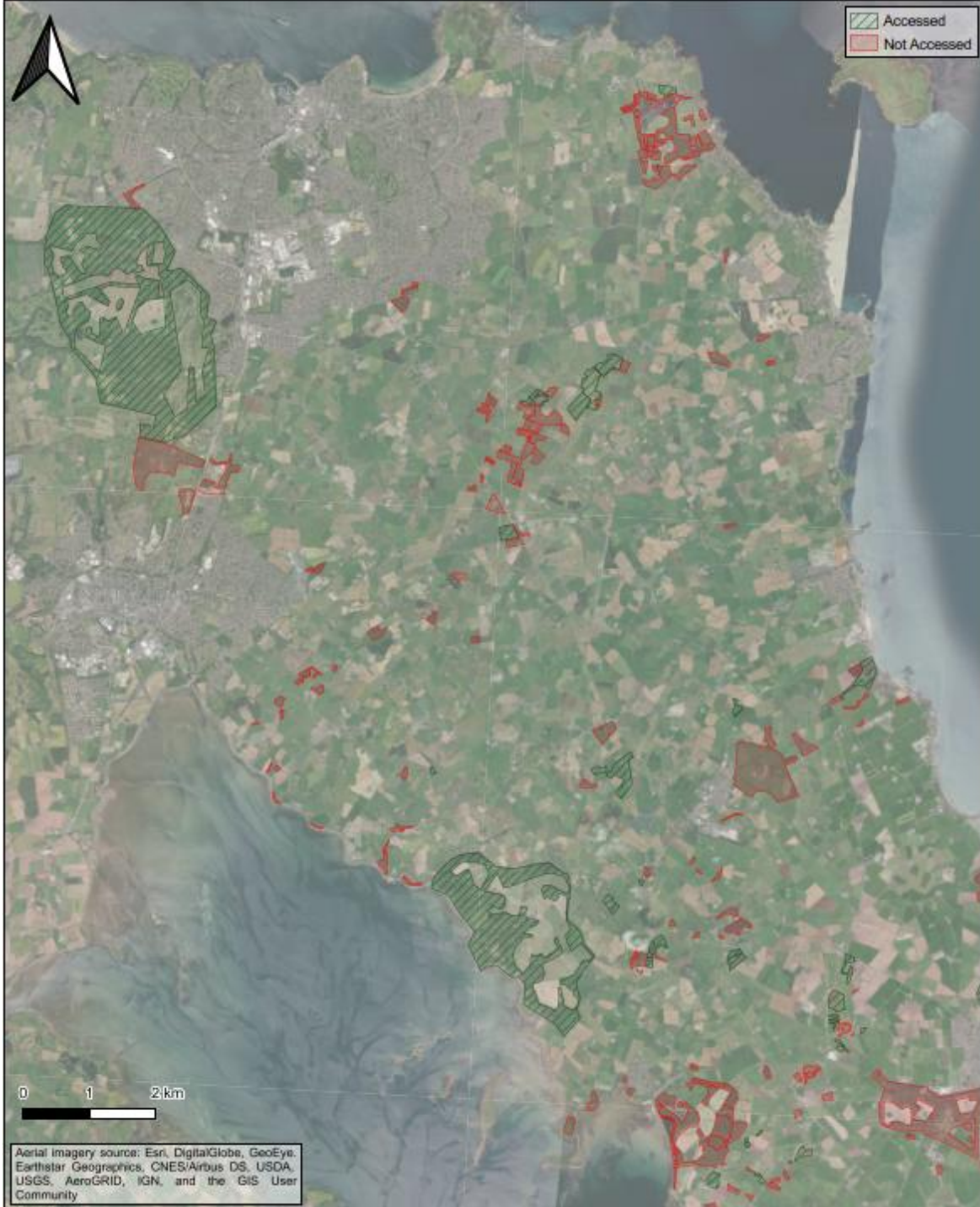
Total number of days recordings = 5736 ~ 15.7 years.

Total area of suitable habitat within parcels surveyed = 818 hectares.

Total area of suitable habitat not accessed (permission not granted) = 717 ha.

53 % of all woodland across the Peninsula was surveyed.







Core Area
Peripheral Area



Newtownards

Millisle

95

Carrowdore

61

Mount Stewart

34

Ballywalter

Greyabbey

0 2.5 5 km

Aerial imagery source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Detections

3 muntjac

3 separate locations

Likely 3 different deer

Mount Stewart



Bushnell CameraName 46°F 7°C 10-20-2024 01:55:12

Clandeboyne



Meldase (9 °C / 48 °F 31/12/2024 16:27:31 0032

Dunover Road (NW of Ballywalter Estate)



Meldase ☾ 6 °C / 42 °F 26/01/2025 18:02:31 0030

Discussion

Muntjac population

Survey demonstrated small population persists in Ards Peninsula.

3 muntjac detected – likely at least another 3 present but likely more given limitations of survey and cryptic nature of muntjac.

Only 1 muntjac from within core range – showing geographical spread across Peninsula.

Previous breeding population at Carrowdore in 2017, now no evidence despite 186 days continuous monitoring!

Detection rate

Despite enhanced monitoring for at least 1 month at locations of detections – no muntjac detected again.

→ Highly mobile deer – individuals ranging to find mates?

→ Limited resources – duration, cameras, area requiring survey.

For Mount Stewart/Clandeboye despite increase surveillance, surrounding areas too large to deploy cameras at sufficient density to redetect deer.

Dunover Road - despite high camera density (approx 1 per 0.5 ha) no further muntjac detected – likely moved on.

Limitations

No entry into larger estates reduced ability to confirm status and estimate abundance.

Muntjac deemed absent from Mount Stewart and Clandeboye – muntjac can remain undetected at low densities in large woodlands.

Cannot presume absence from estates not surveyed.

Even where surveyed – absence of evidence does not equate to evidence of absence!



Population expansion

Able to reproduce quickly and go unnoticed for many years.

Recent study in Belgium – muntjac can establish within 15 years. Not experienced in Ards Peninsula – deaths from DVCs, culling – interrupting population expansion at early stage in invasion.

Monitoring van een Vlaamse populatie van Chinese muntjak (*Muntiacus reevesi*) in het kader van bestrijding

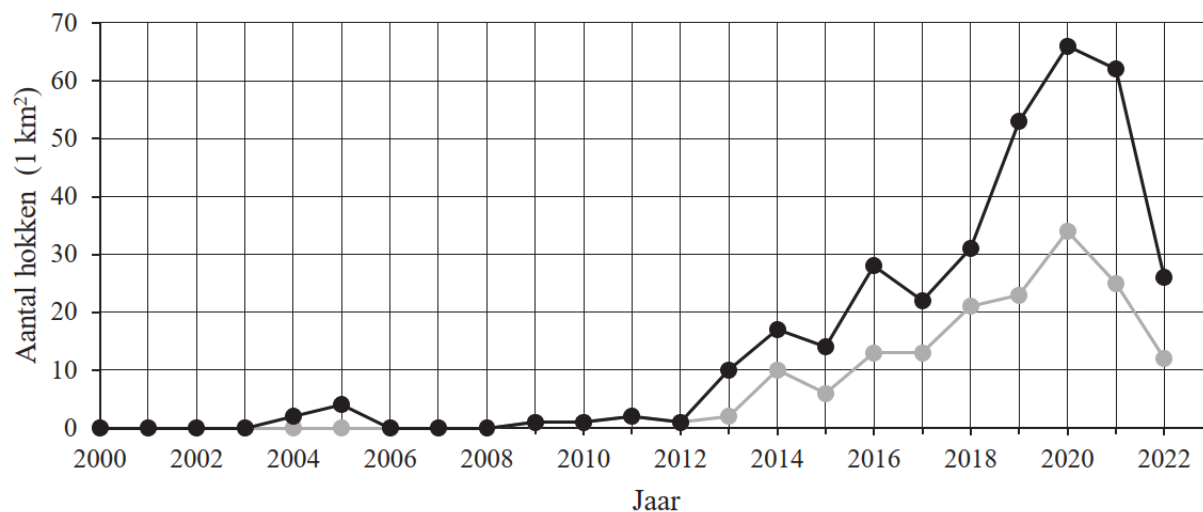
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Abstract: *Monitoring of a population of Reeves' muntjac in the context of eradication (Flanders, Belgium)*

The emergence of Reeves' muntjac (*Muntiacus reevesi*) in mainland Europe is a major concern for the forestry, nature conservation and hunting sectors, among others. The species is therefore subject to international agreements aimed at preventing its further spread. Predicting the response of muntjac to management interventions is critical in developing effective strategies, but accounts are largely lacking. The muntjac is now an established species in Flanders (Belgium). Following the first observations in 2004 and 2005, the number of observations increased sharply from 2012 onwards, with a provisional peak in 2020 (over 60 1-km² grid cells). The ban on keeping



Small number of muntjac recorded despite significant survey effort → difficulty in detecting muntjac at this early stage on invasion and across such a large area.

Importance to take immediate action while population remains apparently small.

Recommendations

1. Continue surveillance – both within Ards Peninsula and across region and island of Ireland.
2. Use alternative methods – thermal imaging, drones etc.
3. Immediate action to cull muntjac following detection using dedicated cull team with specialist methods such as night shooting licences.
4. Review land access and strengthen stakeholder relations to promote voluntary access.
5. Produce a costed eradication plan