

# Mapping Gorse at Greenham and Crookham Commons

Alex Cruickshank, BBOWT Senior Land Manger (Berkshire) October 2015

## Introduction

This paper aims to inform the Commissioners of the methods used to map the extent of gorse at Greenham and Crookham Commons.

This is a joint project between BBOWT and West Berkshire Council – WBC funded the use of the Unmanned Aerial Vehicle (UAV), and BBOWT has undertaken the post-flight data analysis.

This information will be used to help map the clearance of gorse and measure the extent in future years.

## Method

Kaarbontech were employed to fly an Unmanned Aerial Vehicle (UAV) over Greenham Common to take aerial photos (see figure 1) and measure the visible ground height (see figure 2).



These data were stitched together by Kaabontech and added to BBOWT's Geographical Information System (GIS) for analysis.

The height data was compared to Lidar (see figure 3), which measures the ground levels. This allows us to measure the height of vegetation above ground level. Areas of vegetation that are over 25cm in height are highlighted (see figure 4), as it is assumed that these are scrub or trees, rather than heather or grass.

This mapping is then sense-checked against the aerial photographs.

## Results

The UAV was only able to map the area within the lozenges accurately as it is not permitted to fly over third party land (see figure 1 for extent). This is considered sufficient as it is a significant sample size.

The area of vegetation above 25cm in height (see figure 4) is **26ha**, from a mapped area of 138ha which equates to approximately **19%** of the total area. This figure currently includes all scrub and trees above 25cm in height, not just gorse. Further 'ground truthing' of the data will have to be carried out to rectify this.

## Conclusions

In order to meet Favourable Condition, the gorse should cover between 2% and 10% of the Commons. It currently covers 19%.

In 2015/16, BBOWT will be removing 10ha of gorse. This will reduce the cover of tall vegetation to 16ha which is 11% of the area, and work in future years will reduce this further.

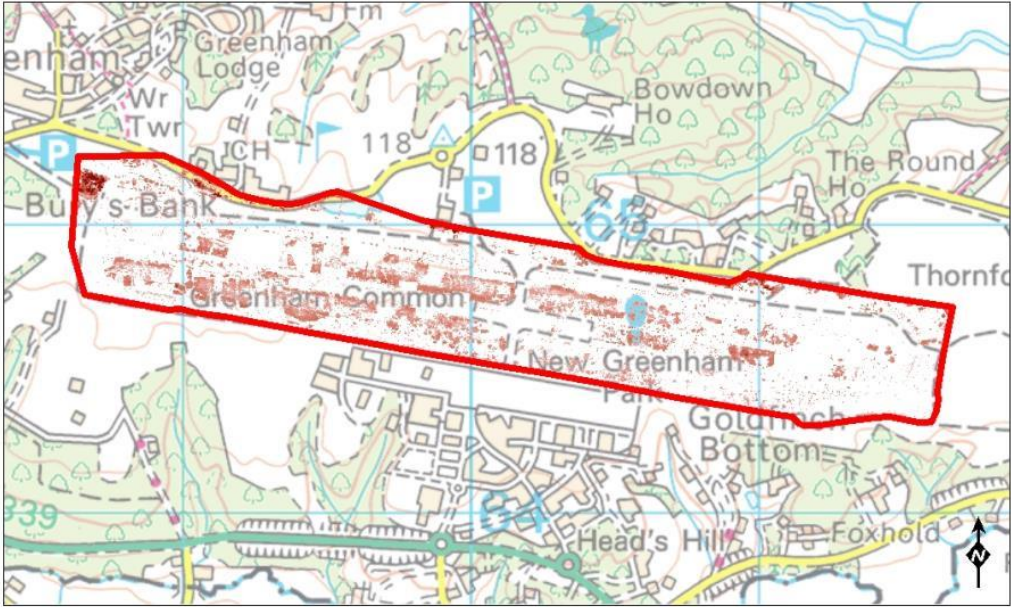
Figure 1: Aerial photography and extent of measurement.  
Greenham Common gorse mapping



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Date: 29/10/2015  
0 125 250  
meters

Figure 2: Height Data  
Greenham Common gorse mapping



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Date: 29/10/2015  
0 125 250  
meters



Figure 3: Lidar data.  
Greenham Common gorse mapping

Berkshire  
Buckinghamshire  
Oxfordshire

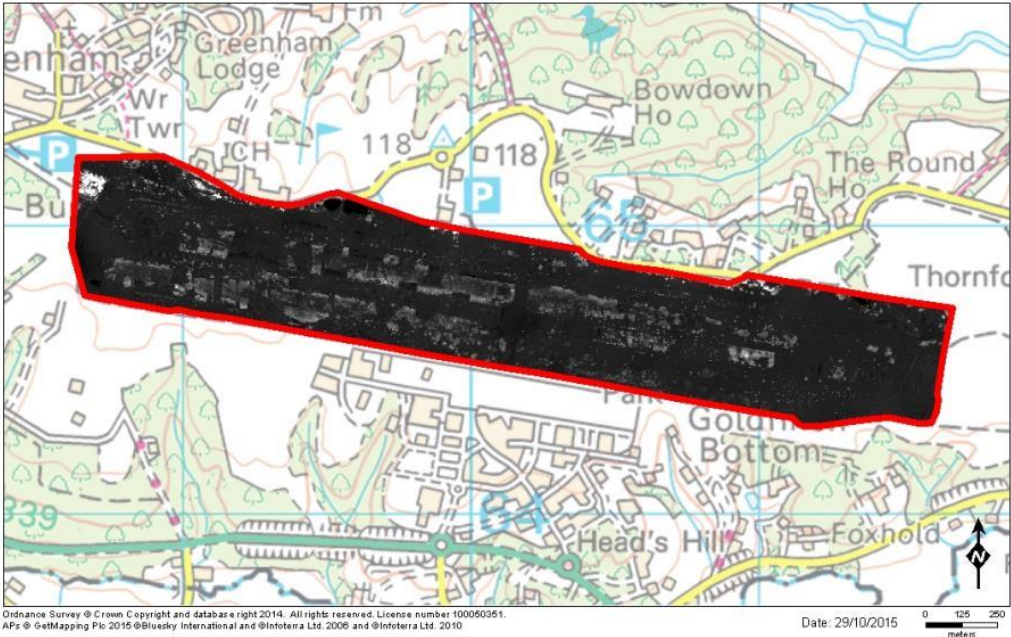


Figure 4: Vegetation over 25cm.  
Greenham Common gorse mapping

Berkshire  
Buckinghamshire  
Oxfordshire

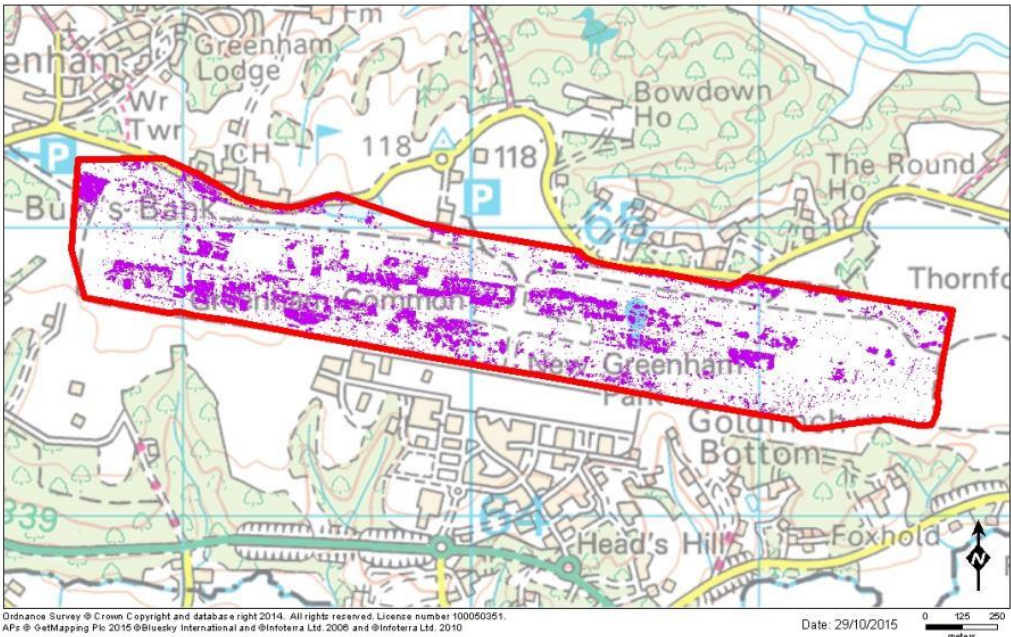




Figure 1a: Aerial photography and extent of measurement.  
(close up)  
Greenham Common gorse mapping

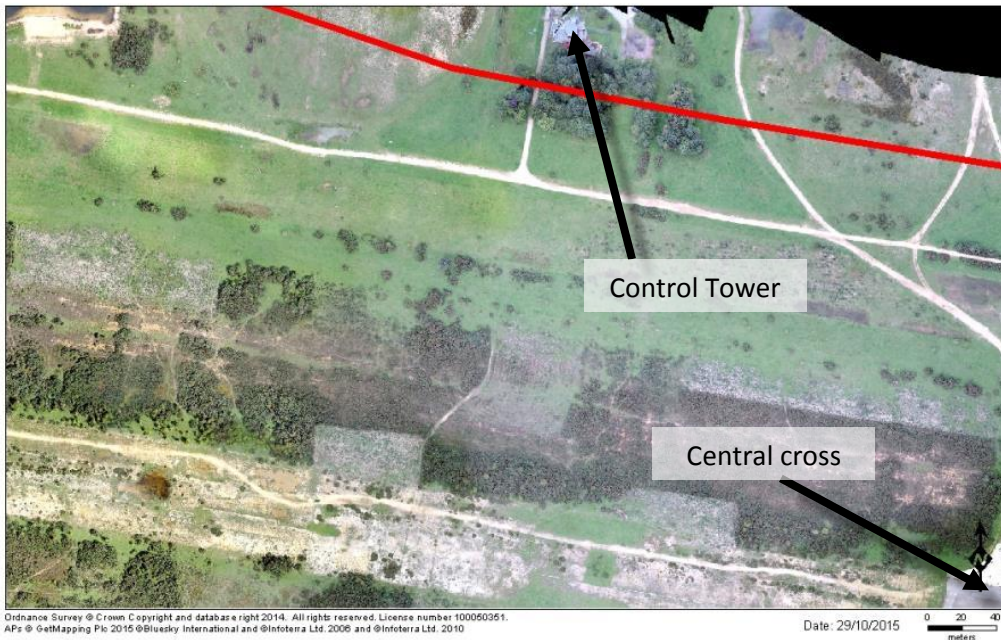


Figure 2a: Height data (close up).  
Greenham Common gorse mapping

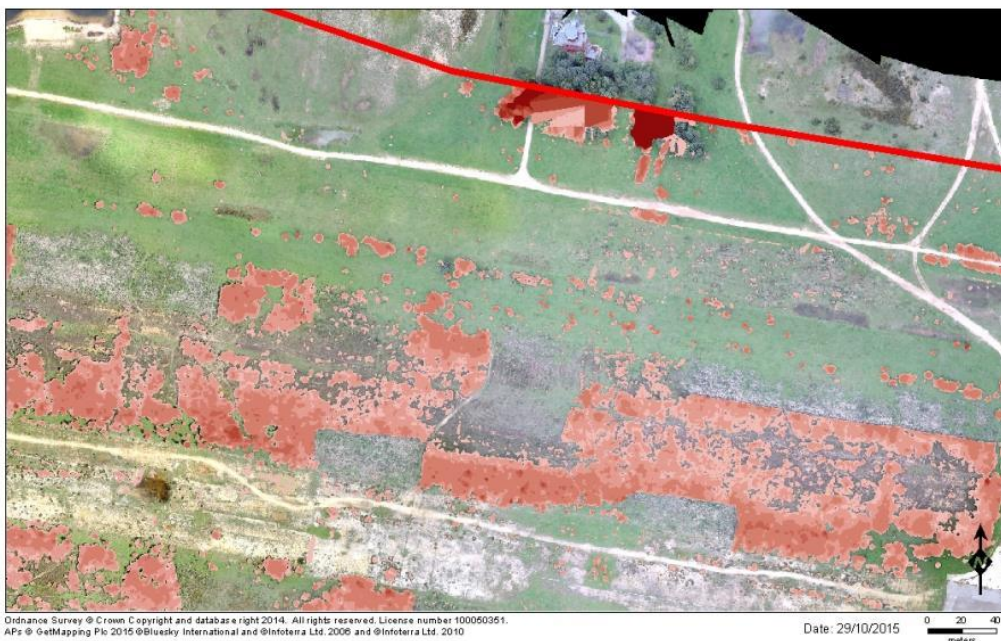




Figure 3a: Lidar data (close up).  
Greenham Common gorse mapping



Figure 4a: Vegetation over 25cm (close up).  
Greenham Common gorse mapping

