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Published in *The Searcher* October 2016 issue: [www.thesearcher.co.uk](http://www.thesearcher.co.uk)

Date deposited:

13/09/2016

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Proving a problem: help us to map the spread of contaminated green waste.

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We are certain that readers of this magazine will be aware of the problems being caused by contaminated green waste. As long ago as 2012 the National Council for Metal Detecting were championing a campaign to raise awareness of this issue and they had some success. Most notably Sir Bob Russell, at the time the MP for Colchester, asked a question about contaminated green waste and its impact on metal detecting in the Commons.

Unfortunately the problem has not gone away and over recent years archaeologists have joined metal detectorists in their concern about this issue. Contaminated green waste first appeared came to archaeological attention in 2011 when James Gerrard and his team were undertaking a geophysical survey using magnetometers in Somerset. They had covered many hectares of land and one Friday they were just about to start on a small field about 3ha in size. Down one side of this field was a long pile of green waste, waiting to be spread. It was clear just by looking at this heap that it was pretty unpleasant. Lots of bits of plastic, pieces of rubber gloves, pill bottles and the like were visible. Returning to the field, ready to start the survey on Monday morning, they found that the waste had been spread. They carried out the geophysical survey but much to their surprise the data was really very poor.

The problem appeared to be a huge number of what geophysicists describe as ‘dipole anomalies’. Basically these are reading usually associated with pieces of iron. We encounter them regularly. Every piece of broken plough, every bolt that’s fallen off a tractor will give us an ‘iron spike’. What was unusual was the scale. There were so many. It could only be due to little pieces of metal being present in the green waste (just the sort of thing detectorists had been reporting for years). Just to be certain they resurveyed the field a couple of years later and got the same response. To bring this to the attention of the archaeological community a short article was published in the journal *Archaeological Prospection* in 2015.

The same year BBC’s *Countryfile* tackled the story and they discussed the impact on metal detecting, the archaeological problems, the view of farmers, and the recycling industry. Having talked to the NCMD about their experiences the response that the recycling industry gave to *Countryfile* seems pretty typical. Basically recyclers say that we have some of the tightest regulation of green waste in Europe, there are very few problems and where there are problems it’s to do with a handful of rogue operators who should be reported to the authorities.

Talking to metal detectorists, finds liaison officers and archaeological geophysicists we find this claim that contaminated green waste is a small scale problem difficult to believe. Unfortunately without a body of evidence it is very difficult to move the argument beyond this point. We need to be able to show the recycling industry and the Government at both local and national levels in addition to relevant Agencies such as the *Environment Agency*, that contaminated green waste is a major and growing problem for both metal detectorists and archaeologists. As this is a problem that faces both of these groups it also seems logical to work together. Archaeology and metal detecting are pretty niche interests. Together our voices will be louder.

So what can we do? One solution would be to push to have green waste banned. We don’t believe that this is an achievable, or even necessarily desirable goal. The consequences of sending green waste to landfill are significant. The whole weight of the recycling industry and green lobby would be against us and on paper green waste is a fantastic example of closed-loop recycling. We have a greater chance
of success if we work with the recycling industry, government and perhaps ‘green’ organisations to create tighter regulations for green waste and more stringent enforcement of those regulations. The only way we can do this is to first provide incontrovertible evidence that contaminated green waste is having a widespread impact on the historic environment.

In order to do this we have developed a free app (available for Android and iOS phones) and a website that will allow users to identify fields that contain contaminated with green waste. You will be able to log the type of contaminants (ferrous, non-ferrous, batteries, plastics and other) you have found and also upload up to five images. The app will either use your phone’s GPS to locate your location or you will be able to locate yourself manually.

This app is designed solely to record contaminated green waste. You can use the app to record fields where you’re detecting now, or fields where you’ve encountered problems in the past. Both types of information are useful to us.

We’d like to make it clear that the app is free and the users are anonymous. We have no interest in identifying individuals or landowners and the information you will provide us with will not allow us to do this. We also have no interest in your archaeological finds (although feel free to report them to the PAS) because this project is simply about identifying the scale of contaminated green waste nationwide. Finally, we anticipate that all users of the app (metal detectorists, archaeologists and members of the public) will have the landowner’s permission to be on the land.

A step-by-step guide to using the app is included in this issue. You can download the app from the Google Play Store or the Apple Store by looking for ‘NCL Green Waste’. If you don’t have a smart phone you can report your green waste fields using this website http://ceg-research.ncl.ac.uk/greenwasteproject/. Any comments or questions can be emailed to us at ncl.greenwaste@newcastle.ac.uk.

We really hope that by working together we can make a difference. Please pass word of the project on to your metal-detecting friends and local clubs. The more people who use the app, the greater our chance of success. We’ll try and keep you updated with future articles in The Searcher.

Fig 1 Typical contaminants metal detected from a field spread with green waste (courtesy of Rosalind Tyrrell and the Magiovinium Metal Detecting Club).

Fig 2 The fields at Lufton with dipole anomalies highlighted in red. Note the greater density of these anomalies in the field (left) spread with green waste (Newcastle University and GeoFlo).

Fig 3 A field in Devon with ferrous interference thought to be due to green waste (Duncan Hale and Archaeology Services University of Durham).

Fig 4 A group of fields in Merseyside. Note the contrast between Areas 1 and 6 and the other fields. Contaminated green waste is considered the likely cause of this interference (Duncan Hale and Archaeology Services University of Durham).

Fig 5 Controlled metal-detecting was an integral part of the project to investigate the findspot of the Gaulcross hoard. Contaminants within green waste cause significant problems for the metal detectorists (Gordon Noble, University of Aberdeen).

Fig 6 The Gaulcross Hoard of Late Roman and Pictish silver (National Museum of Scotland).