

National Council for Metal Detecting

Recreational Metal Detecting - Risk Assessment

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November 1998

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Introduction

The NCMD has agreed to draw up a model risk assessment for the use of its members. It is recognised that whilst the majority of persons in the organisation will probably not be experienced in the drawing up of such a document, they will all need to appreciate the implications concerning the activity. Some Local Authorities may request such a document before granting approval for metal detecting on Local Authority controlled land

Not only the risks arising from an individual carrying out an activity, but also the risks presented to that individual by the actions of others should be considered

Note - The author would be interested to receive constructive comments and to hear of any additional hazards that may be envisaged or that have been experienced by detector users.

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Definitions

It is important that the definitions of the various terms used in the document are clearly understood.

Hazard - An agency which has the potential for causing harm. This could be an action, equipment or a substance.

Risk - The likelihood that the harm will be realised

Control - The precautions necessary to eliminate or reduce the risk. These may be procedures, protective clothing etc.

Accident - The unexpected or unforeseen and hence unplanned event for which the consequences are therefore likely to be uncontrolled.

In illustration of the above, consider for example, a bottle of domestic bleach which is freely available and found in many homes.

Domestic bleach does have the potential to cause harm if it enters the eyes, touches the skin, or if it is swallowed. It therefore can be considered as a hazardous material.

However the risk or likelihood that the potential harm presented by domestic bleach will be realised, will depend on the controls applied.

Containers are usually clearly marked with cautionary notes warning of the hazard and recommending methods of safe usage together with instructions on how to limit potential harm if an accident should occur. If followed, the precautions are usually sufficient, and generally prevent damage or harm arising. Hence the risk might be considered as low.

HOWEVER in the domestic environment, there are often very young children who cannot read and have little experience or comprehension of the harm that could arise from handling or perhaps even swallowing the material. Hence if containers of domestic bleach are left within the reach of young children the risk is very much greater. Hence an **additional necessary control to reduce the risk and prevent accidents**, would be that at all times, in addition to the child proof caps, such containers are stored out of the reach of young children.

The main risk assessment for metal detecting is made with respect to the practitioner. However the presence of young children accompanying the practitioner, but not actually detecting themselves, will often require **additional surveillance and caution**. In these circumstances the children should be considered as failing within the category defined as 'risk to others who may be affected by metal detecting'.

Description of Activity

Metal Detecting is a nationally recognised outdoor recreational pastime in which individuals acting singly, or as a group of individuals, traverse tracts of land at walking pace using lightweight, low voltage, battery powered detectors to search for metallic objects. Metal Detecting can be carried out on arable or pasture land, beaches or estuary shorelines. The objects are largely buried within the 8 to 10 inches of soil immediately below the surface and are generally capable of being retrieved with a small bladed trowel and with minimal ground disturbance or damage.

Note 1 - All members of the National Council for Metal Detecting carry Liability Insurance cover up to £5,000,000 included in their membership of that organisation

Note 2. - Reference should also made to the provisions of the Occupiers Liability Acts 1954 and 1987

Note 3. - An attempt has been made to consider and list **ALL** potential hazards no matter how inconsequential they might initially appear to be. (See also Risk Assessment - Note 4 below regarding final assessment after application of controls).

1. Potential Hazards presented to the practitioner of the activity.

	<u>Final Risk Assessment</u>
(a).Buried Glass and corroded or sharp metal fragments. Low	
(b) Surface Litter i.e. glass, barbed wire, sharp or corroded metallic fragments	Low
(c). Impregnation of the ground surface with pesticides or agricultural sprays,	Low
(d). Bacteriological or faecal contamination of the ground.	Low
(e). Lack of personal awareness of other coincident activity in the area concerned i. e. Horse riding, shooting, fishing.	Low
(f). Use of vehicles coincidentally in the area being searched.	Low
(g). Presence of animals which could be defined as dangerous. (Bulls, recently calved cattle, uncontrolled dogs, poisonous snakes).	Low
(h). Rivers, Ponds and slurry pits	Low
(i). Buried cables or other service pipework	Minimal
(j) Electric fences	Low
(k). Buried live ammunition	Low
(L). Tidal cut-off 1 Rough Seas	Low
(m). Mudflats 1 Soft sand	Low

2. Potential hazards for others arising from the metal detecting activity

(a). Residual surface litter i.e. stones, glass or metal fragments.	Low
(b). Residual holes.	Minimal
(c). Damage to underground services.	Minimal
(d). Damage to trees or plants.	Minimal

Risk Assessment.

Note - There are 4 categories or headings of comment below;

1. Comment - General considerations of the hazard
2. The initial risk assessment for a hazard specifically with regard to metal detecting, assuming that there have been no precautions or specific cautionary information given.
3. An indication of the necessary control i.e. advice or precautions that might be taken by the detector user
4. The subsequent risk assessment specifically with regard to metal detection assuming that the control is applied

1. Potential hazards presented to the Practitioner Of the metal detecting activity

(a) Buried glass and corroded or sharp metal fragments

Comment - These items are not uncommon and generally arise from litter both on farmland and recreational areas including beaches frequented by the general public. There was a practice in earlier times of distributing household rubbish on fields This material can also arise from demolition of old buildings etc.

Note - The general non detecting public including children are exposed to this hazard for example on beaches and some Local Authorities employ special cleaning measures to reduce the overall risk.

Uncontrolled - Whilst there is certainly a potential for minor cuts and subsequent infection etc. the risk of injury is medium to low when the technique for retrieving the find is considered. Care is exercised if only to avoid damage to the object being retrieved. Much of the ferrous material may not even be investigated due to the ability of modern metal detectors to discriminate between ferrous and non ferrous objects

Recommended control for metal detecting activities - Exercise of caution when retrieving object, together with the wearing of gloves - Adequate cleansing and disinfecting in the event of injury. Serious consideration should be given to the need for ready access to a supply of water for cleansing and at least, a basic first aid kit.

Risk after controls applied - Low

(b) Surface Litter i.e. Glass, barbed wire, sharp or corroded metal Fragments

Comment - This material can arise on farmland and recreational areas including beaches as a result of litter or day to day operations. The general public can routinely be exposed to this hazard in recreational areas necessitating regular clearing. Such rubbish can also expose Local Authority employees or others to potential serious injury if it makes contact with grass cutting machinery.

Uncontrolled - The risk is probably low for individuals engaged in metal detecting as the detector may well indicate the presence of grass-obscured metallic surface rubbish

Recommended control for metal detecting activities - Remove the rubbish to a place of safe disposal.

Risk after controls applied - Low and reduced even further due to safe removal of material. The risk will thereby, also be reduced for others not engaged in metal detecting.

(c) Impregnation of ground with pesticides or agricultural sprays

Comment - This hazard is unlikely to be experienced in recreational areas and on beaches used by the general public. It is most likely to be encountered on arable land and then only at particular times of the year.

Uncontrolled - The risk is high on arable land where such materials are used but very low or non existent on general recreational areas.

Recommended control for metal detecting activities - Be generally aware of the times of the year when such sprays are used, e.g. after harvest to control weeds and seek advice of the land owner or occupier. Avoid detecting on land until effects have been reduced by weathering and clearance for access has obtained.

Risk after controls applied - Low

(d) Bacterial or faecal contamination of the ground

Comment - This is potentially a hazard particularly where domestic animals have traditionally been exercised in recreational areas and is therefore presented to the general public as a whole, particularly young children. There are potentially, other forms of contamination on farm land but experience would indicate that this is not a major problem.

Uncontrolled - Probably higher risk than for members of the general public in recreational areas due to the necessity of handling soil when retrieving objects but is considered the same or lower risk than that for Local Authority gardening staff.

Recommended control for metal detecting activities - Wear gloves and pay particular attention to their continued cleanliness and to personal hygiene practice particularly with regard to hand washing before eating or smoking. Ensure all cuts or broken skin are protected with waterproof dressings. Serious consideration should be given to the availability of a ready supply of clean water for cleansing purposes.

Risk after controls applied - Low

(e) Lack of Personal awareness of other coincidental activity in the area concerned - i.e. Horse riding, shooting, fishing.

Comment - The prime responsibility for ensuring that injury or damage does not arise from these activities must necessarily rest with the practitioners concerned.

Uncontrolled - For recreational areas it is the same risk as presented to the general public in that unrestricted or dangerous activities which present a major hazard are not normally permitted. The wearing of headphones may limit the wearers ability to hear warnings but this is not thought to be significant. On farm land the practice of metal detecting does not enhance the risk above that to which farm workers and other members of the public who may be at large, are normally exposed.

Recommended control for metal detecting activities - None

Risk after controls applied - Low

(f) - Use of vehicles coincidentally in the area being searched

Comment - This circumstance can routinely arise in recreational areas, farm land and beaches but the vehicle drivers are normally held to be responsible for ensuring that their activity does not present a hazard to other users of the area.

Uncontrolled - Unlikely to arise as a problem because sanctions are usually available to enforce the requirement in recreational areas including beaches. On farmland the visibility available to both the detector user and the driver is usually excellent.

Recommended control for metal detecting activities - Little beyond being aware that farm machinery is routinely operated in the countryside

Risk after controls applied - Low

(g) Presence of animals which could be defined as dangerous. (Bulls, recently calved cattle, uncontrolled dogs, poisonous snakes).

Comment - Not generally applicable to recreational areas although, on beaches, there are occasional incidents to members of the general public involving species of poisonous fish. There are fairly rigorous legal controls on dogs in places to which the general public has access. Incidents involving poisonous snakes are quite rare

Uncontrolled - Low and certainly no higher than for other members of the general public frequenting such areas.

Recommended control for metal detecting activities - Little, except to exercise normal care, to observe the Country Code and to ensure that landowner is aware of the intention to search a field where stock is being grazed.

Risk after controls applied - Low

(h) Rivers, Ponds and slurry pits

Comment - Whilst metal detecting is practicable in shallower rivers and ponds, it is not the norm. Slurry pits are certainly not items which would normally be searched with a metal detector. However there is a significant risk presented for very young children if not kept under reasonable surveillance.

Uncontrolled - Low, however the comment above, must always be borne in mind

Recommended control for metal detecting activities - none other than normal caution. HOWEVER the note concerning risk with regard to young children accompanying the practitioner is particularly important.

Risk after controls applied - Low

(i) Buried cables and other service pipework

Comment - One should consider the usual operational depth of metal detectors, the depth to which such services are normally buried, the fact such services would present an elongated and recognisable signal together with the care normally exercised to avoid damage to a find when retrieving it.

Uncontrolled - Low

Recommended control for detecting activities - None other than usual caution

Risk after controls applied - Minimal

(J) Electric fences

Comment - This equipment is a common feature of the countryside although not usually seen in recreational areas and on beaches. There are of low power and tend to cause interference with the signal output of metal detectors.

Uncontrolled - Low although the effects of contact may be momentarily unpleasant

Recommended control for metal detecting activities - None other than exercise normal caution

Risk after controls applied - Low

(k) Buried live ammunition

Comment - The discovery of this type of material on farmland and even on recreational areas and beaches whilst not frequent, occurs often enough to warrant serious consideration. The NCMD Code of Conduct clearly recognises the possibility of making such a discovery. It must also be considered that the discovery and safe removal of such material reduces the risk for others.

Uncontrolled. - Low to Medium

Recommended control for metal detecting activities - Exercise the usual caution to avoid damage to a find when retrieving it and observe the provision within the NCMD Code of Conduct for this type of material.

Risk after controls applied - Low

(1). Tidal Cutoff and Rough Seas

Comment - This is really most likely to arise when metal detecting on estuaries, sand or gravel banks, where there is a fast flowing high tidal range or on beaches lined with cliffs and where the beach is completely cut off at high tide. There have also been occasions on rapidly shelving beaches, where rough seas have swept individuals who were standing on a beach, out to sea.

Uncontrolled. - In the locations as described above the risk is probably medium to high. For the usual holiday and commercialised resort beach in calm weather the risk is low

Recommended control for metal detecting activities - Enquire about the tide times and ensure that metal detecting activities are planned to be discontinued leaving an ample margin for safety once the tide has commenced to flow. Ideally never detect alone in these circumstances. Detecting close to the waters edge whilst heavy seas are running should be avoided. It may be that discretion dictates that detecting in some locations is not pursued.

Risk after controls applied - Generally low for the majority of locations. However there probably remains a medium risk, in a minority of locations, even in the special circumstances described above. This would arise from lack of local knowledge and experience coupled with the fact that it is very easy for detector users to concentrate their attention on the immediate area they are searching to the exclusion of the more distant surroundings and events.

(n) Mudflats 1 Soft Sand

Comment - Where the mud or sand is deep enough to present a serious problem, metal detecting is unlikely to be productive and hence the activity will not be pursued. Whilst in resort and commercialised beach areas there are usually warning notices, it is possible that in other tidal areas, patches of deep mud and 1 or soft sand will be encountered by the unwary.

Uncontrolled - The risk is probably low in resort areas but at least a medium risk in more remote areas.

Recommended control for metal detecting activities - Keep well clear of known areas of deep mud or soft sand. Avoid detecting alone. Make local enquiries and proceed with caution.

Risk after controls applied - Low

2. Potential Hazards for others. arising from the metal detecting activity

(a) Residual surface litter i.e. stones. -glass or metal fragments

Comment - In recreational areas, the grass may be cut using machinery and residual glass metal or stone fragments could cause damage and potential injury. However there is also a common problem of litter, bottles etc. discarded by the general public in these areas including beaches which give rise to the same risk. Surface stones and metallic fragments (sometimes quite large items) are not uncommon on farmland.

Uncontrolled. - There probably a low to medium risk of injury or damage but this is probably no different to that which would normally exist for other reasons.

Recommended control for metal detecting activities - Apply the NCMD Code of Conduct, i.e. Dig holes carefully without completely separating the turf. Remove rubbish for safe disposal and ensure soil and stones are replaced in the hole and the turf properly replaced.

Risk after controls applied - Low

(b) Residual holes

Comment - The holes made to retrieve a metal detected object are usually quite small and relatively shallow. Other recreational and some operational activities can create large ruts etc. On farmland one encounters rabbit burrows, fox /badger and sets which result in quite large and deep holes. Small holes are quite often excavated by animals for other purposes. Cattle, if the turf has been totally separated, can later remove the replaced turf whilst grazing but the resultant hole is likely to be shallow.

Uncontrolled - There is a low risk of injury or damage

Recommended control for metal detecting activities - Follow the NCMD Code of Conduct as described in 2 (a) above.

Risk after controls applied - Minimal

(c) Damage to underground services

Comment - The nature of signal, the depth at which underground services are normally buried when compared with both plough depth and the usual depths from which metal detected objects are recovered, together with the caution typically exercised in the recovery of finds, make the likelihood of damage remote.

Uncontrolled - Low

Recommended control for metal detecting activities - Exercise the usual care when retrieving an object.

Risk after controls applied - **Minimal**

(d) Damage to trees or plants

Comment - In view of the nature of the recovery excavation, on arable or pasture land it is very unlikely that damage will be caused to trees or plants. In recreational areas it is not intended that detecting should be carried out on ornamental lawns * or flowerbeds *.

Uncontrolled - Low risk

Recommended control for metal detecting - Avoid detecting on sensitive recreational areas as described above *

Risk after controls applied - Low risk