



## **Public Health Implications of Flooding of Sports Playing Fields**

### **Issue**

In the course of flooding in the UK, sports playing fields and pitches can become inundated with flood water.

As part of the recovery phase, it is important to assess whether there are any health implications from the residual sediment on these pitches after the flood water has drained.

The questions relate to concerns about possible chemical contamination and/or microbiological contamination that might lead to health problems.

### **What is known?**

Flood water undoubtedly has the potential to be contaminated with both sewage and chemicals from various environmental and industrial sources.

However the contamination (both chemical and microbiological) is usually subject to a very substantial dilution effect from the very large volume of flood water.

The resultant levels of contamination are unlikely to create health problems.

The HPA carries out active surveillance of a broad range of indicators of possible health effects of flooding contamination, across affected areas.

No health problems have been identified as a result of flood water contamination in any part of the affected areas.

Many affected fields have been subject to flooding regularly over recent years and some have deliberately been sited on land in the flood plain that cannot be used for development.

### **What are the possible risks?**

Normal soil on playing fields and pitches will contain faecal micro-organisms and organisms usually associated with sewage, and tetanus spores can be detected.

This does not pose a significant threat to health. Although the risks cannot be completely eliminated, and some pathogens may survive in soil for some weeks, this will not usually be in the numbers required to cause infections. The risks of infection therefore remain low, and people using these pitches are routinely advised to take basic hygiene precautions (including washing hands after playing before eating or drinking, thoroughly washing any cuts



incurred on the field with clean water, covering cuts before playing and keeping their tetanus immunisation up-to-date).

These precautions are sufficient to manage the low level of risk involved.

Any additional micro-organisms deposited by the floods could be expected to decay rapidly as the pitch dries out in sunlight.

These micro-organisms will also have been subject to the dilution factor in the flooding referred to above.

In these circumstances the effects of flooding do not add significantly to the inherently low risk in playing sports on an outdoor pitch.

Similarly, soil can contain evidence of chemical pollution, especially if the playing field is on reclaimed industrial land or adjacent to old industrial sites.

Such pollution does not routinely reach levels that pose a risk to health when the fields are in normal use.

Due to the massive dilution effect of the floodwaters, it is highly unlikely that chemical hazards will be present in quantities that could present a significant risk to human health

## **What needs to be done?**

Where sports fields and pitches have been flooded, gross contamination (litter, rubbish etc. carried in by the flood) should be removed. Wear protective clothing – waterproof boots, apron and gloves – while cleaning up. Cover any open cuts with waterproof plasters. Wash your hands with soap and water after being in contact with floodwater or items that have been contaminated and always wash your hands before eating or preparing food.

Following this, the appropriate action to return the pitch to a good playing condition should be carried out according to professional advice.

These actions will also be sufficient to reduce any health risk back to normal background levels. Sunlight and soil will help destroy harmful organisms and the playing field will be safe to use within a week or so after flooding.

Testing of the soil for the presence of bacteria or chemicals will not, in general, add any useful additional information to inform the risk assessment.

## **Are there any special circumstances or exceptions?**

If a playing field has been subject to specific contamination, for example due to an overflowing septic tank or flood water coming directly from an obvious specific chemical source, then an individual risk assessment should be carried out with advice from the specialist agencies including the Local Authority, Health Protection Agency, and Environment Agency. The risk assessment



should be completed before any testing is carried out and the decision whether to test is an outcome of the risk assessment.

Appropriate remedial action (if any) will be determined on the basis of the risk assessment with professional advice from the Local Authority, Environment Agency and Health Protection Agency.

Health Protection Agency