GIS Study to Locate Emergency Animal Composting Sites

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Foot & Mouth Disease outbreak in England (2001)
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Foot & Mouth Disease outbreak in South Korea (2011)
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Balkan Flooding – Worst in 100 years (2014)
Question

What do you do when you are faced with disposing of thousands of dead farm animals due to a catastrophic event, such as a flood or disease outbreak?
Answer

Why Use GIS of course!
Agriculture in the FVRD

The FVRD has an extensive agricultural presence;

- 32% of all Provincial farm receipts
- 2,500 + farms operating
- 120,000 + acres being farmed

Source: FVRD Regional Growth Strategy 2004
The Problem

These recent events have created high volumes of dead stock which require complex emergency planning and operations for safe and effective carcass disposal.
The Problem

To deal with the emergency disposal of farmed animal carcasses following a disaster, the Ministry of Environment has asked Regional Government's to identify possible disposal sites in their area.
Project

Emergency Composting Site Criteria:
Project

Emergency Composting Site Criteria:

Land Size:
- Minimum 35 acres (could be spread out over 4 or 5 sites)

Set Backs:
- 1 metre to seasonal high groundwater table
- 15 metres from any watercourse
- 30 metres from any domestic water source
- Sites should be on high ground, away from flood prone areas

Ownership:
- Preferably Provincial or Municipal owned parcels
Project

Emergency Composting Site Criteria:

**Soil Base:**
- Not on bedrock
- Preferred soil type is clay (low permeability)
- Thickness of clay should be at least 30cm
- Surfaces like concrete or asphalt are also acceptable
- No steep slopes

**General Location:**
- Not over an aquifer
- Not within a right-of-way
- Must be accessible by truck
- Close enough to power, to bring to possible site
Project

Obtained various data sets

GIS Modelling begins

- Buffer Creation *(watercourses, wells, etc.)*
- Clipping *(parks, aquifers, floodplain, etc.)*
- Slopes were assessed using 3D Analyst *(no steep slopes allowed but slopes of 2 – 4% are preferred)*
Results

Reviewed the first set of Results
Results

The GIS Study is completed, about 50 sites were identified as possible sites.

There are ongoing discussions with various levels of Government to help determine the best 3 or 4 sites out of the 50.

The next step is to secure these selected sites, to establish proper access, and bring in power.
Thank You!

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