

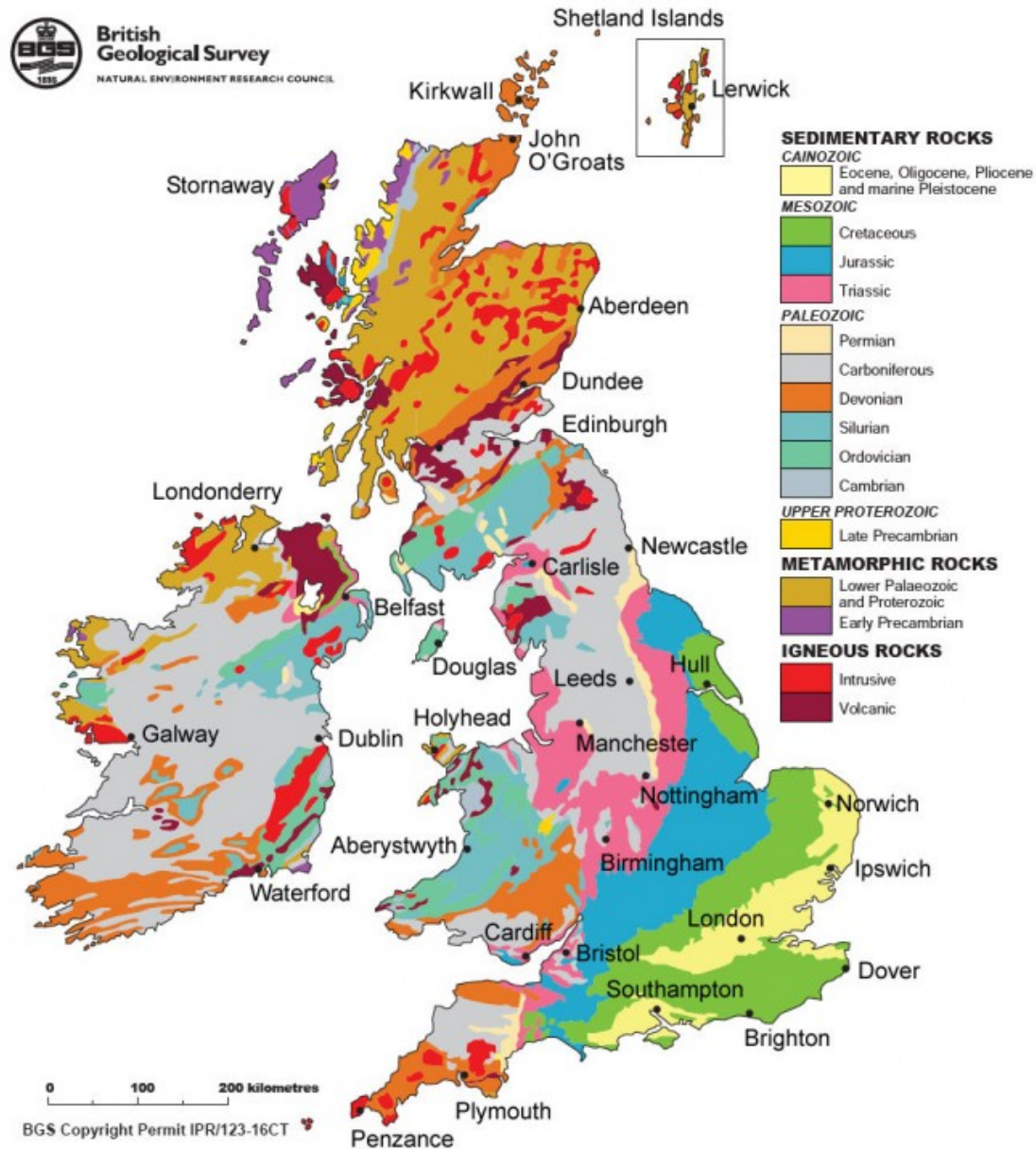
# The Isle of Man in Waste



# Isle of Man Waste Management



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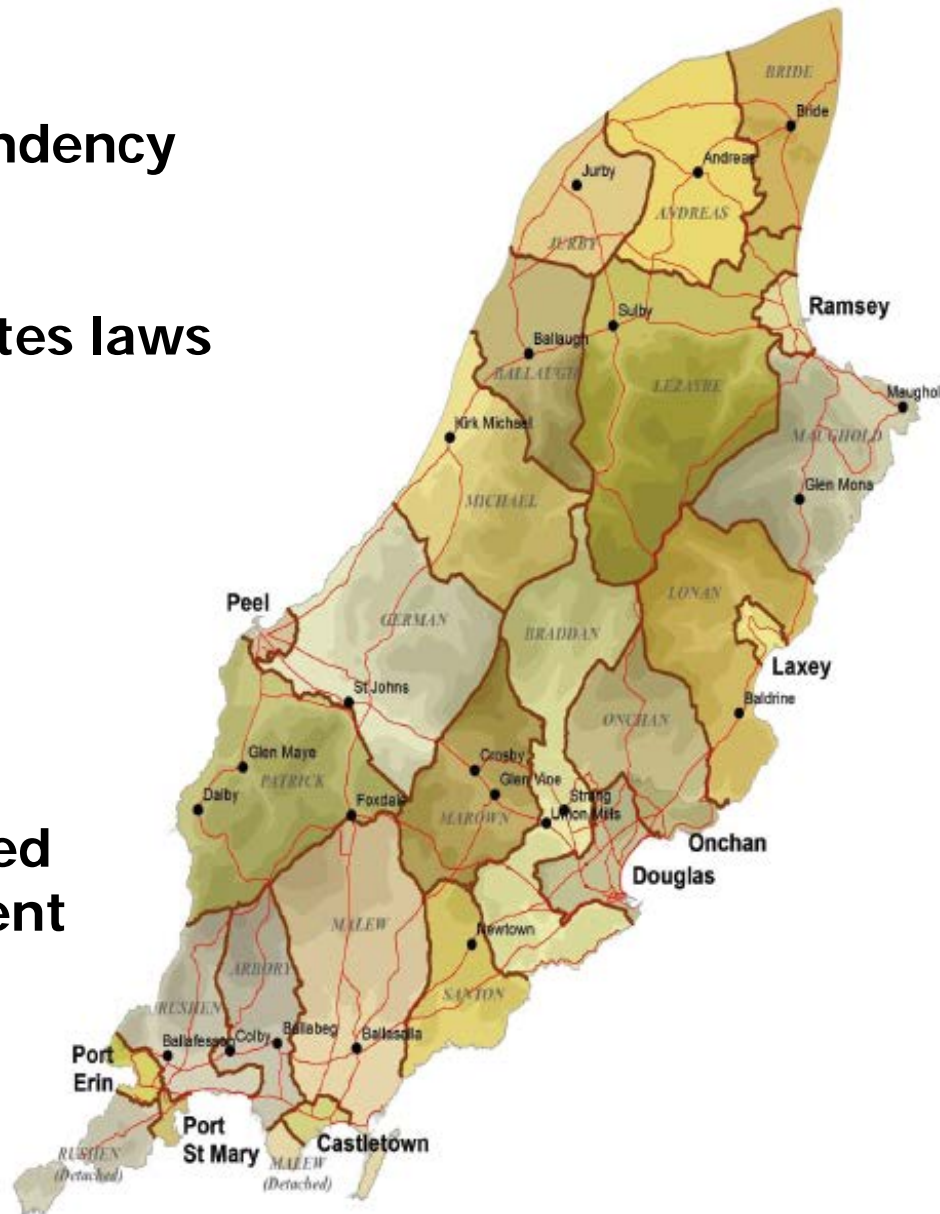
**Crown dependency**  
**221 sq miles**

**Tynwald writes laws**

**Circa 85,000**  
**population**

**38,000 in**  
**employment**

**2% registered**  
**unemployment**



**GDP 2013/14**  
**£4.1bn**

**- £2.4bn company**  
**income**  
**- £1.3bn personal**  
**income**

**Av property price**  
**(Dec14) £265k**

**24 Local Authorities**

**24 waste collection**  
**authorities**



## Strategic Waste Facilities – managed by DOI

**EfW**

**Commissioned in 2004**

**25 year contract**

**60 kt pa primary**

**5 kt pa secondary**

**IBA disposed of to landfill**

**APCR exported**



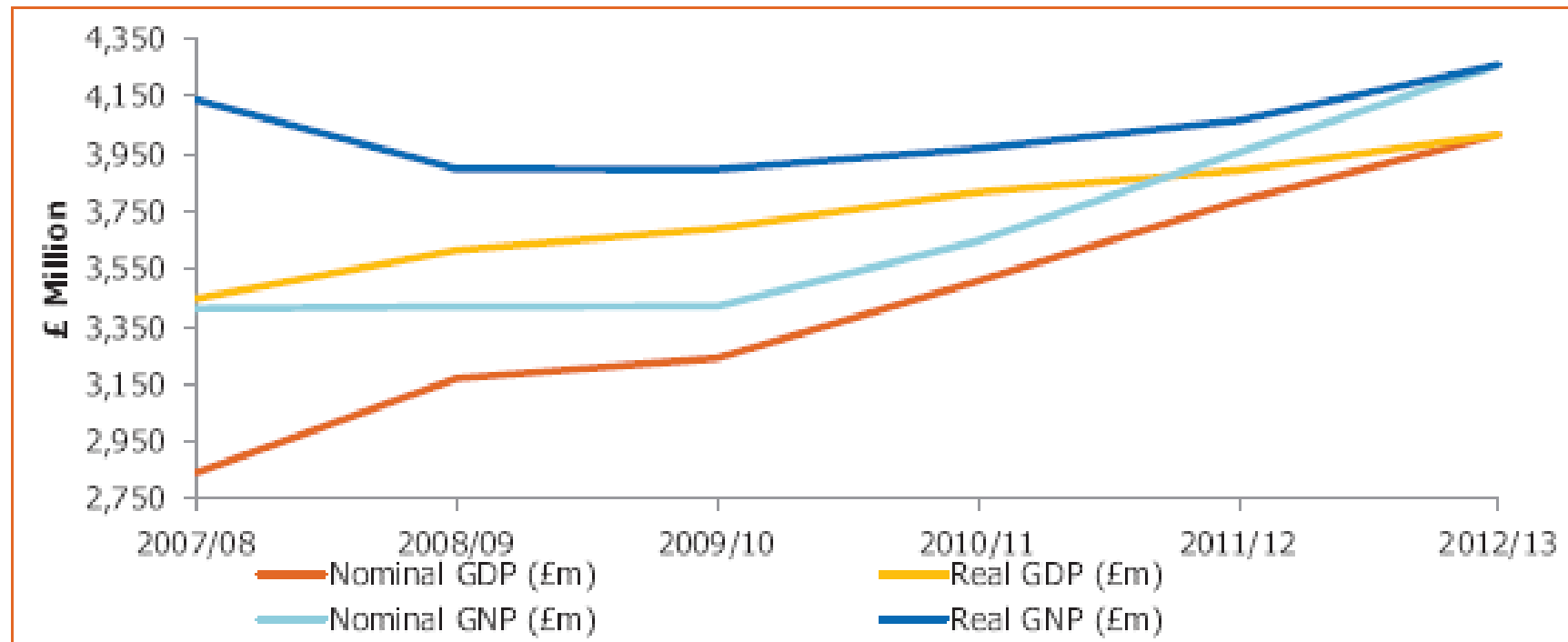
## Strategic Waste Facilities – managed by DOI

- **Problematic Waste landfill – 4 years capacity remaining**
- **Animal Waste Processing Plant**
- **Hazardous Waste Transfer Facility**
- **(Orphaned Gas Cylinder Compound)**



## The Economy

**Figure 1 Gross Domestic Product and Gross National Product**



Source: Cabinet Office

## **The Customs and Excise Agreement 1979**

- indirect taxes set in line with UK allows free movement of goods between IOM/UK
- removes the need for customs barriers between the IoM, UK, EU. IoM part of the European VAT territory.
- Revenue Sharing Arrangement (RSA) - VAT revenue split between the UK and IoM

In 2008 the RSA was reassessed:

- 2009 UK withdrew £114 million/pa.
- 2011 UK withdrew further £75 million/pa

Annual income to IOMG dropped 40%





# Isle of Man Waste Management

**Table 5 Employment by Sector 1951 to 2011**

Industrial Sector	1951	2011
Agriculture, forestry, fishing	2,542	850
Manufacturing	694	2,295
Construction	3,073	3,352
Gas, electricity and water	616	878
Transport and communication	2,180	3,037
Wholesale distribution		821
Retail distribution	3,315	3,683
Insurance, banking, finance and business services	357	9,444
Professional, educational, medical and scientific services	1,576	8,917
Tourist accommodation	-	679
Other catering and entertainment	4,605	2,129
Miscellaneous services	-	3,382
Public administration	1,870	3,058
Not stated or inadequately described		609
<b>Total</b>	<b>20,828</b>	<b>43,134</b>

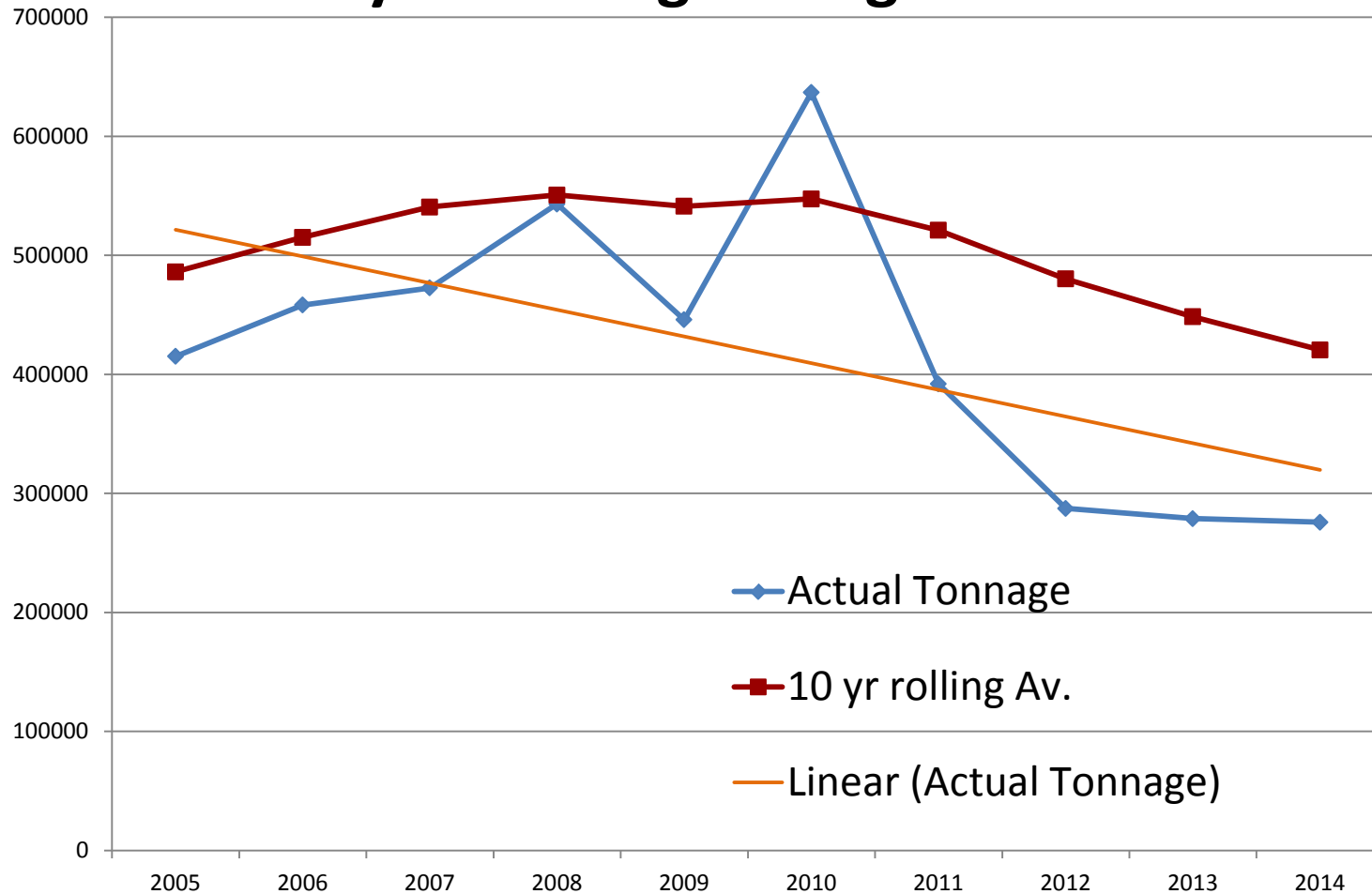


Source: Cabinet Office



# Isle of Man Waste Management

## Actual Aggregate Sales v Forecast Aggregate Sales Based on a 10 year rolling average



## Waste

### Regulation:

- planning and licencing
- Department of Environment Food and Agriculture (DEFA)

### Strategy/Policy:

- Department of Infrastructure (DOI)

### Legislation:

- IOM Public Health Act 1990
  - EU Waste Shipment Regs
  - UK Import/Export Waste Regs (TFS)
- 

# Isle of Man Waste Management

## EfW Delivered Tonnages

	2009/10	2014/15	change
<b>Domestic Waste</b>			
LA collected residual	29,571	28,847	(724) 2.5%
CA site residual incinerable	8,898	3,918	(4,980) 56%
Dedicated wood loads CA Sites	not segregated	1709	
<b>Total Domestic</b>	38,469	34,474	(3,995) 10%
<b>Commercial</b>	11,818	9,778	(2,040) 17%
<b>Total to EfW</b>	54,020	47,878	(6,142) 11%



## **Need: data on waste**

- Duty of Care/Waste Transfer Notes X
- Waste Data Flow X
- Clean Air Act X
- Data on void capacity X
- Data on contaminated land X

## **IOM Waste Strategy Review**

- Q need for new facilities





## **Need: Resources to Monitor Closed Sites and Facilities**

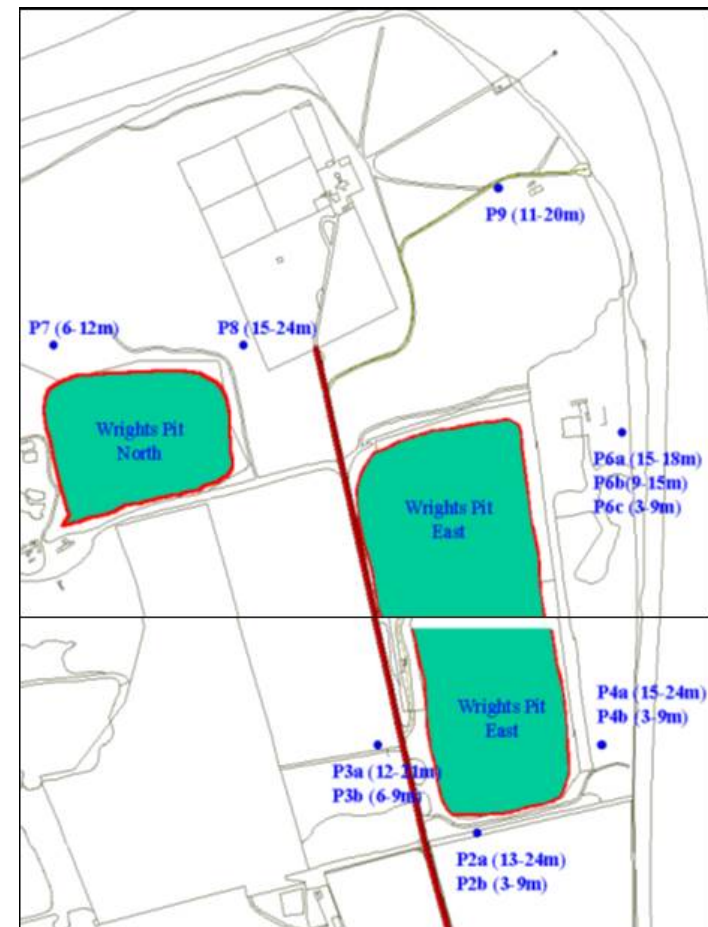


## Landfill: borehole analysis

- leachate composition
- landfill gas

### 1 Wrights Pit East

- former sand quarry
- landfill between 1990 and 2003
- No reliable data
- Estimated 100,000tpa mixed domestic, commercial waste
- non-engineered



# Isle of Man Waste Management





## Wrights Pit East: coastal erosion





# Isle of Man Waste Management





## 2 Raggatt Landfill

- Developed within an abandoned clay quarry 10-15m deep
- Landfilled between August 1986 and September 1990.
- Mixed domestic commercial industrial wastes
- Landfill not engineered – ingress of water/excess leachate



**Need to:**

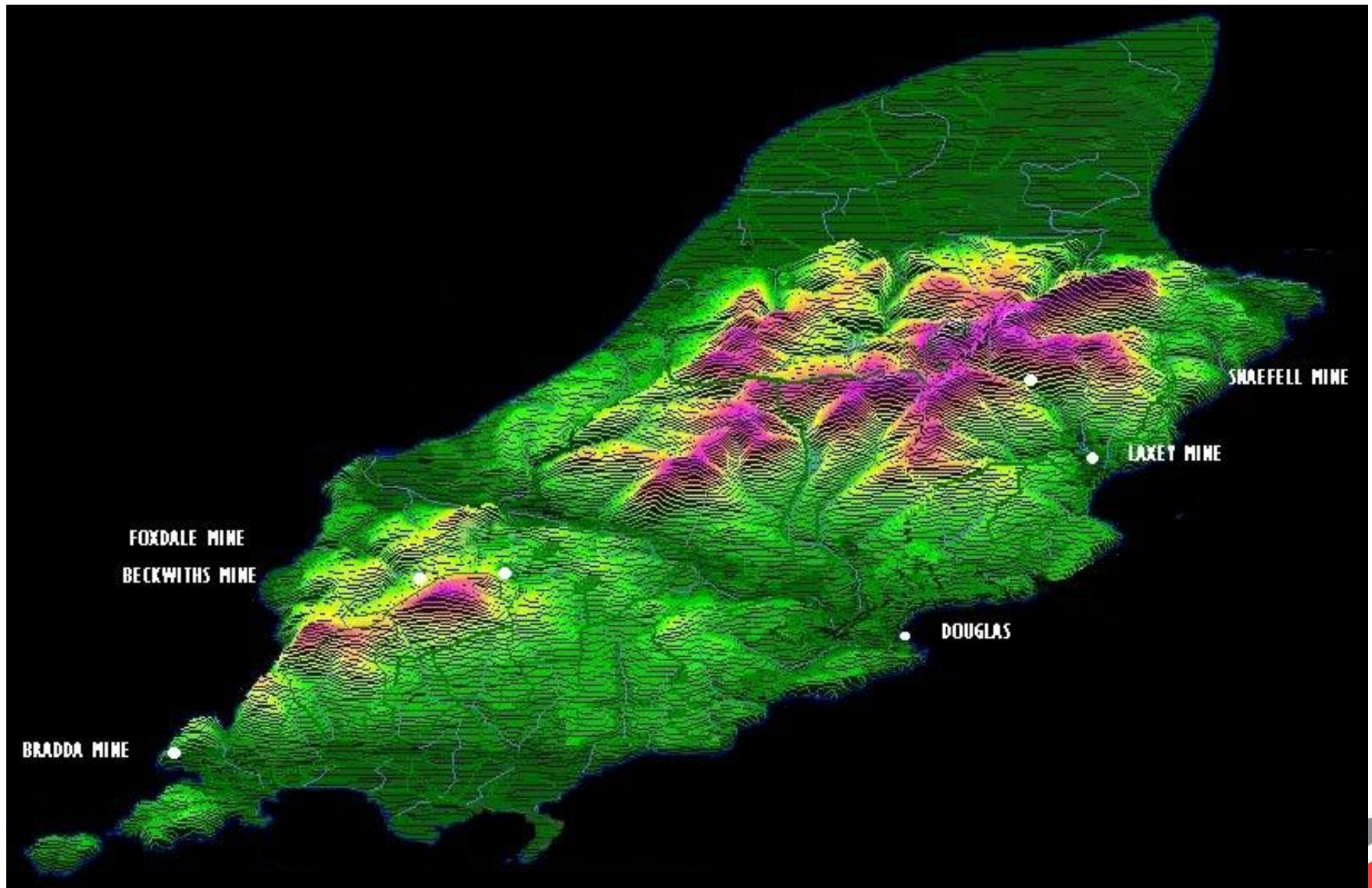
**Identify Contaminated Land**

**Monitor the impact of historic mining**

- spoil**
- run off to rivers**



# Isle of Man Waste Management





**Need to:**  
**Monitor Void Space**

- Quarries
- Landfill (permitted and unregulated)



## **We have Geo Data..**

### **Mapping**

large and small scales, various formats

### **Aerial Photography:**

electronic versions from 2001, 2006, 2009, 2012 2015 (not yet processed) and IR data captured

### **LiDAR data**

captured 2015, point cloud data and DTM/DSM grids

### **CIR data**

raster image processed from 2009 aerial imagery.

### **Other overlays**

planning zones, contour & terrain data

Data all owned by the IoMG so free to use/share





**But no resources to analyse it...**

- **reliable (low maintenance)**
- **consistent**
- **easy to use**
- **future proof**
- **Cheap..**



# Isle of Man Waste Management

