

# Analysis of 2010 Infringement Data

As recorded by Linewatch members

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# Linewatch Infringement Database

## 2010 Data Analysis

Linewatch encourages it's members to report any infringement or near-miss in order to identify any trends that will inform the target of reducing the number of incidents. This analysis is based upon data input by members for the calendar year 2010.

A total of 192 infringements and near-misses were recorded by members in 2010. This is a decrease on 2009 reports and, in part, reflects an decrease in all infringement categories although there was a slight rise in the number of Near Miss reports submitted.

Infringement categories:

The Linewatch categories are computed from 2 elements:  
The first is Risk and this is determined from the following matrix:

Consequence				
HIGH	LOW	HIGH	HIGH	
MEDIUM	LOW	MEDIUM	HIGH	
LOW	LOW	LOW	MEDIUM	
	LOW	MEDIUM	HIGH	Likelihood

Where:

Consequence      HIGH =      Densely populated residential areas, sensitive development (schools etc), major infrastructure (airports etc) and hazardous areas

MEDIUM = Light industrial, low population, water courses/environmentally sensitive, major roads and railways

LOW =      Agricultural or other land

Likelihood

HIGH =      Works had potential to cause serious damage (eg. Deep excavations, unaware of pipeline, dangerous practices)

MEDIUM = Works could possibly have caused minor damage under different circumstances (eg. Service trenches, excavations at shallower depth than pipe invert)

LOW =      Works within easement/wayleave but no potential for damage (eg. pipeline protected , hand excavation)

A further category of Near Miss expands the depth of reporting. Whereas the judgement of whether, or not, to report a Near Miss is rather subjective, it is felt that capturing near-miss potentials adds to the depth of analysis.

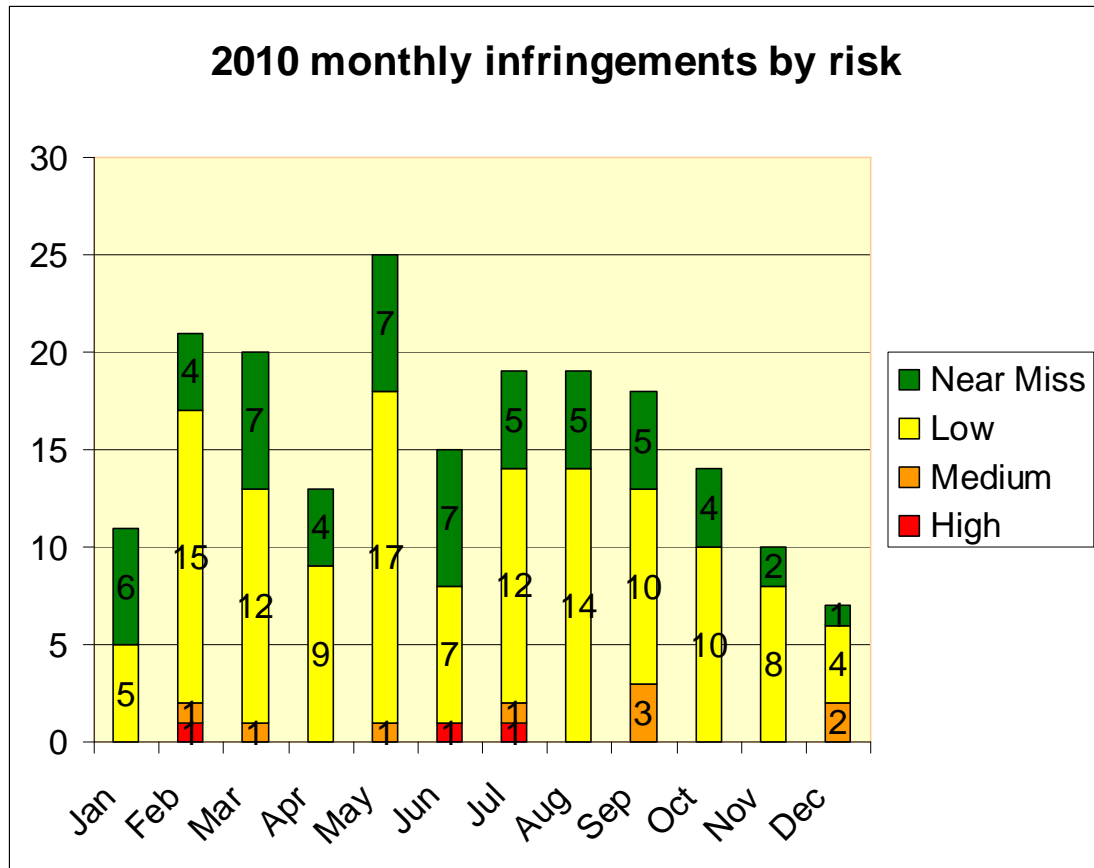
Risk:

<b>Category</b>	<b>Risk</b>
H	High
M	Medium
L	Low
NM	Near Miss

3 have been categorised as High risk and 9 as Medium

## Analysis of 2010 Infringement reports by Date

Infringements by Date (subdivided into Linewatch risk)

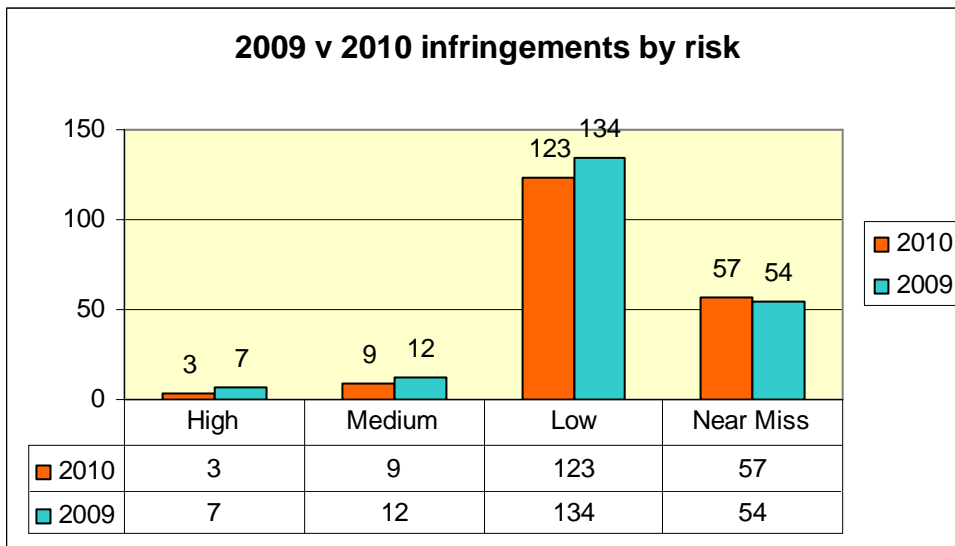


It is difficult to determine a trend in the spread of records by date however, it is noteworthy that, in the first quarter, infringement activity increased towards the end of the financial year.

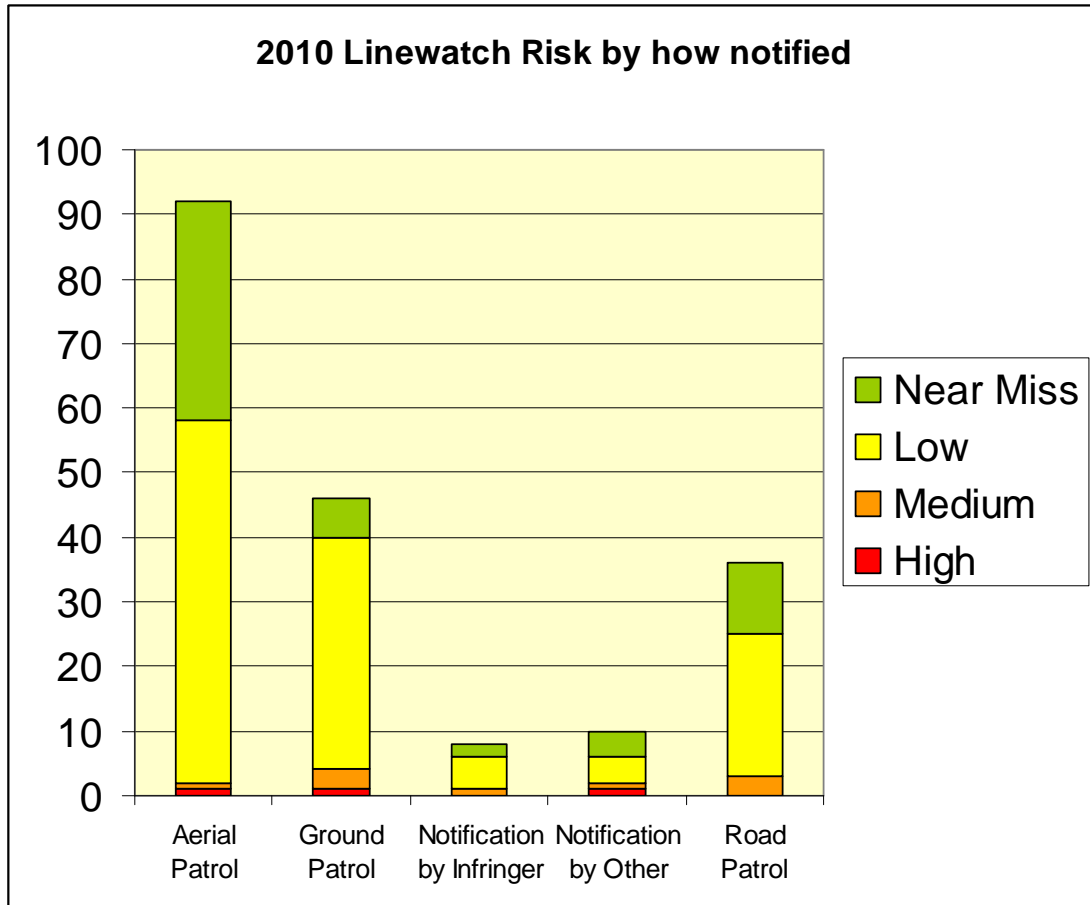
Infringement records were lower than in 2009 apart from a slight increase in the Near-Miss category. This may be as a result of a combination of the downturn in the economy and the extreme weather conditions experienced later in the year although Linesearch "Within the Zone" enquiries show a marked increase on 2009 activity which would indicate an overall decrease of unplanned works versus planned works.

### Linewatch categories

	2010				Total
	High	Medium	Low	Near Miss	
Jan			5	6	11
Feb	1	1	15	4	21
Mar		1	12	7	20
Apr			9	4	13
May		1	17	7	25
Jun	1		7	7	15
Jul	1	1	12	5	19
Aug			14	5	19
Sep		3	10	5	18
Oct			10	4	14
Nov			8	2	10
Dec		2	4	1	7
Totals	3	9	123	57	192



## Analysis of 2010 Infringement reports by how found

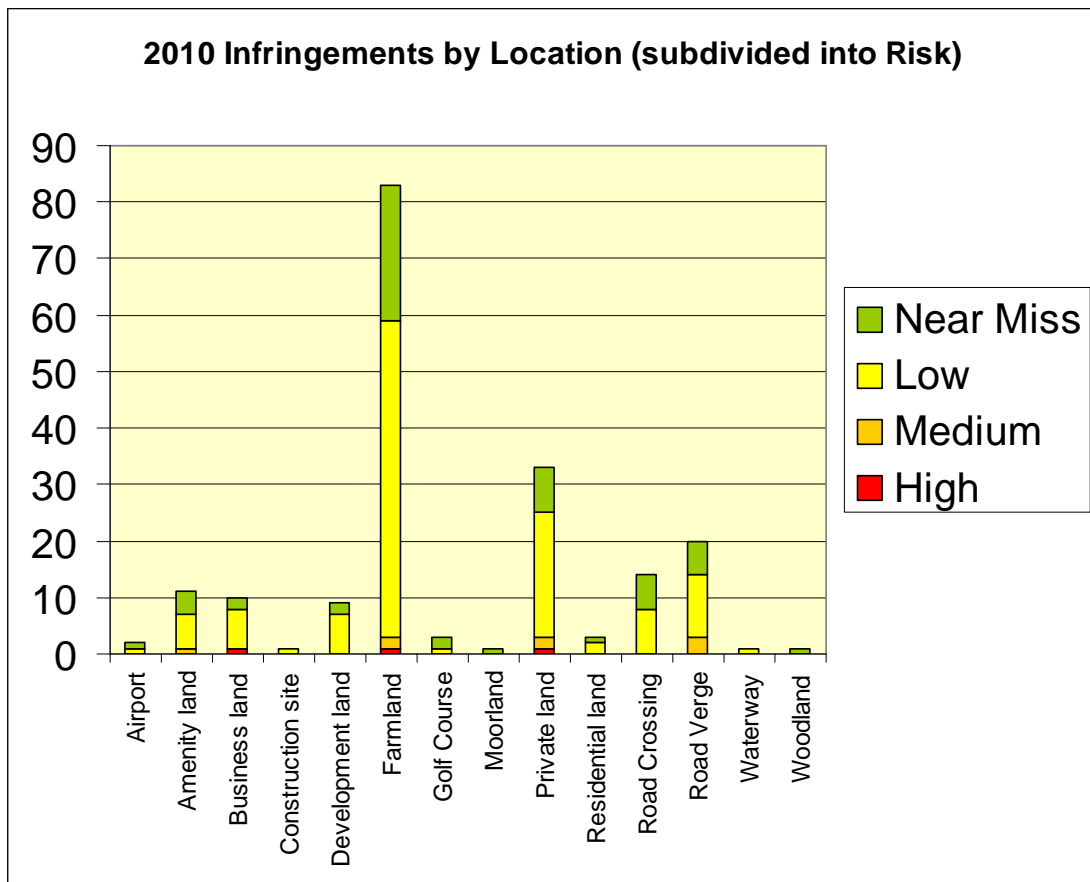


In a departure from previous years, the largest number of the incidents (92) were discovered as a result of aerial patrols. This equates to some 48% of the total. Ground patrols discovered 46 infringements that equates to 24% of the total (a similar share to 2009). Road Patrol discoveries show a large drop with only 36 infringements being discovered this way.

## Linewatch categories

	High	Medium	Low	Near Miss	
Aerial Patrol	1	1	56	34	92
Ground Patrol	1	3	36	6	46
Notification by Infringer		1	5	2	8
Notification by Other	1	1	4	4	10
Road Patrol		3	22	11	36
					192

## Analysis of 2010 Infringement reports by Location type



Analysis of the 2010 reports indicate that the highest number of incidents (83) occurred on “Farmland” as in previous reports. When “Farmland” and “Private Land” are combined the total number (116) indicates that the greater number of incidents occur away from the highway. This is not surprising given that, as a percentage, the greater length of pipeline routing is not in the highway.

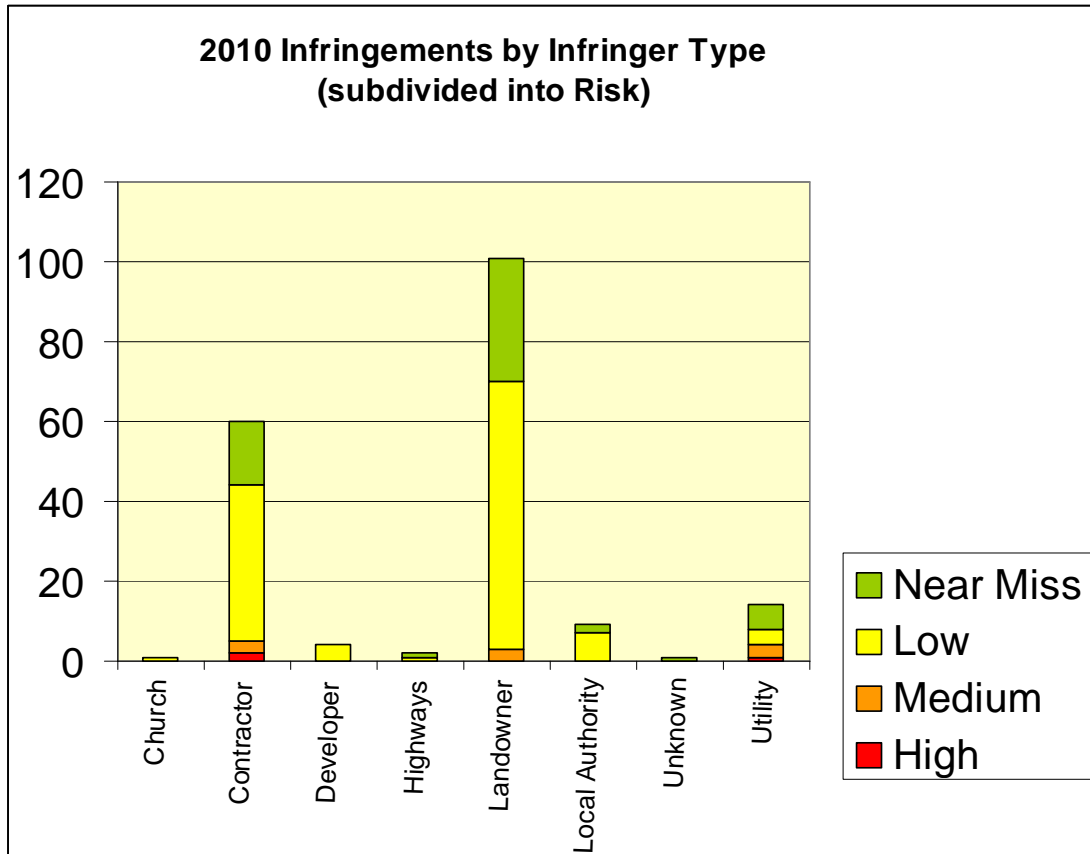
Analysis of Infringements by Location type when referenced against the Linewatch “Risk” matrix indicate that of the 3 “High” risk infringements, 2 occurred on farmland/private land. Similarly with the 9 “Medium” risk infringements, 4 took place on farmland/private land against 3 in the highway (a further 2 infringements were recorded against other types of location).

## Linewatch categories

	High	Medium	Low	Near Miss	
Airport			1	1	2
Amenity land		1	6	4	11
Business land	1		7	2	10
Construction site			1		1
Development land			7	2	9
Farmland	1	2	56	24	83
Golf Course			1	2	3
Moorland				1	1
Private land	1	2	22	8	33
Residential land			2	1	3
Road Crossing			8	6	14
Road Verge		3	11	6	20
Waterway			1		1
Woodland				1	1
					192

## Analysis of 2010 Infringement reports by Infringer type

Infringements by Infringer (subdivided into Linewatch risk)

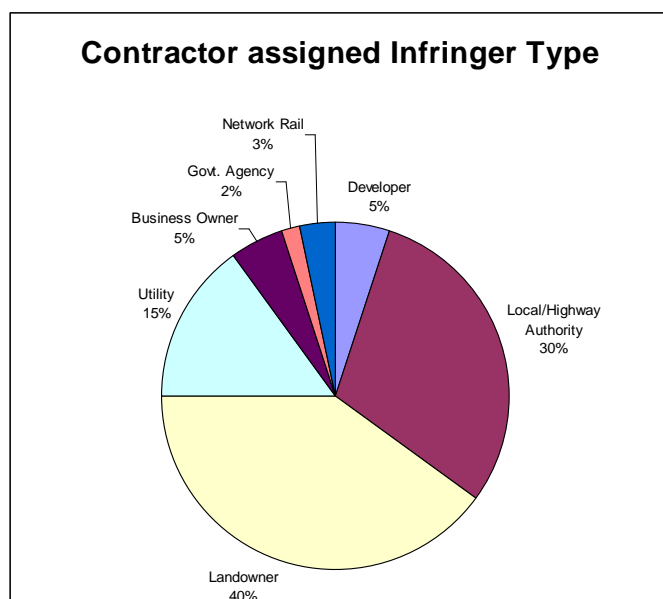


As in 2008 and 2009, analysis of the data clearly shows “Landowners” as being the biggest, single category (101) of infringers. It should be noted that at least 17 of the recorded infringements in the “Contractor” category were initiated by landowners thereby increasing their total to 117. “Contractor” is second placed which would accord to the findings that highway works are second placed in the location category – (most highway works being carried out by contract labour). 13 of the 60 contractor infringements were on behalf of Local Authorities or Highways. This category has seen the biggest decrease on 2009 figures. Works carried out by, or on behalf of, Utilities account for some 24 infringements which is broadly in line with 2009.

### Linewatch categories

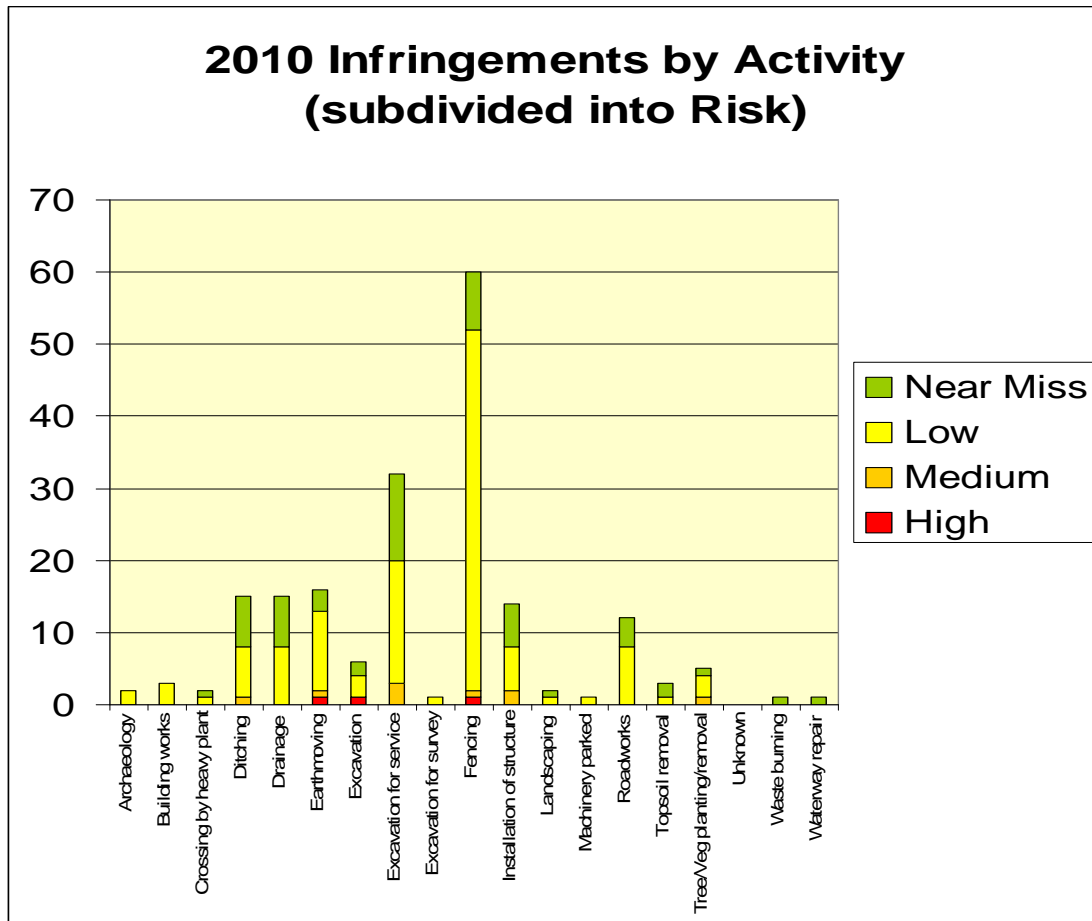
	High	Medium	Low	Near Miss	
Church			1		1
Contractor	2	3	39	16	60
Developer			4		4
Highways			1	1	2
Landowner		3	67	31	101
Local Authority			7	2	9
Unknown				1	1
Utility	1	3	4	6	14
					192

However, once the Contractor type has been attributed to the Promoter of the works, Landowner remains the largest group with Local authorities second and Utilities very close, in third place.



Developer	3	4	7
Local/Highway Authority	18	11	29
Landowner	24	101	125
Utility	9	14	23
Business Owner	3		3
Govt. Agency	1		1
Network Rail	2		2

## Analysis of 2010 Infringement reports by Activity type



As in previous years, analysis of the data shows a wide range of activity types, the two categories that are predominant are “Excavation” and “Fencing”. Fencing works (60) were the largest category recorded as the primary activity of incidents and reflects the fact that landowners were the major infringer type. However, fencing works are generally seen to be of a low risk due to the, relatively, shallow penetration of the works – only 2 of the recorded incidents was classified more serious than “Low risk”. “Excavation for Service” was the second highest category (32). Of the remaining excavation categories, ditching (15) and drainage (15) combined are third place but only one incident was rated at higher than “Low risk”. Roadworks (12) are significant. Drainage (and most ditching activities) are landowner initiated works and reinforce the argument that landowners are an increasing threat. Given the high level of activity in the highway, the number of incidents attributed to “Roadworks” reflects the fact that pipeline chainage is relatively low in the highway.

## Linewatch categories

	High	Medium	Low	Near Miss	
Archaeology				2	2
Building works				3	3
Crossing by heavy plant				1	2
Ditching		1		7	15
Drainage				8	15
Earthmoving	1	1		11	16
Excavation	1			3	6
Excavation for service		3		17	32
Excavation for survey				1	1
Fencing	1	1		50	60
Installation of structure		2		6	14
Landscaping				1	2
Machinery parked				1	1
Roadworks				8	12
Topsoil removal				1	3
Tree/Veg planting/removal		1		3	5
Unknown					1
Waste burning					1
Waterway repair					1
					192

## Analysis of 2010 Activity to indicate overall Risk potential

If a crude “weighting” score is applied:

High 4

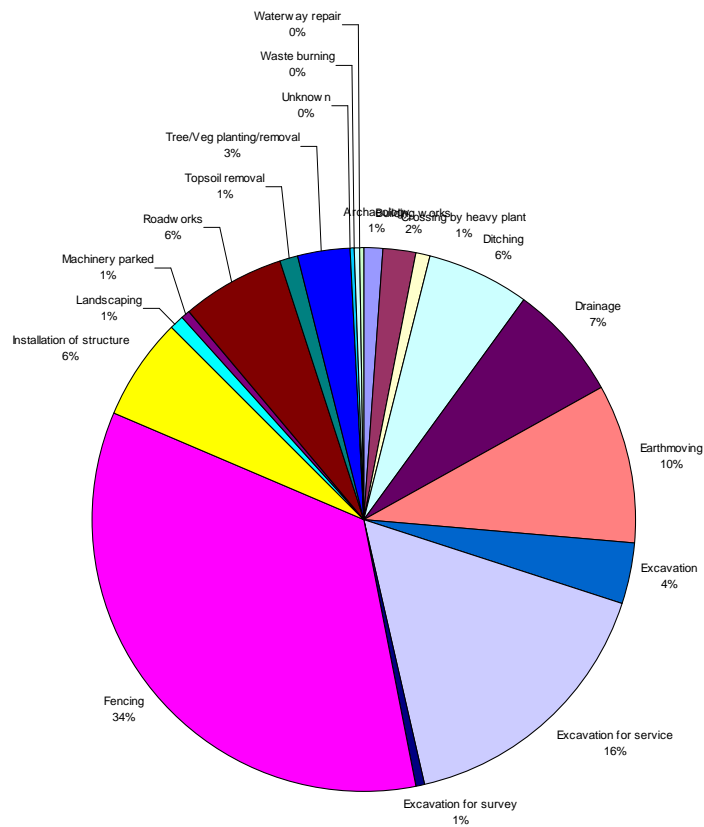
Med 3

Low 2

NM 1

It can be seen that 6 (out of 18) categories share 80% of the “risk”

### Activity showing weighted risk



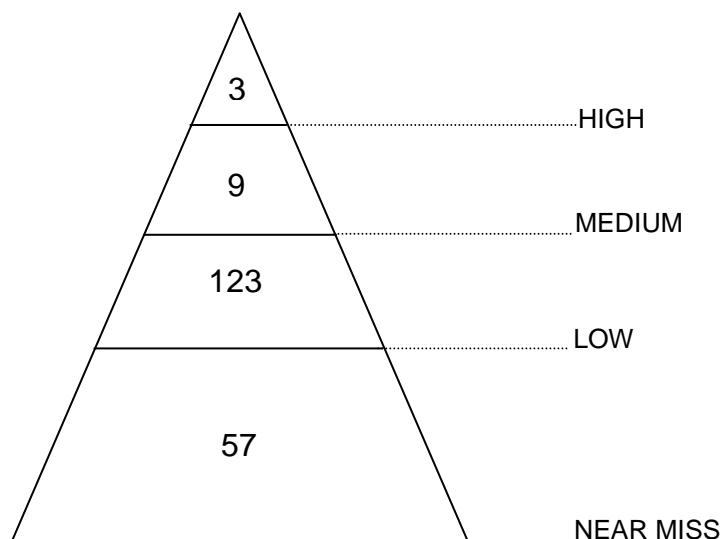
## Summary

Linewatch represents operators of 5,961 km of high pressure pipelines in the UK. Recorded incidents were lower than in 2009 (207). There was a fall in the numbers of all Risk categories except for “Near Miss”, which saw a slight increase (54 < 57).

“Landowners” remain the main risk to pipeline integrity. This may, in part, be due to the success of targeting some of the worst offenders in previous years and will inform the direction of Linewatch presentations for the forthcoming year. The number of incidents either involving or initiated by Local Authorities would appear to be increasing.

Encouragement is given to report “Near-miss” situations as well as actual infringements. Anecdotal evidence would suggest that we should be recording more “near-miss” incidents than “Low” category incidents.

2010 incidents



Whereas this report gives some comfort from the fact that infringement reports have decreased, there is no room for complacency. Linesearch indicates that the number of planned works is increasing significantly.

Linesearch enquiries in 2010 resulted in a total of 13,772 "Within the Zone" responses for Linewatch members. The comparative number of results in 2009 was 7,358 indicating an increase of some 87% in 2010.

The average number of recorded infringements for 2010 was 1.39 per 100 "Within the Zone" responses. In 2009 this figure was 2.81 per 100. This would indicate a better performance than that indicated by a simple comparison of the number of reported infringements year on year.