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SUMMARY ANALYSIS OF DELIBERATE SECONDARY FIRES THROUGHOUT MERSEYSIDE DURING THE 2010 BONFIRE PERIOD

VERSION 1.1

KNOWLEDGE & INFORMATION MANAGEMENT DIRECTORATE

Please note that the data in this document is based on the live Incident Recording System. As this is a live system, the data contained within this document is subject to review and can be changed without announcement.

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Related Documents

Title: Knowsley 2010 Bonfire Period Report Summary v1.0
Title: Liverpool 2010 Bonfire Period Report Summary v1.0
Title: Sefton 2010 Bonfire Period Report Summary v1.0
Title: St Helens 2010 Bonfire Period Report Summary v1.0
Title: Wirral 2010 Bonfire Period Report Summary v1.0

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● Introduction

This report presents a comparative analysis of Deliberate Secondary Fires, Wheelie Bin Fires and incidents of Violence at Work that occurred during the 2009 and 2010 Bonfire Periods and over the 3 year average across Merseyside for a more in depth analysis at a district level (please refer to the reports referenced in 'Related Documents').

● Methodology

To identify and analyse any trends in incidents during the Bonfire Periods in 2009, 2010 and the 3 year average the following methodologies were followed:

- The period of analysis covered from 00.00hrs on 19th October to 23.59hrs on 7th November¹.
- Data from 2007, 2008 and 2009 was included to formulate the 3 year average.
- Fire related incidents analysed within this report are all Deliberate Secondary Fires². Instances of Violence at Work have been collected from the OSHENS Health and Safety System.
- The analytical tools adopted in this report includes:
 - MapInfo Mapping Software – used to identify hotspot areas for incidents and used to filter data according to district, ward, Super Output Area and Police Beat level.
 - Crystal Reports – utilised to extract raw data and information from the BOSS Fire Reporting System.
 - Microsoft Excel – used to analyse raw data.
- The wheelie bin analysis is based on the “Wheelie Bin” tag in Vision Boss; not on a narrative search.
- Calculations using incidents per 10,000 population is based on mid 2009 population estimates from the Office of National Statistics.

¹ Previous Bonfire reports ran from 07:00 20th October – 07:00 7th November. Therefore the historical figures in this report will differ slightly in comparison to previous reports

² FSEC (Fire Service Emergency Cover) incidents codes include: 04 01 – Derelict Building, 04 02 – Grassland, 04 03 – Bonfires, 04 04 – Outdoor Structure, 04 05 – Refuse, 04 06 – Derelict Vehicle.

Deliberate Secondary Fires

Chart 1: 5 Year Retrospective Analysis of Deliberate Secondary Fires

5-Year Retrospective for Deliberate Secondary Fires in Merseyside during the Bonfire Period (19th October - 7th November)

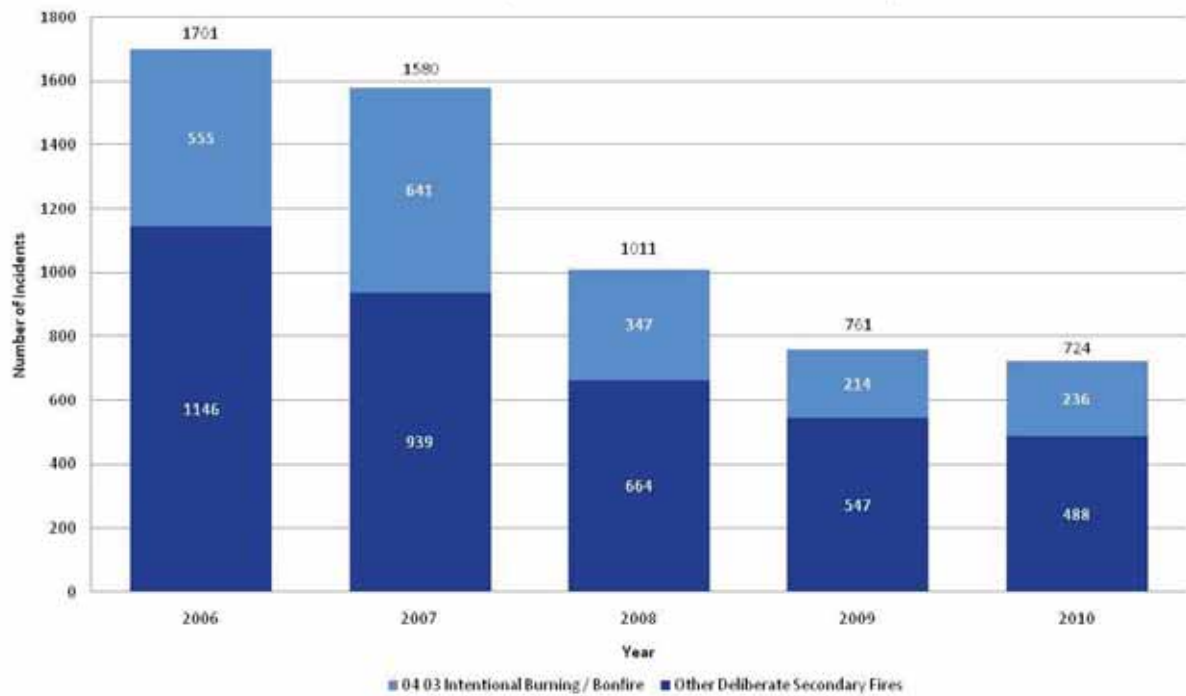


Chart 1 illustrates that during the 2010 bonfire period there were 724 deliberate secondary fires, which is a reduction of 37 incidents (4.9%) from the 2009 bonfire period.

Over the last 5 bonfire periods there has been a reduction in the number of deliberate secondary fires year on year. For example, from 1701 incidents in 2006 to 724 in 2010, a reduction of 977 (57.4%) incidents. Furthermore between the 2007 and 2008 bonfire period there was a drastic reduction in deliberate secondary fires, from 1580 incidents in 2007 to 1011 incidents in 2008, a 569 (36%) incident reduction.

Bonfires have also witnessed a reduction in numbers when comparing 2006 with the 2010 Bonfire Period, from 555 incidents in 2006 to 236 in 2010, a reduction of 319 (57.5%) incidents.

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Table 1: Total Number of Deliberate Secondary Fires in Merseyside, by Incident Type

Incident Type	2009	2010	Difference	% Change
04 01 Derelict Building	8	16	8	100.0%
04 02 Grassland	37	49	12	32.4%
04 03 Intentional Burning / Bonfire	214	236	22	10.3%
04 04 Outdoor Structure	21	20	-1	-4.8%
04 05 Refuse Fire	481	401	-80	-16.6%
04 06 Derelict Vehicle	0	2	2	N/A
Grand Total	761	724	-37	-4.9%

Table 1 highlights that the incident types to have witnessed the greatest number of incidents throughout both the 2009 and 2010 bonfire periods were 'Intentional Burning/Bonfire' and 'Refuse Fire'. During the 2010 bonfire period 'Intentional Burning/Bonfire' accounted for 236 incidents and 'Refuse Fire' witnessed 401 incidents.

The incident types to have witnessed reductions when comparing 2009 with the 2010 bonfire period were: 'Outdoor Structure' with a reduction of 1 incident and 'Refuse Fire' with a reduction of 80 incidents and has therefore largely contributed to the overall reduction of deliberate secondary fires.

All other incident types saw increases in incident numbers between the two bonfire periods: 'Derelict Building' with an increase of 8 incidents; 'Grassland' with an increase of 12 incidents; 'Intentional Burning/Bonfire' with an increase of 22 incidents and 'Derelict Vehicle' with an increase of 2 incidents.

Table 2: Total Number of Deliberate Secondary Fires in Merseyside, by District & per 10,000 population

District	2009	per 10,000 population	2010	per 10,000 population
Knowsley	107	7.2	108	7.2
Liverpool	314	7.1	306	6.9
Sefton	110	4.0	69	2.5
St Helens	85	4.8	84	4.7
Wirral	145	4.7	157	5.1
Grand Total	761	5.6	724	5.4

Table 2 highlights that the district to have witnessed the greatest number of deliberate secondary fires was Liverpool with 306 incidents. However when considering the number of incidents per 10,000 population, Liverpool witnessed 6.9 incidents, whereas Knowsley witnessed 108 deliberate secondary fires but was the district to have witnessed the greatest number of incidents per 10,000 population, with 7.2. A conclusion of this is that Knowsley is at the greatest risk of deliberate secondary fires during the bonfire period.

Sefton accounted for the least deliberate secondary fires during the 2010 bonfire period with 69 incidents and was also the district to have witnessed the least number of incidents per 10,000 population (2.5).

Chart 2: Comparison of Deliberate Secondary Fires in Merseyside between 2009, 2010 and the 3 year average, by Day

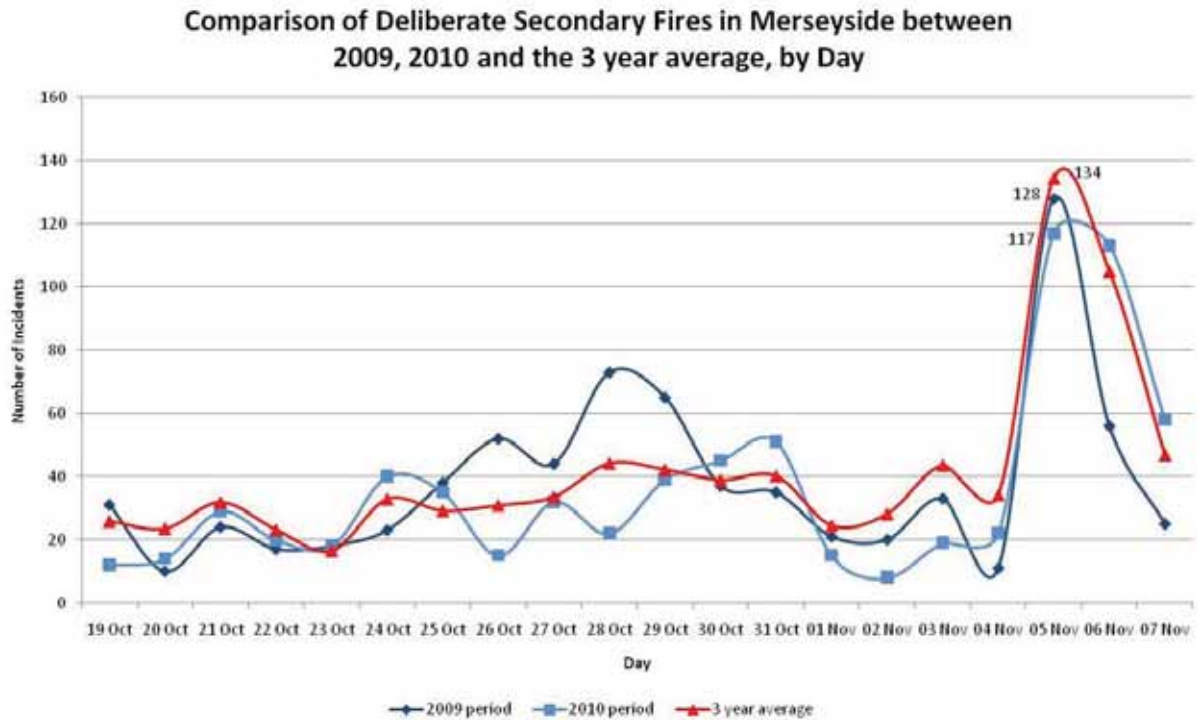


Chart 2 indicates that from 19th October to 25th October the 2010 bonfire period followed a similar pattern in the number of incidents to the 2009 bonfire period as well as the 3 year average. However from 26th October to the 31st October the 2010 bonfire period took on an opposite trend to the 2009 bonfire period, with incident numbers decreasing between these dates in 2010 whereas incident numbers increased between these dates in 2009. For example from 27th to the 28th October in 2009 deliberate secondary fires increased from 44 to 73 respectively whereas in 2010 deliberate secondary fires decreased from 32 on the 27th October to 22 on the 28th October.

From the 1st November onwards the number of deliberate secondary fires during the 2010 bonfire period once again continued on a similar pattern to the 2009 bonfire period and the 3 year average. Both the 2009 and 2010 bonfire periods and the 3 year average all peaked in incident numbers on 5th November, with 128 incidents occurring during the 2009 bonfire period, 117 occurring during the 2010 bonfire period and 134 occurring over the 3 year average.

Chart 3: Cumulative Comparison of Deliberate Secondary Fires in Merseyside between 2009, 2010 and the 3 year average, by Day

Cumulative comparison of Deliberate Secondary Fires in Merseyside between 2009, 2010 and the 3 year average, by Day

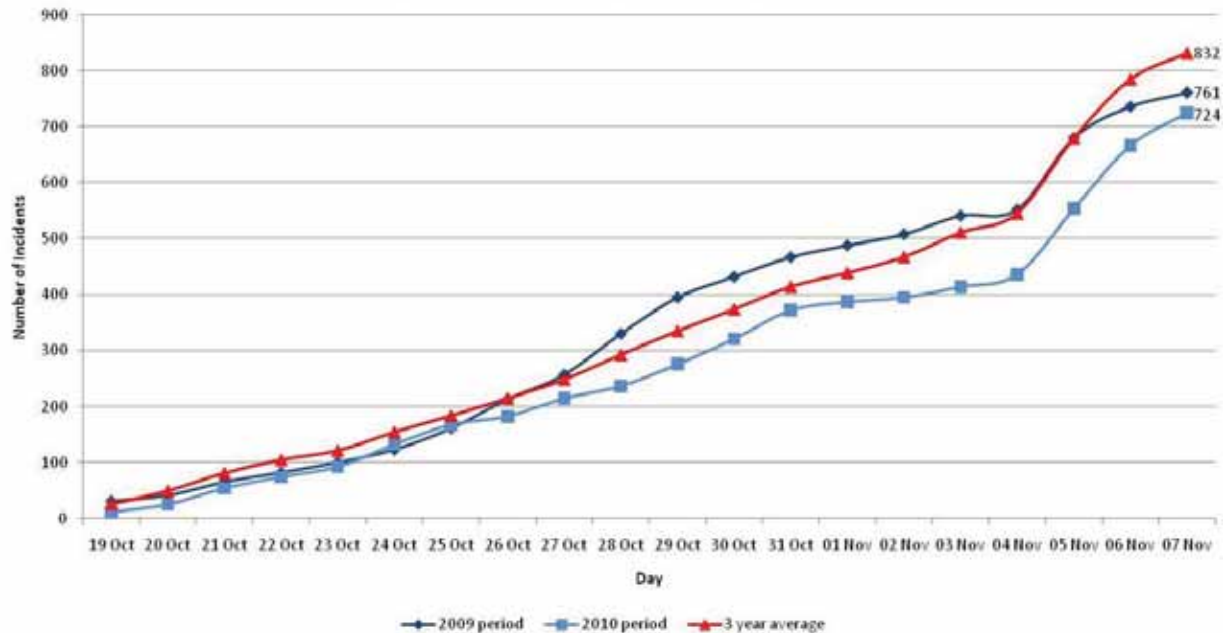


Chart 3 compares the cumulative total throughout the 2010 Bonfire Period, compared to the 2009 Bonfire Period and the three year average. From 26th October onwards it is evident that the daily cumulative totals during the 2010 bonfire period were consistently lower than the 2009 bonfire period and the 3 year average.

The chart further illustrates that the majority of incidents occurred on 5th and 6th November, with notable rises in incidents across all three comparatives between these dates.

Chart 4: Comparison of Deliberate Secondary Fires in Merseyside between 2009, 2010 and the 3 year average, by Hour

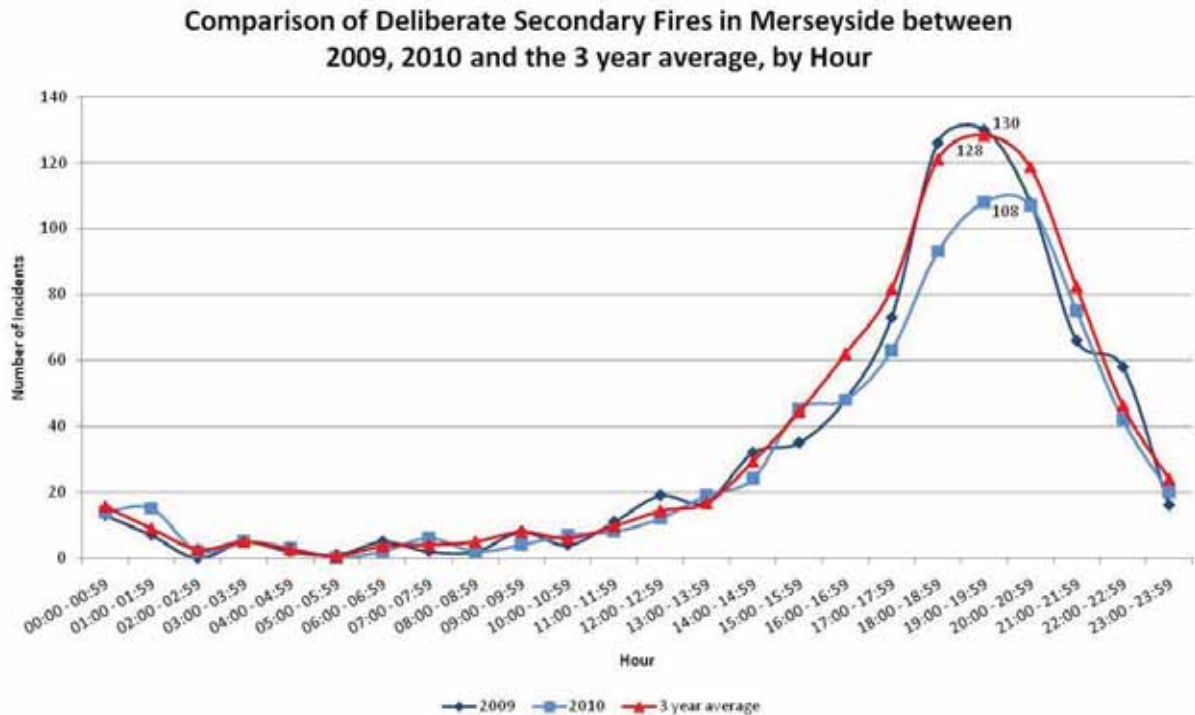


Chart 4 illustrates that the majority of deliberate secondary fires, across all three periods, occurred in the late afternoon to late evening hours, between 16:00hrs and 22:59hrs. The peak hour for incidents has been consistent throughout all three periods, between 19:00hrs and 19:59hrs. However the peak number of incidents during this hour in the 2010 bonfire period was notably lower (22 incidents fewer) than the corresponding hour in the 2009 period and the 3 year average. It is also important to point out that between 02:00hrs and 10:59hrs there is a consistent lack of deliberate secondary fires, with incident numbers after this time increasing exponentially.

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Table 3: Top wards in Merseyside for Deliberate Secondary Fires (Ranked by the 2010 Bonfire Period totals)

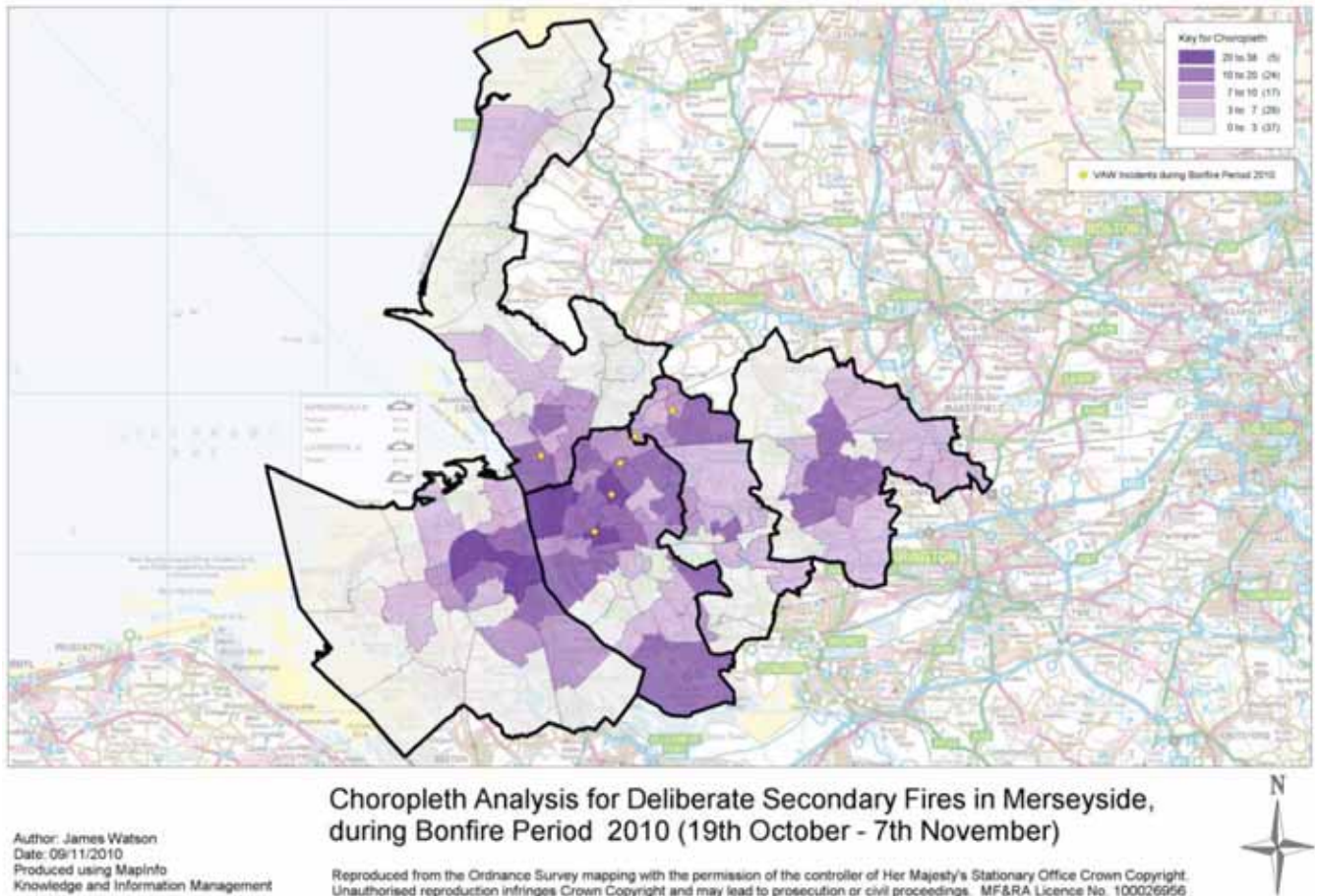
Ward	2009	2010	Difference	% Change
Birkenhead and Tranmere	32	38	6	18.8%
Clubmoor	41	26	-15	-36.6%
Bidston and St James	33	26	-7	-21.2%
Kensington and Fairfield	13	21	8	61.5%
Kirkdale	15	20	5	33.3%
Riverside	21	18	-3	-14.3%
Speke-Garston	21	17	-4	-19.0%
Rock Ferry	15	17	2	13.3%
Everton	23	15	-8	-34.8%
Tuebrook and Stoneycroft	18	15	-3	-16.7%
Croxteth	17	15	-2	-11.8%
Norris Green	14	15	1	7.1%
Parr	15	15	0	0.0%
Anfield	10	14	4	40.0%
Princes Park	7	14	7	100.0%

Table 3 indicates that the top 3 wards for deliberate secondary fires during the 2009 bonfire period were also the top 3 wards during the 2010 bonfire period. However the top ward for incidents in 2009 was Clubmoor, with 41 incidents, whereas this ward was the second top ward in 2010 with 26 incidents, a reduction of 15 between the two periods. Birkenhead & Tranmere on the other hand witnessed the most incidents during the 2010 bonfire period, with 38 incidents, an increase of 6 compared to the 2009 period.

Other wards to have witnessed large increases in incidents between the two bonfire periods were: Kensington & Fairfield with an increase of 8 incidents; Princes Park with an increase of 7; Kirkdale with an increase of 5 and Anfield with an increase of 4.

Wards to have witnessed the greatest reductions in deliberate secondary fires when comparing the 2009 bonfire period with the 2010 bonfire period were: Everton with a reduction of 8 incidents and Bidston & St James with a reduction of 7.

Map 1: Choropleth³ Analysis of Deliberate Secondary Fires in Merseyside during the 2010 Bonfire Period



Map 1 indicates that three wards in north Liverpool (Kirkdale, Clubmoor and Kensington & Fairfield) and two wards on the east of the Wirral (Bidston & St James and Birkenhead & Tranmere) witnessed the greatest number of deliberate secondary fires as indicated by the darkest shade on the choropleth key.

It is also notable from this map that all of the VAW incidents tended to cluster around central Merseyside, with 3 incidents in Liverpool north, two in Knowlsey north and 1 in Sefton south.

³ A choropleth map displays the density of incidents by ward.
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Wheelie Bin Incidents

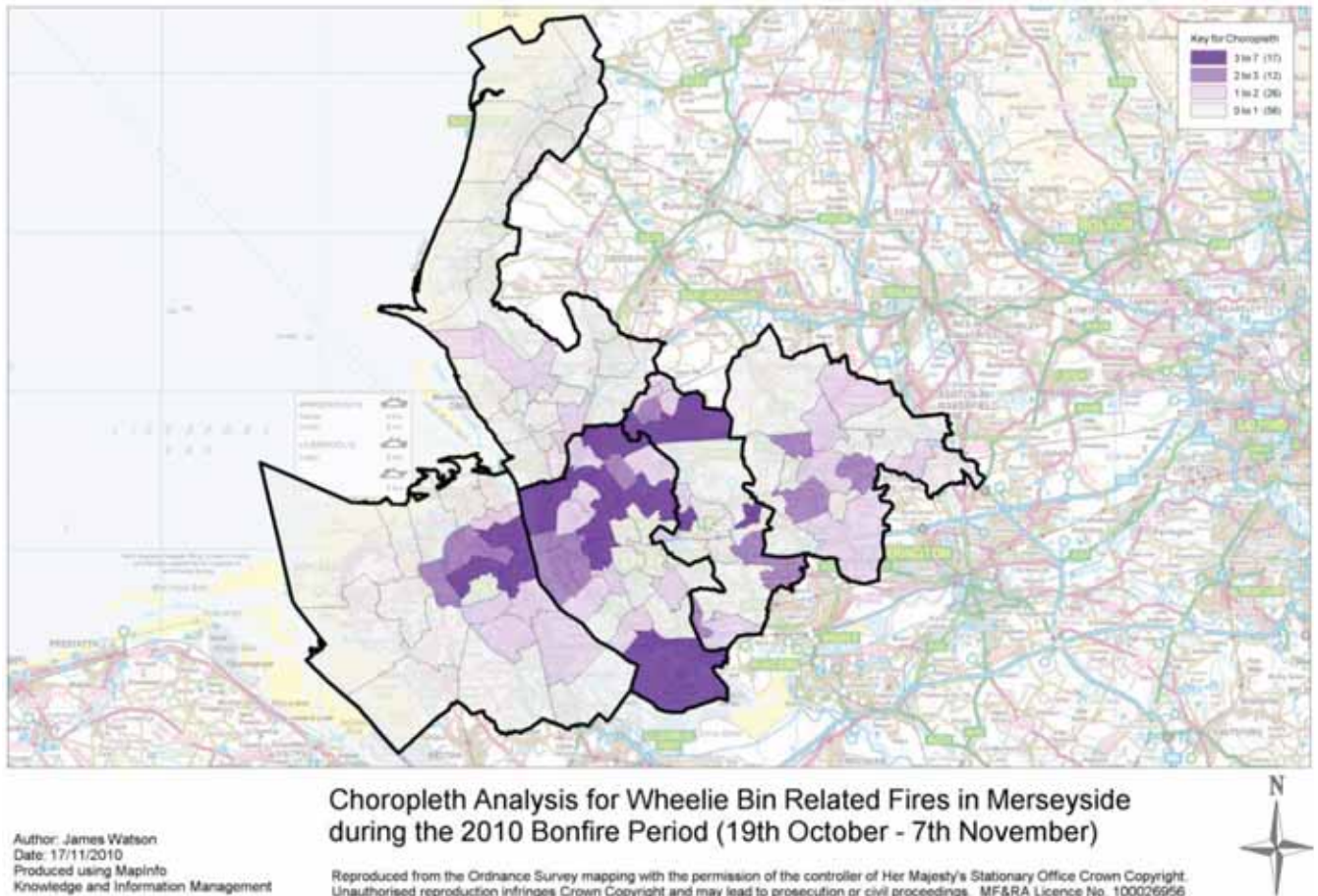
Table 4: Total Number of Wheelie Bin Incidents in Merseyside, by District

District	2009	2010	Difference	% Change
Knowsley	27	28	1	3.7%
Liverpool	55	56	1	1.8%
Sefton	10	3	-7	-70.0%
St Helens	15	13	-2	-13.3%
Wirral	34	26	-8	-23.5%
Grand Total	141	126	-15	-10.6%

Table 4 and Map 2 highlight Liverpool as the district to have witnessed the greatest number of wheelie bin fires during both the 2009 and the 2010 bonfire period, with 55 and 56 incidents respectively. Overall the number of wheelie bin fires has reduced by 15 incidents (10.6%) from 141 incidents during the 2009 bonfire period to 126 during the 2010 bonfire period.

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Map 2: Choropleth Analysis of Wheelie Bin Incidents in Merseyside during the 2010 Bonfire Period



Map 2 illustrates that the wards to have witnessed the greatest number of wheelie bin related fires were the same as those to have witnessed the greatest number of deliberate secondary fires, with other additional wards in the north of Liverpool and Knowlsey also witnessing similar numbers of wheelie bin incidents, as indicated by the darkest shade from the choropleth key. There were numerous wards across Merseyside (56) to have witnessed between 0 and 1 wheelie bin incidents as indicated by the lightest shade from the choropleth key.

Violence at Work

Table 5: Total Number of Violence at Work Incidents in Merseyside, by District

District	2009	2010	Difference	% Change
Knowsley	4	2	-2	-50.0%
Liverpool	5	3	-2	-40.0%
Sefton	3	1	-2	-66.7%
St Helens	3	0	-3	-100.0%
Wirral	1	0	-1	-100.0%
Total	16	6	-10	-62.5%

Table 5 highlights that the number of VAW incidents witnessed during the 2010 bonfire period was considerably lower than those which occurred during the 2009 bonfire period, with a reduction of 10 incidents (62.5%) between the two periods.

Appendix 1: Details of VAW Incidents in Merseyside during the 2010 Bonfire Period

Incident Number	Date	Time	Location	Station	Incident Type	Details of VAW	District	Ward	SOA
030279-20102010	20/10/2010	19:55:44	KIRKBY,NORTHWOOD,OLD ROUGH LANE,REAR OF QUARRY GREEN HEIGHTS,KENNELWOOD PARK,	42	Bonfire	Whilst in attendance fire crew were the subject of threatening behaviour by a group of youth approx 30-40aged between 14yrs-18yrs both male and female. Youths were firing rockets at each other and fire crew - no injuries, do damage to appliance.	Knowsley	Northwood	E01006447
031244-27102010	27/10/2010	17:48:00	RO/SCHOOL,TUDOR STREET,BOALER STREET,	12	Bonfire	WHILST RETURNING FROM INCIDENT AN EGG WAS THROWN AT THE MACHINE CAUSING A CHIP TO THE BODYWORK REAR OF THE CREW DOOR ON THE DRIVERS SIDE	Liverpool	Kensington & Fairfield	E01006694
031570-29102010	29/10/2010	20:11:00	NR THE /FORD GARAGE,COPPLEHOUSE LANE	18	Information Only	YOUTHS THROWING MISSILES - VAW INCIDENT - NO INJURIES OR DAMAGE TO FS VEHICLE	Knowsley	Cherryfield	E01006510
031605-29102010	29/10/2010	22:05:59	RICHARD KELLY DRIVE,ALLEYNE ROAD,	19	Refuse	After attending an incident on Cherry Lane Clubmoor, near to Alleyne Rd a bottle was thrown at the appliance as we were leaving the incident. The bottle missed the appliance and smashed in the road. Group of 10 youths at scene	Liverpool	Clubmoor	E01006603
031820-30102010	30/10/2010	21:41:32	LANDFORD AVENUE, LONG LANE, LIVERPOOL, FAZAKERLEY, L9 6BP	19	Information Only	WHILST IN ATTENDANCE FS ADVOCATE IN RENAULT CLEO WAS EGGED BY APPRIX 20 YOUTHS, NO VISIBLE DAMAGE TO FS VEHICLE REG NO. DA54 YXH. NO INJURIES	Liverpool	Norris Green	E01006735
031957-31102010	31/10/2010	19:32:00	PEEL ROAD,COWPER STREET,BOOTLE,	31	Refuse	GEO 333309, 396156 VERIFIEDWHILST IN ATTENDANCE, NUMBER OF YOUTHS VERBALLY ABUSED TRG STAFF WHO HAD CHALLENGED THE OVER SETTING OFF FIREWORKS	Sefton	Linacre	E01007005