

NIEA Water Management Unit: Water Pollution Incidents and Enforcement 2007 - Annual Report Data



**Water Pollution Incidents
and Enforcement, 2007**

Annual Report



Water Pollution Incidents and Enforcement 2007

This web based report presents statistics relating to water pollution incidents throughout Northern Ireland investigated by, or on behalf of, the Northern Ireland Environment Agency (formerly Environment and Heritage Service (EHS)) during 2007. NIEA responded to 2291 reports of water pollution in 2007, an increase of 10% from 2006. This equates to over 6 investigations per day. NIEA substantiated (confirmed) that 1292 incidents, 56.4% of those reported, had an impact on the water quality of the receiving watercourse.

Pollution incidents are classified by Source (where the pollution originates), Category (the type of pollution identified), Cause (why the incident occurred) and Severity (the environmental impact of the pollution).

By Source, in 2007 DRD Water Service (See Note 1 on the next page) accounted for the largest number of substantiated incidents investigated by NIEA (28.0%), followed by Farming (22.0%) and Industry (19.0%). This is illustrated in Figure 1.

By Category, in 2007 *Sewage* (42.0%), *Agriculture* (22.0%) and *Oil* (17.0%) continued the trend from 2006, accounting for the largest proportion of pollutant types (81.0%) in respect of substantiated incidents.

The main Causes of substantiated water pollution incidents during 2007 were *Equipment Failure* (21.0%), *Unknown Cause* (17.0%) and *Poor Working Practice* (15.0%).

A total of 226 High and Medium severity incidents were investigated during 2007. This was an increase of 18.3% compared with 2006 figures (191). Farming was responsible for the largest number of High and Medium severity incidents in 2007 accounting for 37.6% (85 incidents). In 2007, NIEA responded to 95.6% of substantiated High and Medium Severity incidents within set time targets.

As of 5 March 2009, for the incidents that occurred during 2007, NIEA has issued 145 warning letters and submitted 46 cases to the Public Prosecution Service (PPS) (formerly the Office of the Director of Public Prosecutions) with a recommendation for prosecution. To date, 34 of these cases have resulted in convictions. A further 12 cases remain pending.

As of 5 March 2009, for the incidents that occurred during 2006, 47 cases were submitted to the PPS with a recommendation for prosecution. To date, 29 cases have been heard in the Magistrate's Courts, with 96.6% resulting in convictions. Of the 28 convictions to date for pollution incidents and consent breaches detected during 2006, the total of fines so far imposed by the courts is £66,600.00. These fines ranged from £200 to £15,000, with an average fine of £2379. Of the 47 cases taken by NIEA under Articles 7 and 9 of the Water (Northern Ireland) Order 1999, the *Agricultural discharges* Category accounted for 18 (38.3%), with the remaining 29 (61.7%) made up of *Breach of Consent*, *Chemical*, *Non Agricultural Waste*, *Oil*, *Sewage* and *Other* Categories.

The **Water Pollution Hotline (0800 80 70 60)**, continues to be promoted by NIEA, and its use has steadily increased since its launch. In 2007, 921 water pollution incidents were reported via the Hotline.

Water Pollution Incidents and Enforcement Statistics 2007 – How to Use this Report

The principal data attached in this report will be available in the following document: Controlling Pollution under the Water (NI) Order in 2007 which is due for publication at a later date. That report will provide a summary of Water Management Unit's activities under the Order. There will be no stand alone Water Pollution Incidents and Enforcement annual report for 2007. However, this workbook has been produced in order to provide the same datasets as in previous years. For further information, this document may be cross referenced with the existing 2006 Water Pollution Incidents and Enforcement report at:

http://www.ni-environment.gov.uk/water/waterpollution/pol_respon.htm

Given the inherent delay between the time that pollution incidents, where prosecution is recommended, occur and subsequent court outcome, this report provides enforcement data for 2006 and an update on the situation for 2007.

Note 1: The statistics in this report refer to water pollution incidents occurring in 2007. Incidents attributed to Northern Ireland's Water and Sewerage Services provider are indicated in the Tables and Figures with "Water Service/NIWL" as the Source. From 1 April 2007, the local Water and Sewerage Services function was transferred from DRD Water Service to Northern Ireland Water Ltd (NIWL). Data indicated as "Water Service/NIWL" does not differentiate between "Water Service" and "NIWL" incidents. However, the principal data relevant to NIWL, from 1 April 2007 to 31 December 2007, are provided in the table on Page 34.

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		<i>(See 2006 Water Pollution Incidents and Enforcement Report for Figures 2 to 4)</i>

Figure A: Distribution of Substantiated Pollution Incidents by Source and Category in 2007

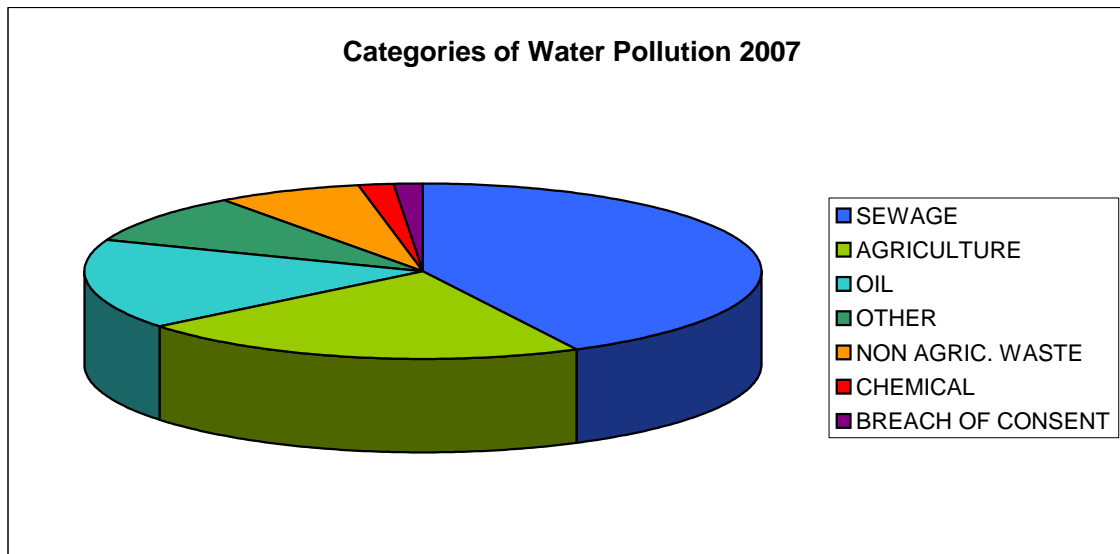
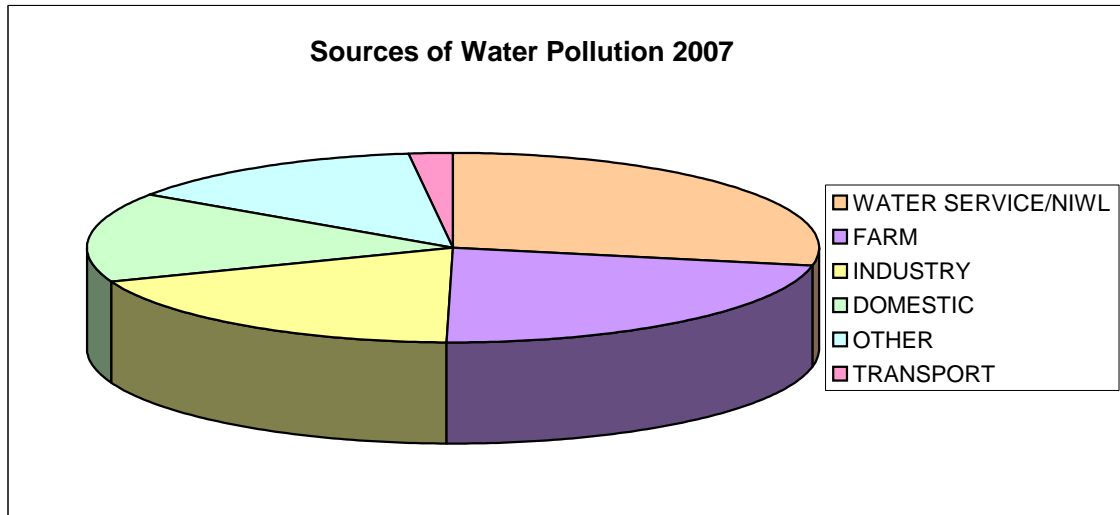


Table 1: Reports of Water Pollution Received by NIEA 2001 to 2007

Water pollution reports received by:							
Year	WPH (Normal Hours)	WPH (After Hours)	Total WPH	NIEA direct (Normal Hours)	Regional Offices direct (Normal Hours)	FCB / LA direct (Normal Hours)	Total reports received by NIEA
2001	436	279	715	333	1034	452	2534
2002	436	292	728	277	1039	419	2463
2003	476	292	768	358	977	396	2499
2004	552	284	836	324	787	260	2207
2005	641	301	942	265	789	187	2183
2006	651	294	945	237	726	173	2081
2007	625	296	921	186	1135	49	2291

Figure 1: NIEA Areas for Water Pollution Incident Management

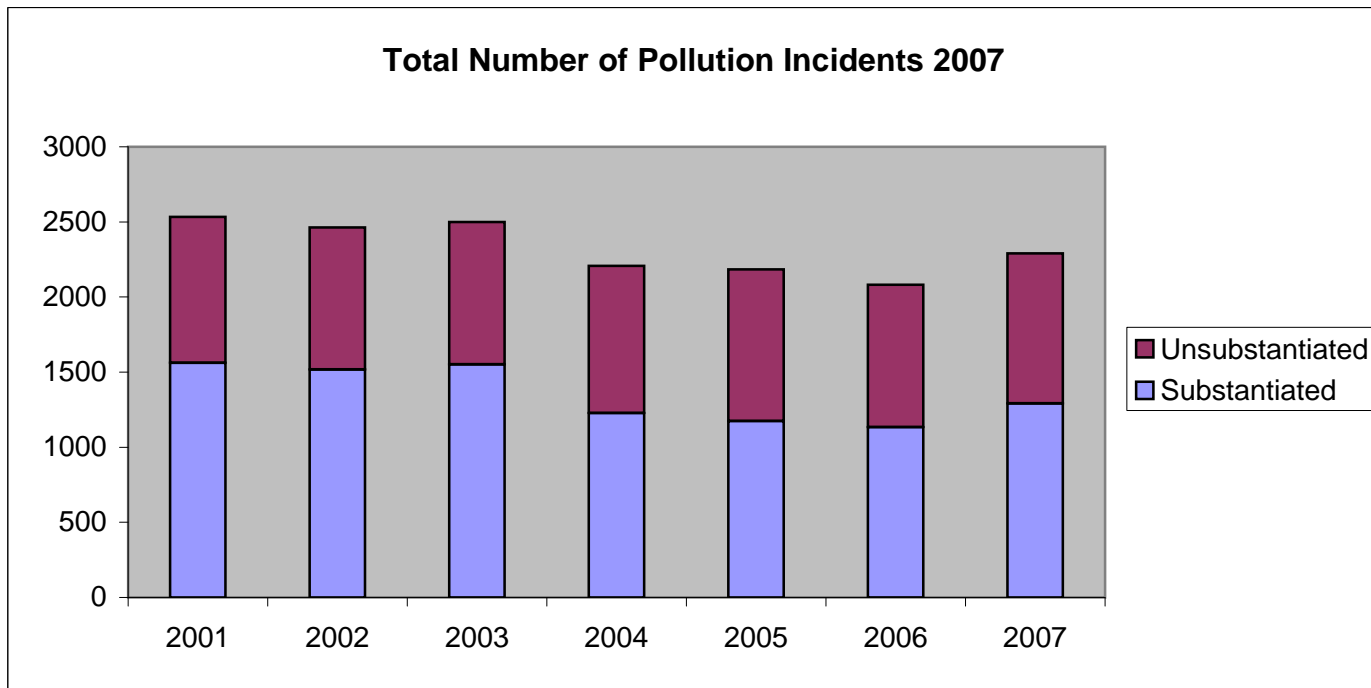


Water Pollution Incidents and Enforcement 2007

Table 2: Substantiated and Unsubstantiated Water Pollution Incidents 2001 to 2007

	2001	2002	2003	2004	2005	2006	2007
Substantiated	1561	1517	1552	1227	1174	1133	1292
Unsubstantiated	973	946	947	980	1009	948	999
Total	2534	2463	2499	2207	2183	2081	2291

Figure 5: Total Number of Pollution Incidents Reported 2001 to 2007



Regional Distribution of Substantiated Pollution Incidents 2007

Area	Total substantiated incidents
1	141
2	79
3	181
4	188
5	142
6	200
7	106
8	111
9	144
Total	1292

Figure 6: Regional Distribution of Substantiated Pollution Incidents 2007

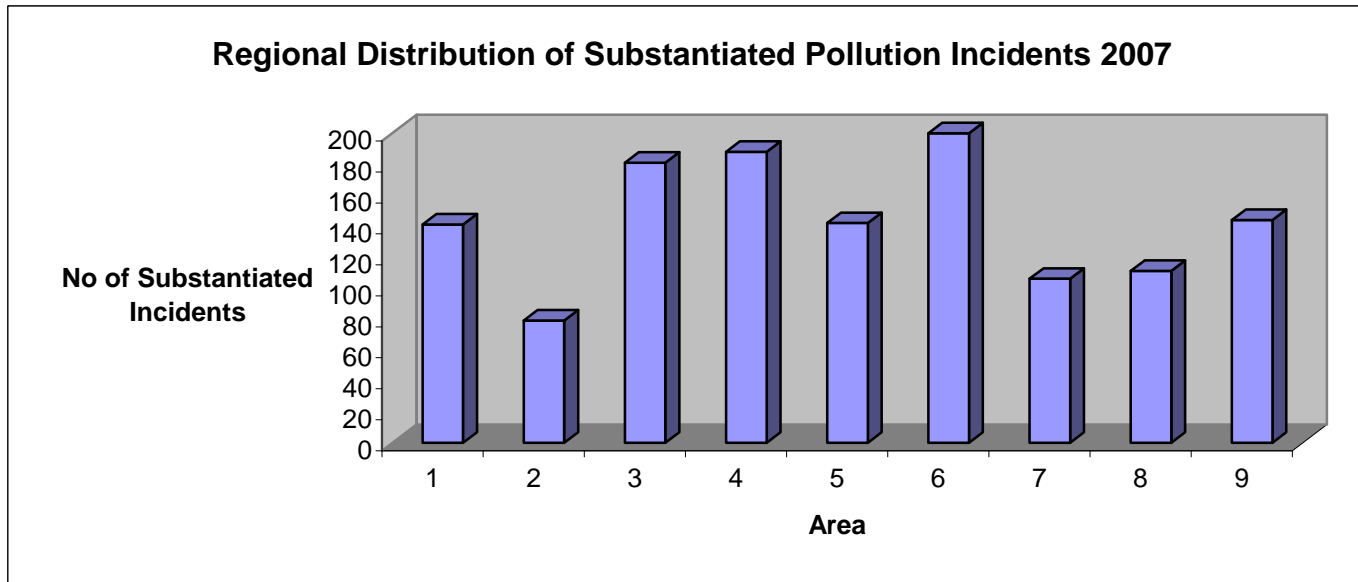


Table 3: Sources of Water Pollution 2007

SOURCE	Total No. of Incidents	As a % of the total
WATER SERVICE/NIWL	364	28.0%
FARM	285	22.0%
INDUSTRY	246	19.0%
DOMESTIC	197	15.0%
OTHER	175	14.0%
TRANSPORT	25	2.0%
	1292	

Figure 7: Sources of Water Pollution 2007

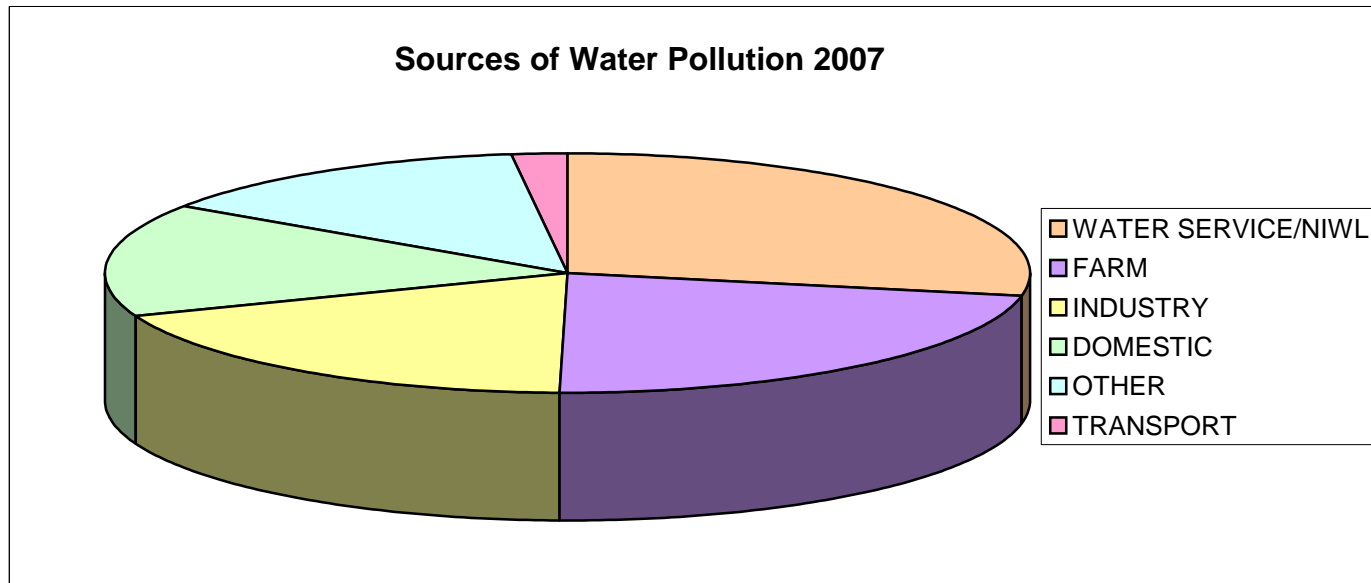


Table 4: Regional Distribution of Pollution Incidents by Source 2007

Source							
Area	Industry	Farm	Water Service/NIWL	Domestic	Transport	Other	Total
1	28	20	55	18	2	18	141
2	22	19	11	13	3	11	79
3	35	36	36	39	3	32	181
4	32	26	66	35	2	27	188
5	9	7	89	16	2	19	142
6	34	49	49	33	4	31	200
7	30	37	14	13	2	10	106
8	27	30	27	12	3	12	111
9	29	61	17	18	4	15	144
Total	246	285	364	197	25	175	1292

Figure 8: Regional Distribution of Pollution Incidents by Source 2007

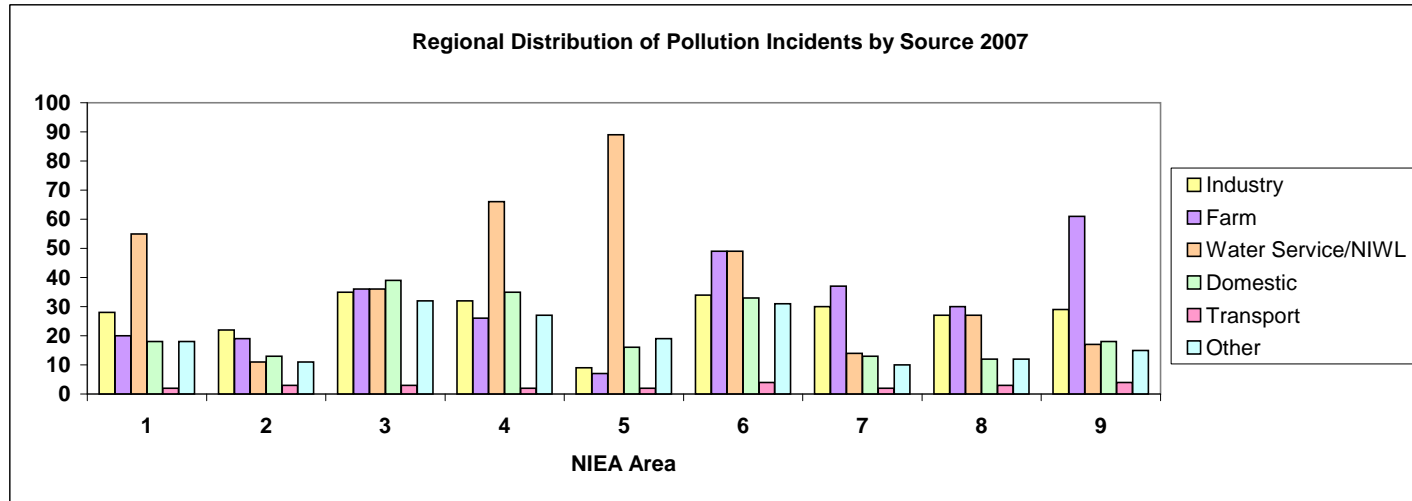
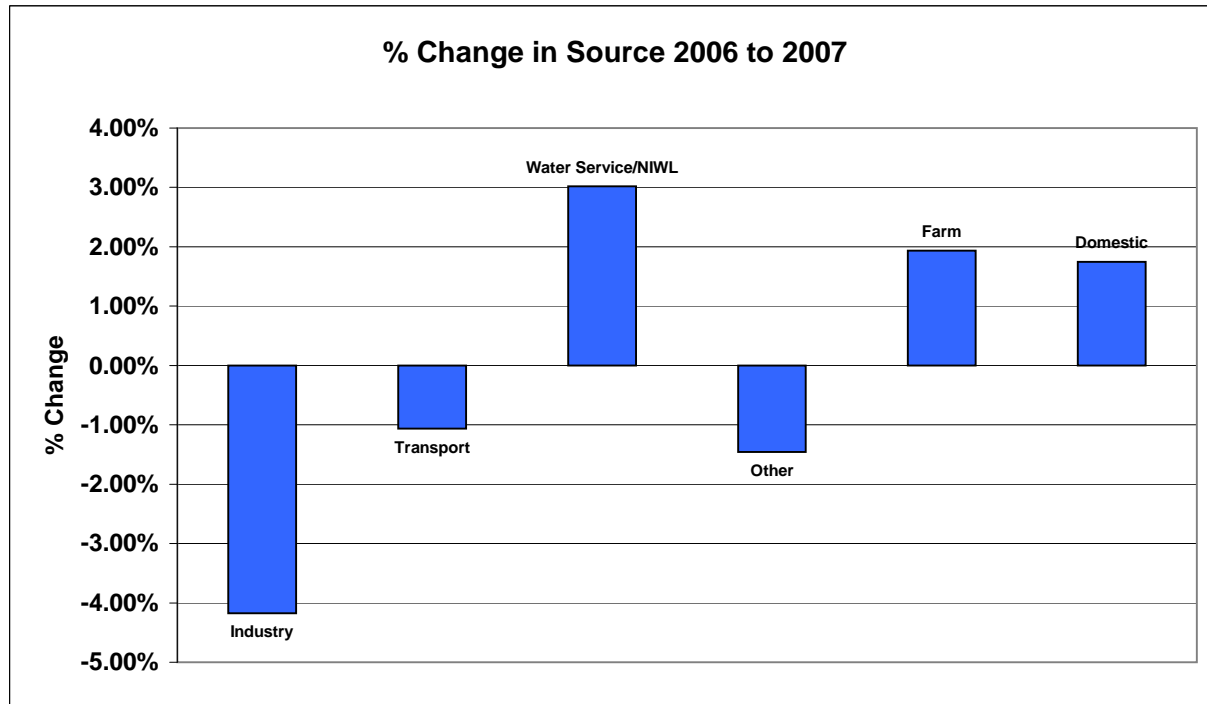


Table 5: Percentage Change in Pollution Source 2006 to 2007

Source	2006	2006	2007	2007	% Change
Industry	263	23.21%	246	19.0%	-4.17%
Transport	34	3.00%	25	1.9%	-1.07%
Water Service/NIWL	285	25.15%	364	28.2%	3.02%
Other	170	15.00%	175	13.5%	-1.46%
Farm	228	20.12%	285	22.1%	1.94%
Domestic	153	13.50%	197	15.2%	1.74%
Total	1133		1292		

Figure 9: Percentage Change in Pollution Source 2006 to 2007



Trend in Pollution Source 2001 to 2007

	2001	2002	2003	2004	2005	2006	2007
Farm	490	467	380	296	273	228	285
Water Service/NIWL	308	258	364	289	308	285	364
Industry	365	351	337	302	227	263	246
Domestic	185	201	235	149	178	153	197
Other	172	184	197	154	157	170	175
Transport	41	56	39	37	31	34	25
Total	1561	1517	1552	1227	1174	1133	1292

Figure 10: Trend in Pollution Source 2001 to 2007

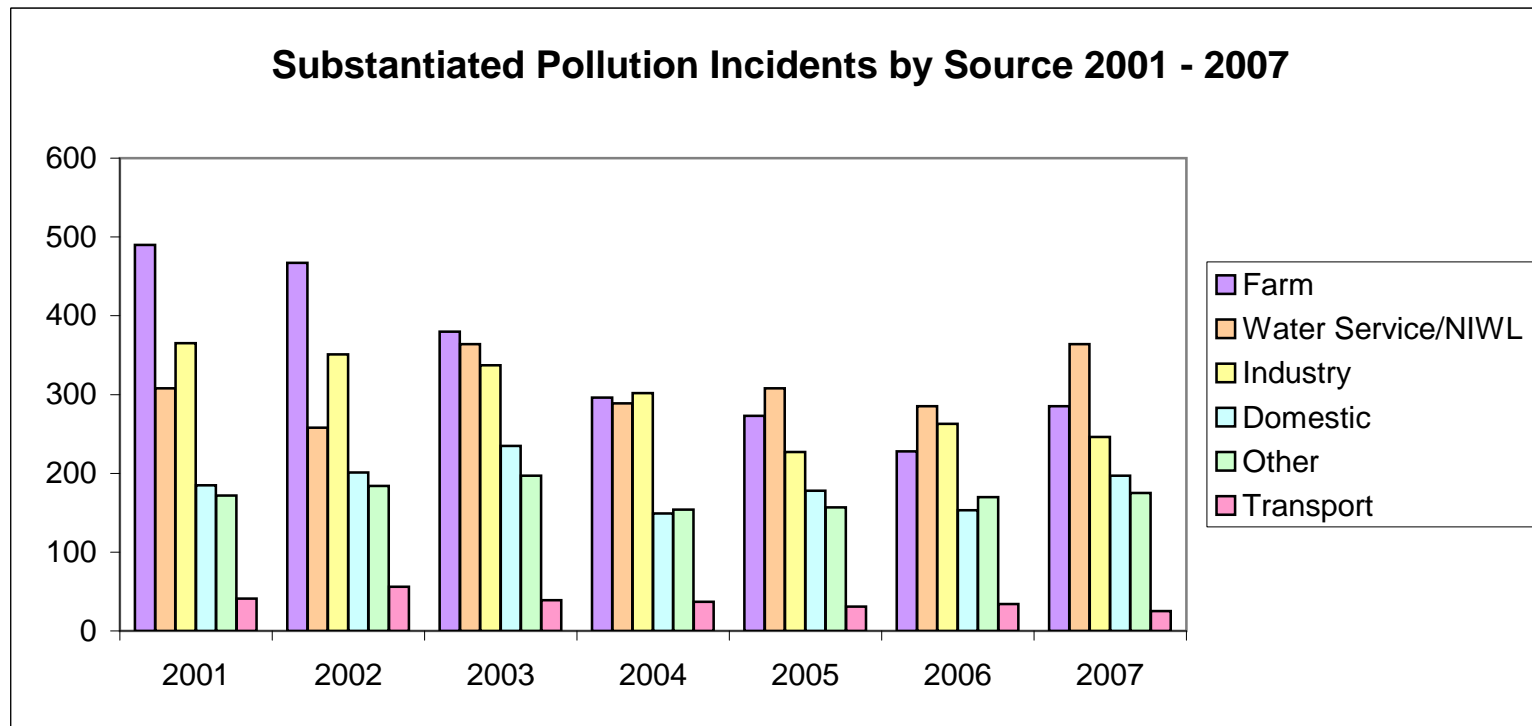


Table 6: Categories of Water Pollution 2007

CATEGORY	Total No. of Incidents	As a % of the total
SEWAGE	549	42.0%
AGRICULTURE	281	22.0%
OIL	215	17.0%
OTHER	118	9.0%
NON AGRIC. WASTE	90	7.0%
CHEMICAL	22	2.0%
BREACH OF CONSENT	17	1.0%
Total	1292	100

Figure 11: Categories of Water Pollution 2007

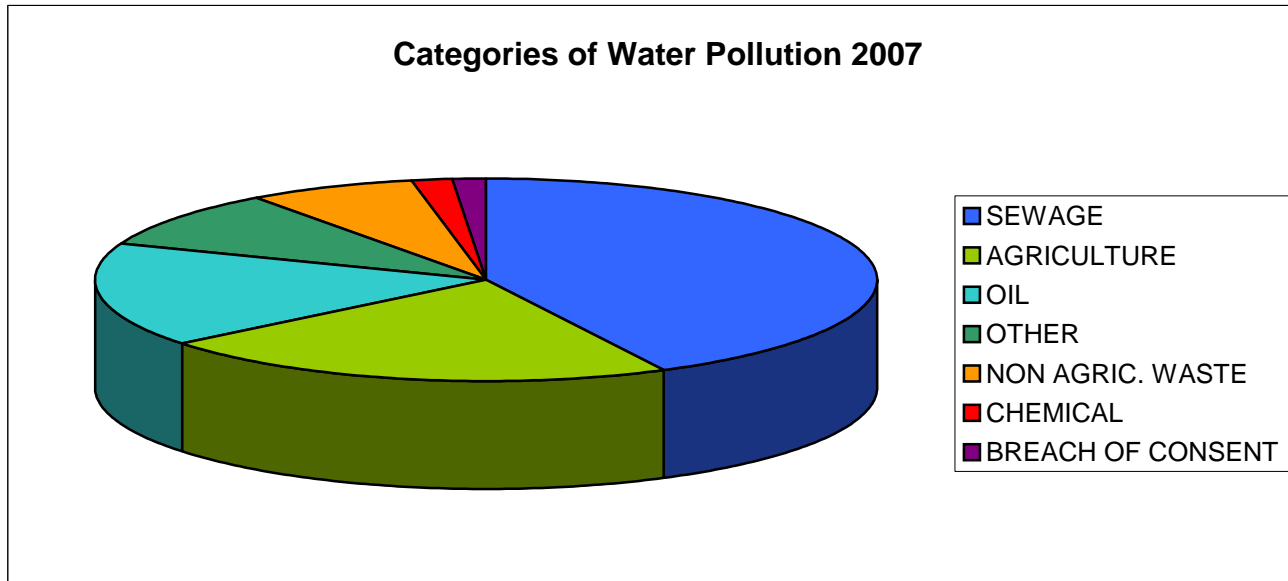


Table 7: Regional Distribution of Pollution Incidents by Category 2007

Category								
Area	CHEMICAL	AGRICULTURE	SEWAGE	OIL	NON AGRIC. WASTE DIS.	BREACH OF CONSENT	OTHER	Total
1	2	18	76	15	6	6	18	141
2	3	18	22	16	13	0	7	79
3	8	34	68	37	12	1	21	181
4	2	24	105	35	13	3	6	188
5	2	7	105	12	4	0	12	142
6	4	46	81	44	8	3	14	200
7	0	44	25	16	9	1	11	106
8	1	28	41	22	11	2	6	111
9	0	62	26	18	14	1	23	144
	22	281	549	215	90	17	118	1292

Figure 12: Regional Distribution of Pollution Incidents by Category 2007

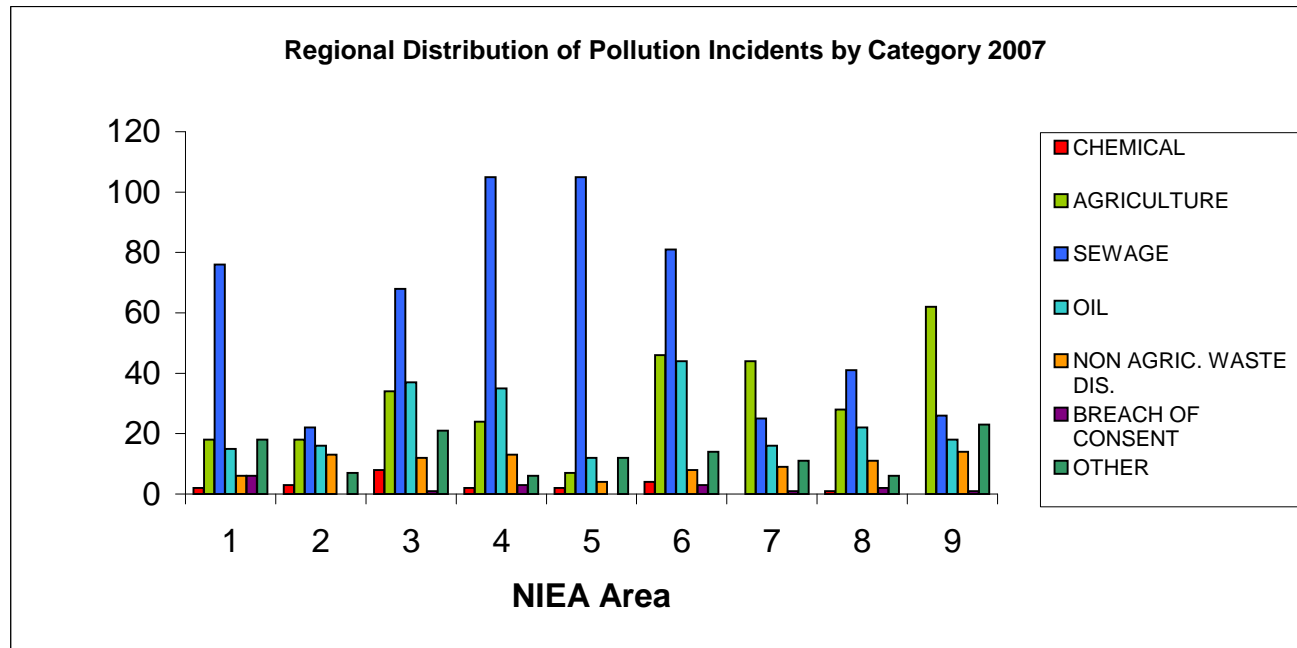
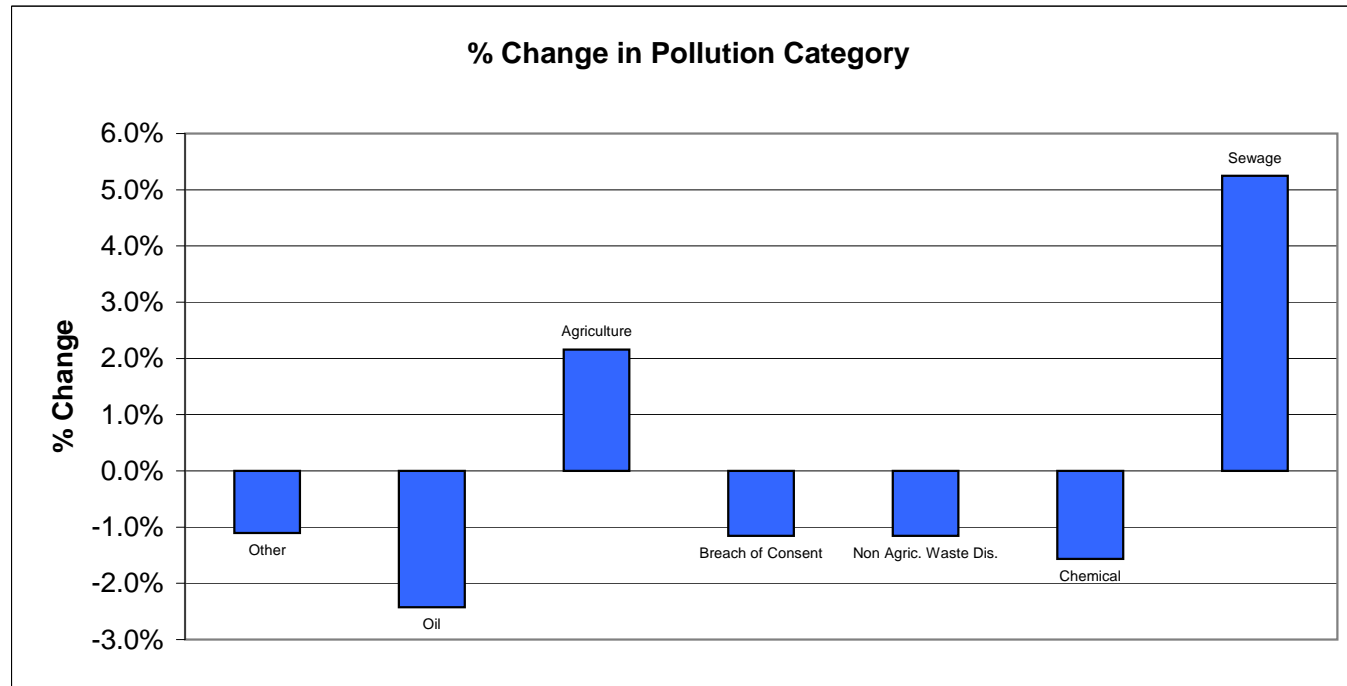


Table 8: Percentage Change in Pollutant Category 2006 to 2007

Category	2006	2006	2007	2007	Overall % Change
Other	116	10.24%	118	9.1%	-1.1%
Oil	216	19.06%	215	16.6%	-2.4%
Agriculture	222	19.59%	281	21.7%	2.2%
Breach of Consent	28	2.47%	17	1.3%	-1.2%
Non Agric. Waste Dis.	92	8.12%	90	7.0%	-1.2%
Chemical	37	3.27%	22	1.7%	-1.6%
Sewage	422	37.25%	549	42.5%	5.2%
Total	1133		1292		

Figure 13: Percentage Change in Pollutant Category 2006 to 2007



Trend in Pollutant Category 2001 - 2007

	2001	2002	2003	2004	2005	2006	2007
Sewage	472	430	583	429	452	422	549
Agriculture	474	441	375	296	258	222	281
Oil	250	272	239	227	224	216	215
Non Agric. Waste Dis.	174	187	135	87	66	92	90
Other	84	95	111	128	124	116	118
Chemical	89	62	68	34	26	37	22
Breach Of Consent	18	30	41	26	24	28	17
Total	1561	1517	1552	1227	1174	1133	1292

Figure 14: Trend in Pollutant Category 2001 - 2007

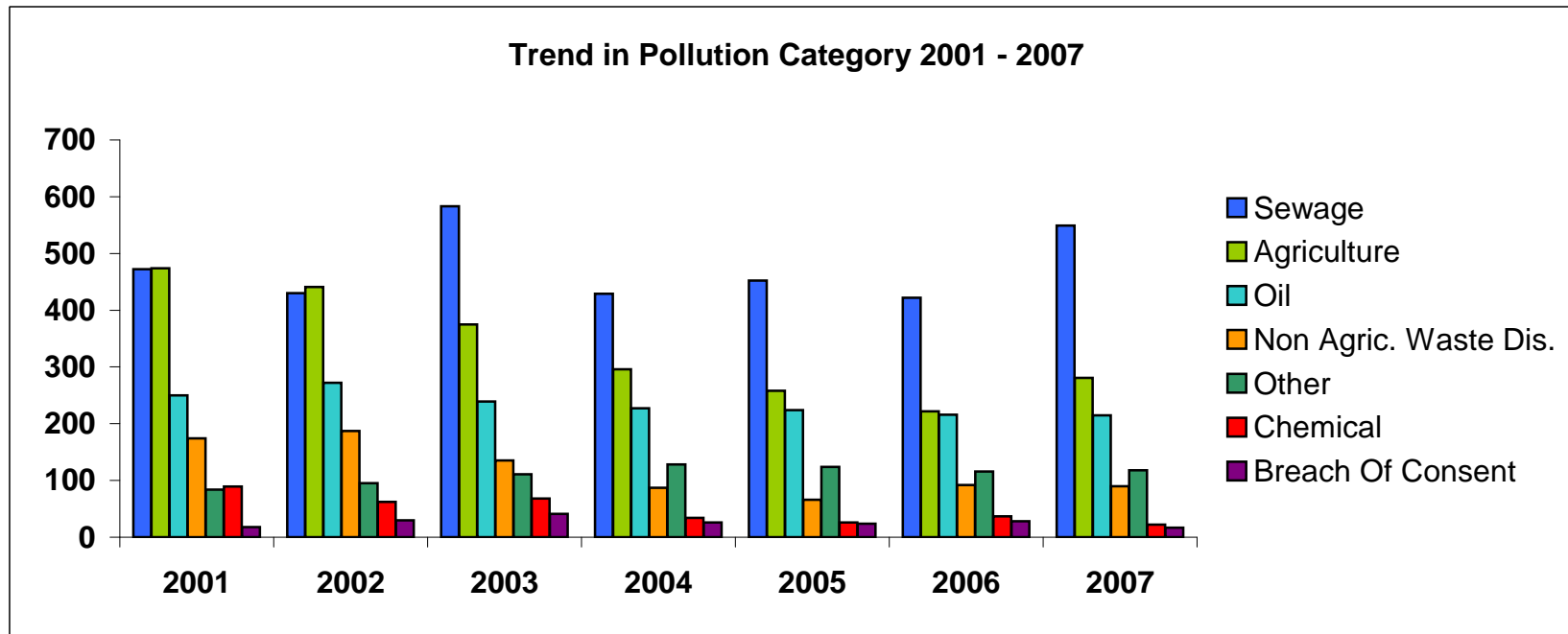


Table 9: Cause of Pollution Incidents in 2007

CAUSE	Total No. of Incidents	As a % of the total
Equipment Failure	274	21.0%
Unknown	222	17.0%
Poor Working Practice	200	15.0%
Accident/Emergency	158	12.0%
Inadequate Equipment	138	11.0%
Negligence	91	7.0%
Weather	54	4.0%
Deliberate Dumping	62	5.0%
Other	47	4.0%
Breach of Consent	46	4.0%
	1292	100%

Figure 15: Cause of Pollution Incidents in 2007

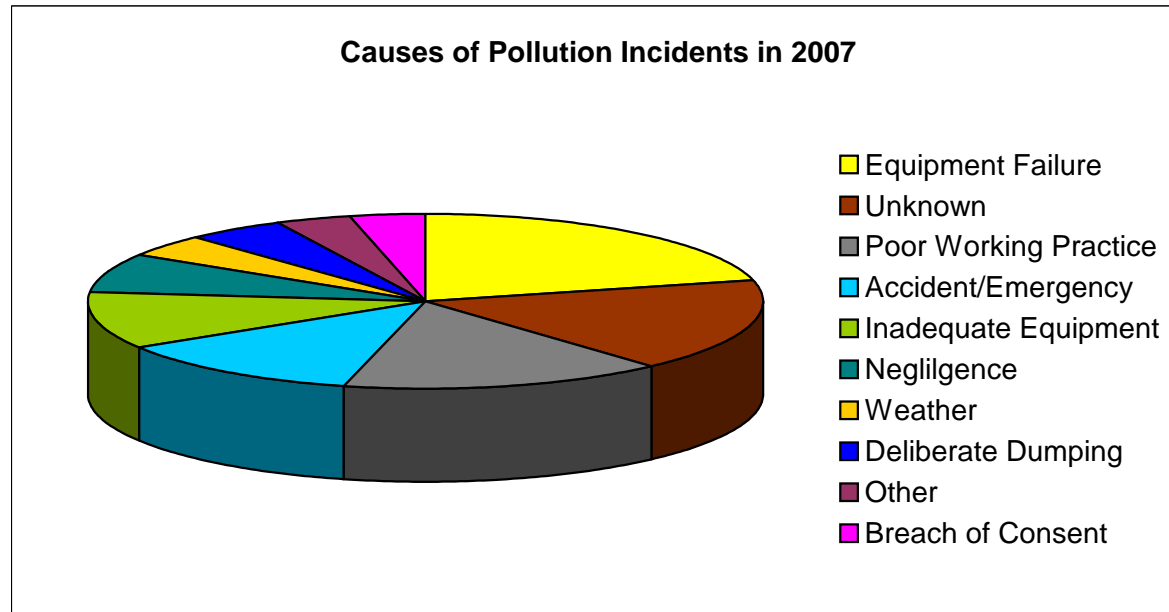
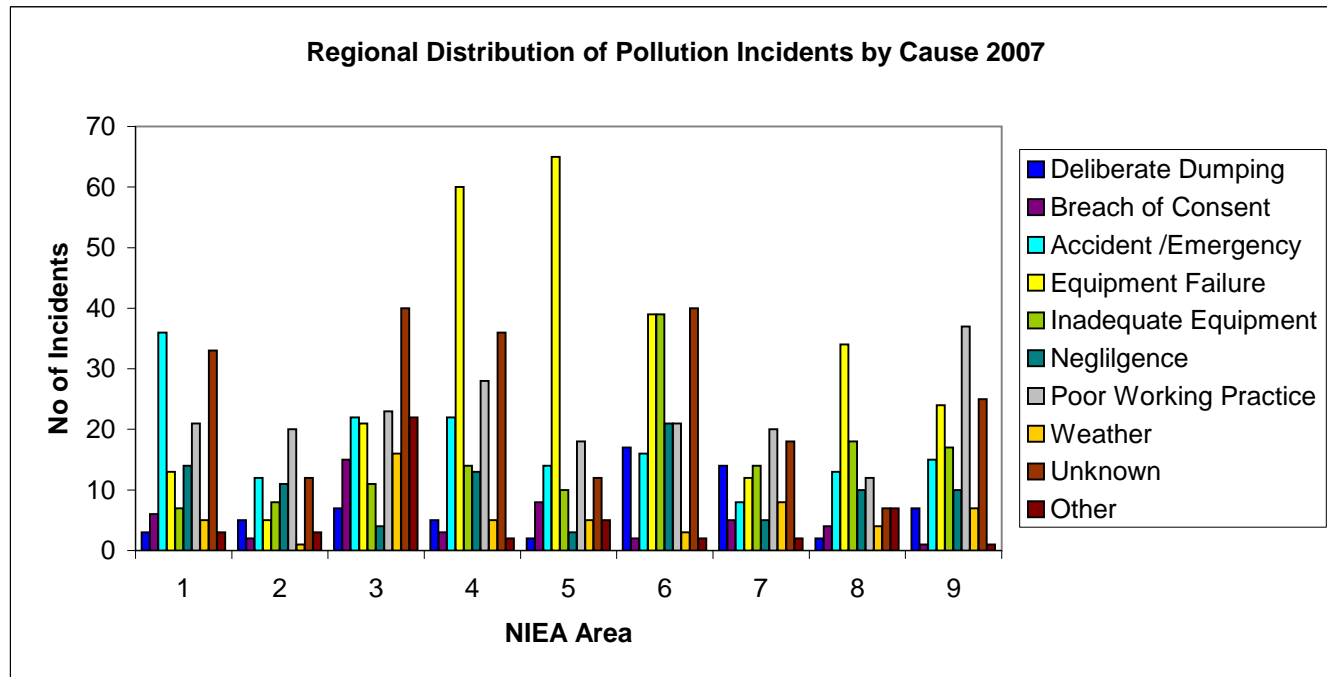


Table 10: Regional Distribution of Pollution Incidents by Cause in 2007

Area	Deliberate Dumping	Breach of Consent	Accident /Emergency	Equipment Failure	Inadequate Equipment	Negligence	Poor Working Practice	Weather	Unknown	Other	Total
1	3	6	36	13	7	14	21	5	33	3	141
2	5	2	12	5	8	11	20	1	12	3	79
3	7	15	22	21	11	4	23	16	40	22	181
4	5	3	22	60	14	13	28	5	36	2	188
5	2	8	14	65	10	3	18	5	12	5	142
6	17	2	16	39	39	21	21	3	40	2	200
7	14	5	8	12	14	5	20	8	18	2	106
8	2	4	13	34	18	10	12	4	7	7	111
9	7	1	15	24	17	10	37	7	25	1	144
Total	62	46	158	273	138	91	200	54	223	47	1292

Figure 16: Regional Distribution of Pollution Incidents by Cause in 2007



Trend in Pollution Incident Cause 2001 to 2007

Cause	2001	2002	2003	2004	2005	2006	2007
Equipment Failure	296	225	237	253	233	211	274
Poor Working Practice	297	330	340	221	191	196	200
Unknown	258	256	262	171	195	214	222
Accident / Emergency	127	135	154	147	168	122	158
Inadequate Equipment	128	114	147	127	132	102	138
Negligence	154	156	138	105	71	73	91
Weather	85	102	68	74	60	58	54
Deliberate dumping	143	123	120	67	56	63	62
Breach of Consent	21	36	40	32	27	39	46
Other	52	40	46	30	41	55	47
Total	1561	1517	1552	1227	1174	1133	1292

Figure 17: Trend in Pollution Incident Cause 2001 to 2007

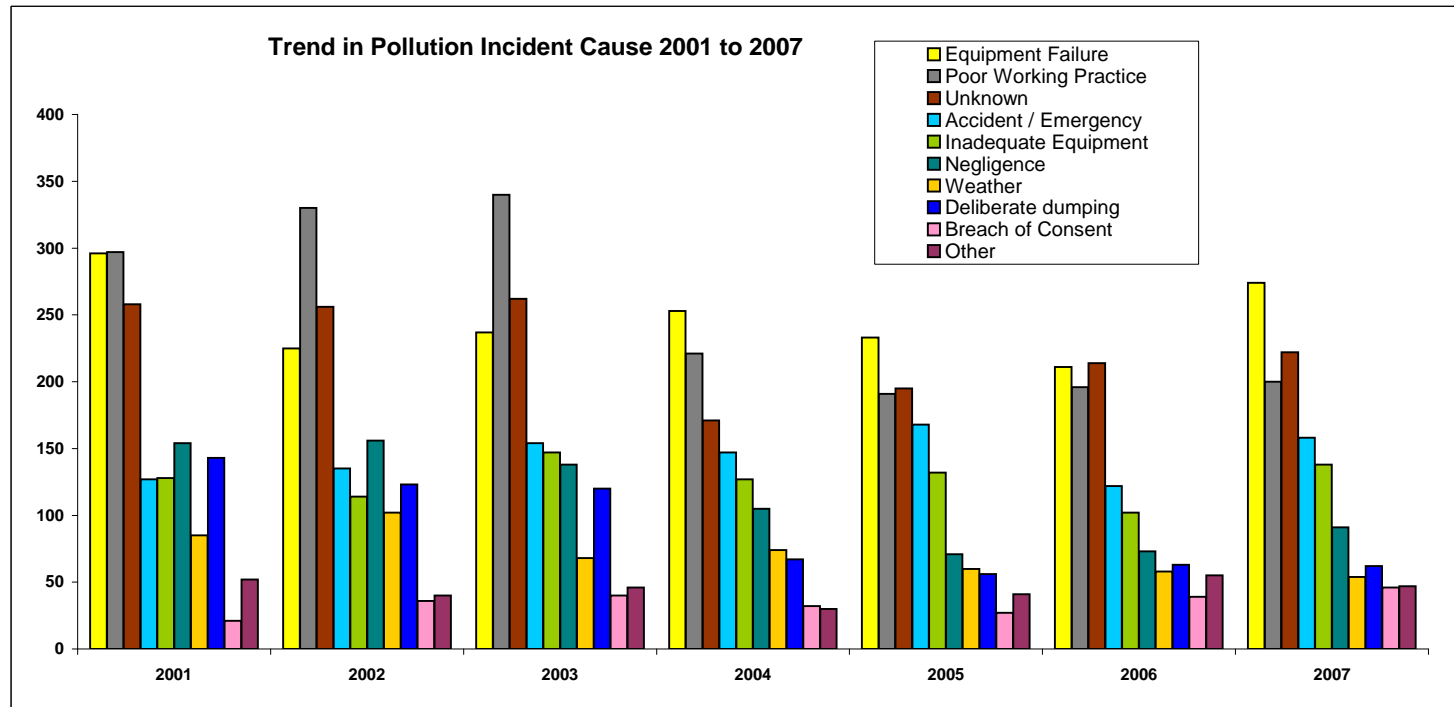


Table 11: Severity of Pollution Incidents 2007

	No. of Incidents	As a % of the total	(See 2006 Report for Classification Definitions)
High	22	1.7%	
Medium	204	15.8%	
Low	1066	82.5%	
Total	1292	100%	

Figure 18: Severity of Pollution Incidents 2007

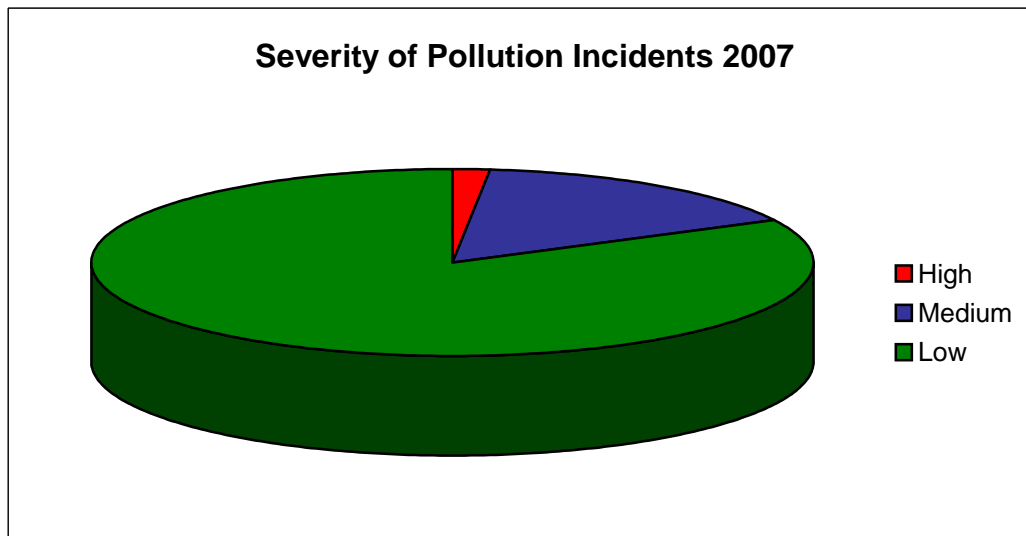


Table 12: Regional Distribution of Pollution Incidents by Severity in 2007

Area	Severity			Total
	Low	Medium	High	
1	132	9	0	141
2	57	18	4	79
3	158	23	0	181
4	151	37	0	188
5	117	24	1	142
6	173	21	6	200
7	64	36	6	106
8	100	10	1	111
9	114	26	4	144
Total	1066	204	22	1292

Figure 19: Regional Distribution of Pollution Incidents by Severity in 2007

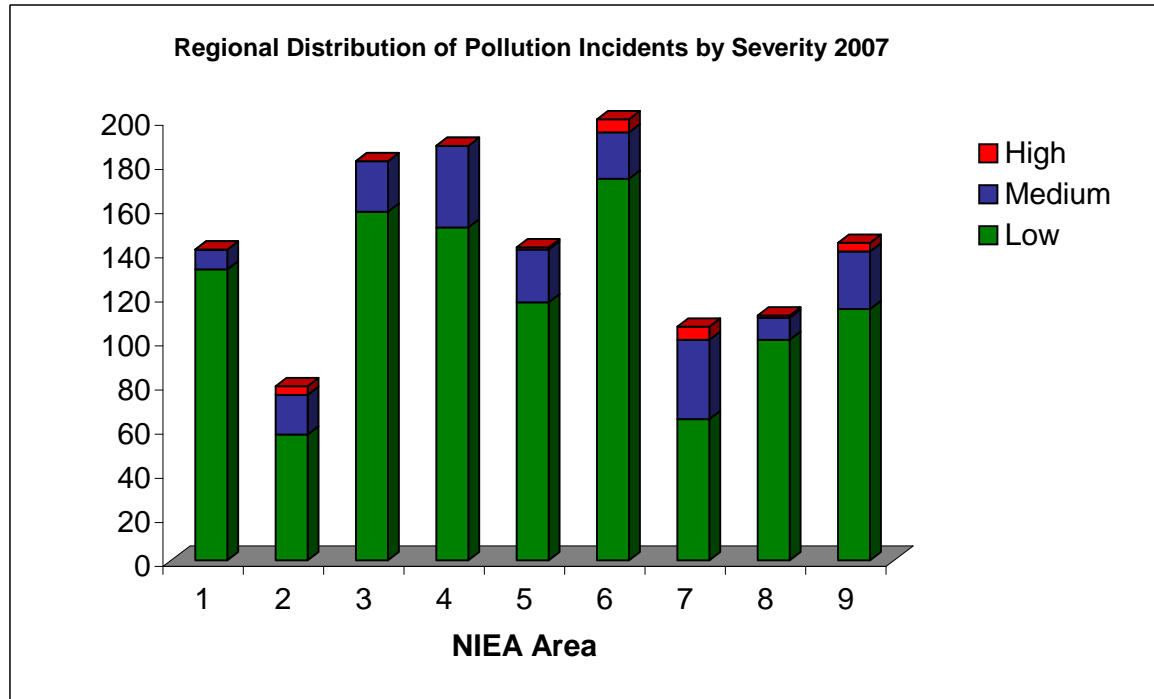


Table 13: Severity of Pollution Incidents by Source 2007

SOURCE	Low	Medium	High	Total
WATER SERVICE/NIWL	297	65	2	364
FARM	200	74	11	285
INDUSTRY	197	41	8	246
DOMESTIC	193	4	0	197
OTHER	156	18	1	175
TRANSPORT	23	2	0	25
Total	1066	204	22	1292

Figure 20: Severity of Pollution Incidents by Source 2007

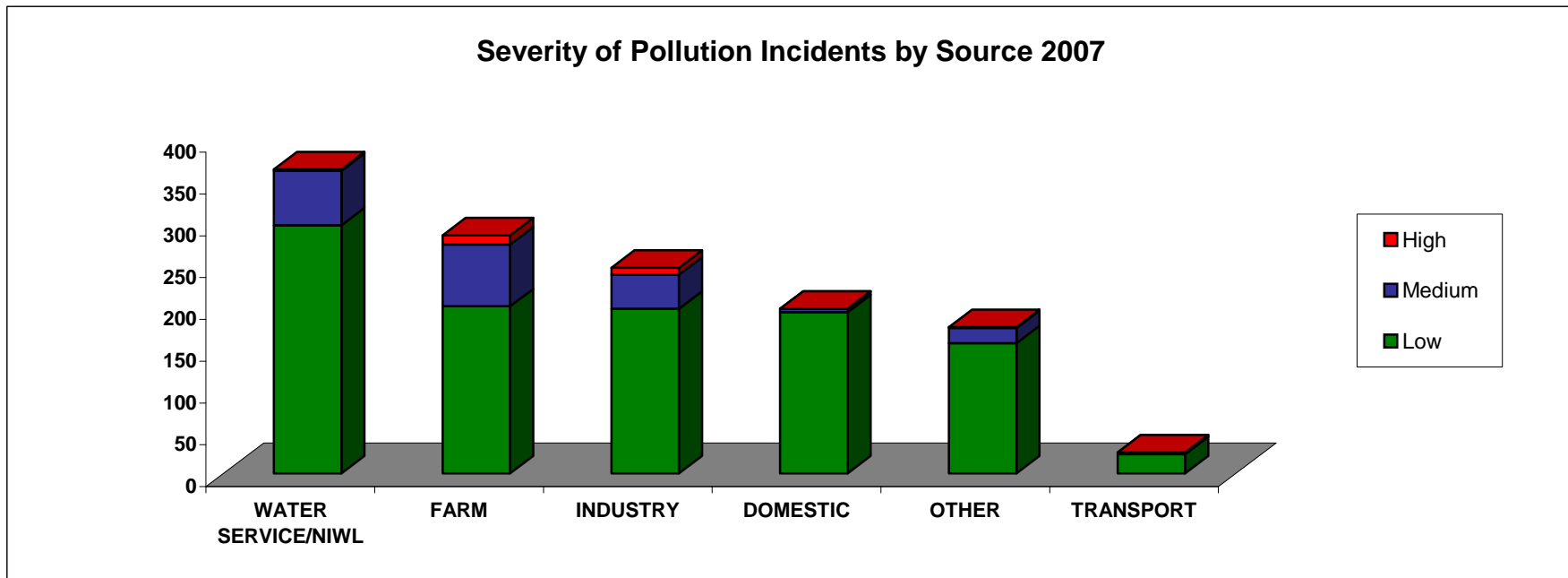


Table 14: Severity of pollution Incidents by Category 2007

Category Name	High	Medium	Low	Total No. of Incidents
SEWAGE	1	74	474	549
AGRICULTURE	13	73	195	281
OIL	2	19	194	215
OTHER	3	13	102	118
NON AGRIC. WASTE DIS.	1	18	71	90
CHEMICAL	2	2	18	22
BREACH OF CONSENT	0	5	12	17
Total	22	204	1066	1292

Figure 21: Severity of Pollution Incidents by Category 2007

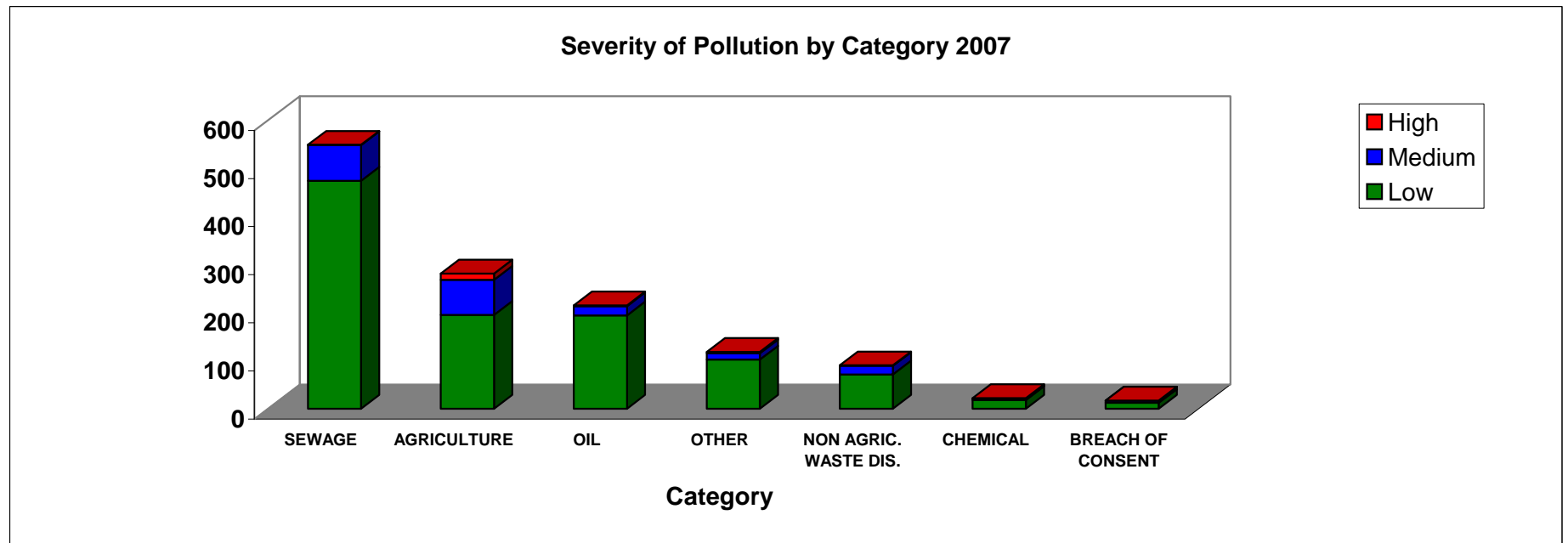


Table 15: Severity of Pollution Incidents by Cause 2007

Cause	Low	Medium	High	Total
Equipment Failure	229	43	2	274
Poor Working Practice	162	34	4	200
Unknown	193	27	2	222
Accident / Emergency	137	19	2	158
Inadequate Equipment	120	16	2	138
Negligence	60	27	4	91
Weather	46	8	0	54
Deliberate dumping	41	15	6	62
Breach of Consent	39	7	0	46
Other	39	8	0	47
Total	1066	204	22	1292

Figure 22: Severity of Pollution Incidents by Cause 2007

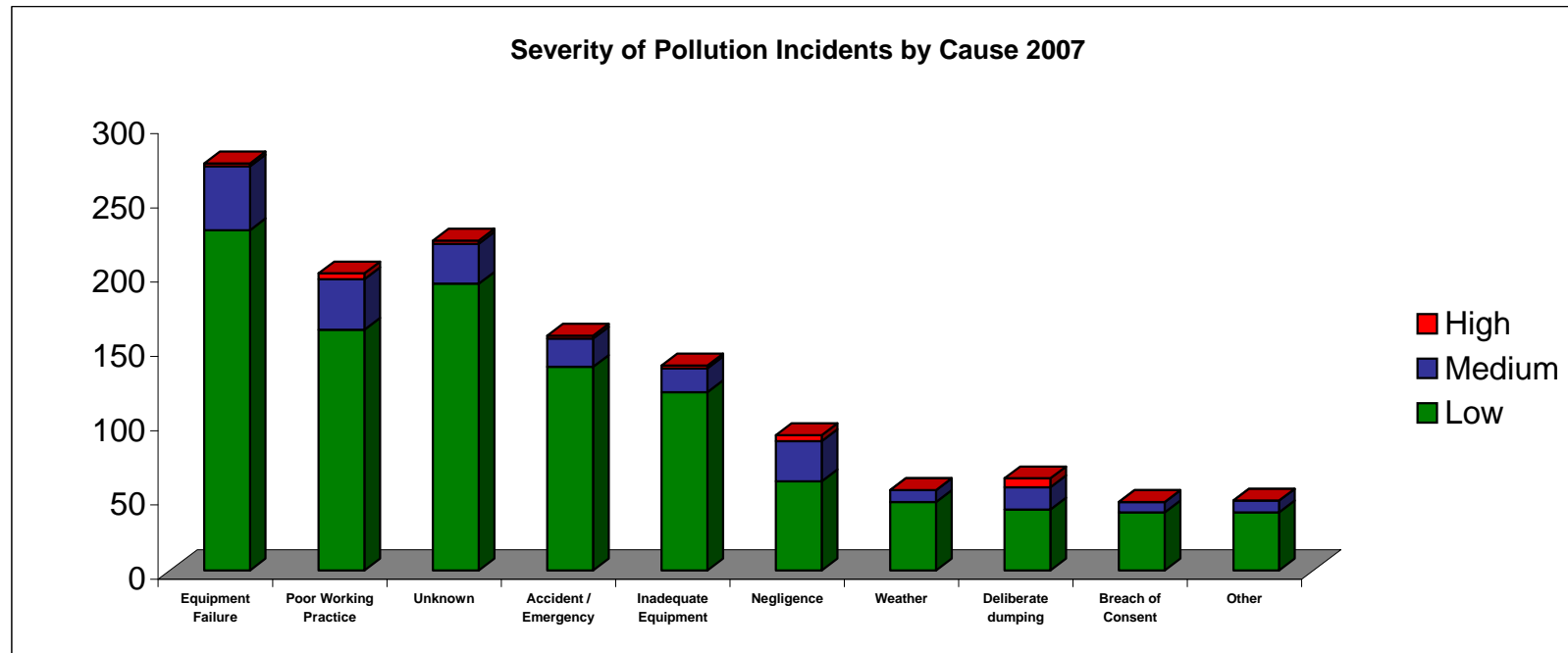


Table 16: Response Rate to High and Medium Severity Pollution Incidents 2007

Time period	No. High & Medium severity incidents received	No. High & Medium severity incidents responded to within Target	Response rate (%)
Q1, (1/1/07 - 31/3/07)	49	47	96%
Q2, (1/4/07 - 30/6/07)	63	58	92%
Q3, (1/7/07 - 30/9/07)	60	60	100%
Q4, (1/10/07 - 31/12/07)	54	51	94%
Total for 2007	226	216	
		Overall response rate for 2007	95.6%

Figure 23: Response Rate to High and Medium Severity Pollution Incidents 2007

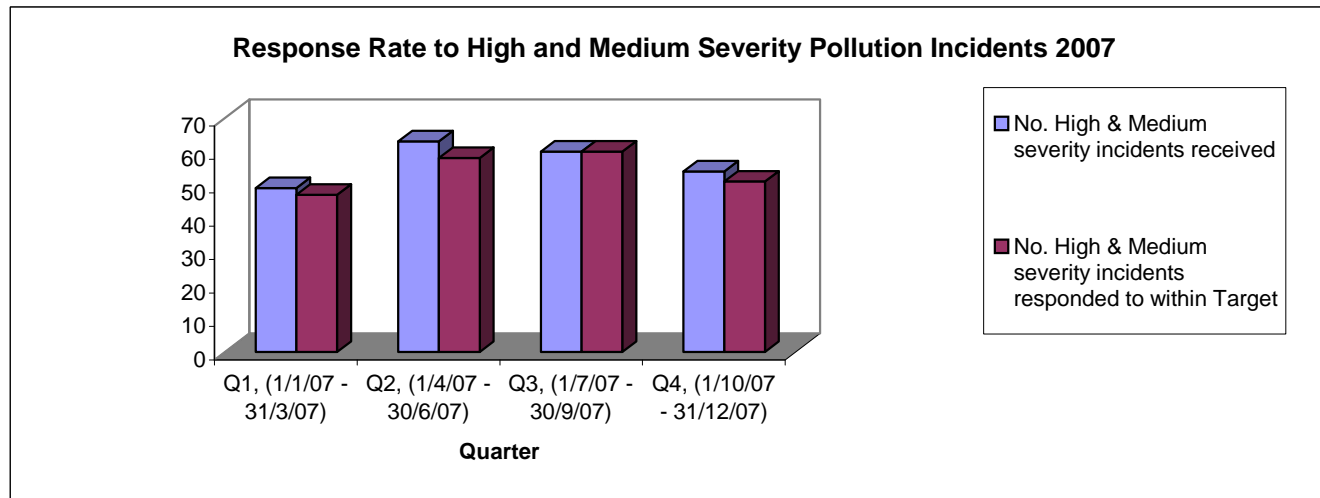


Table 17: Response Rate to High and Medium Severity Pollution Incidents 2001 to 2007

	2001	2002	2003	2004	2005	2006	2007
No. High & Medium severity incidents received	321	264	339	310	220	191	226
No. High & Medium severity incidents responded to within target	291	218	317	297	209	188	216
Response rate (%)	90.7%	82.6%	93.5%	95.8%	95.0%	98.4%	95.6%

*The Incident Response Targets Changed in 2005. (The Targets are detailed in Section 2.10 of the 2006 Report).

Figure 24: Response Rate to High and Medium Severity Pollution Incidents 2001 to 2007

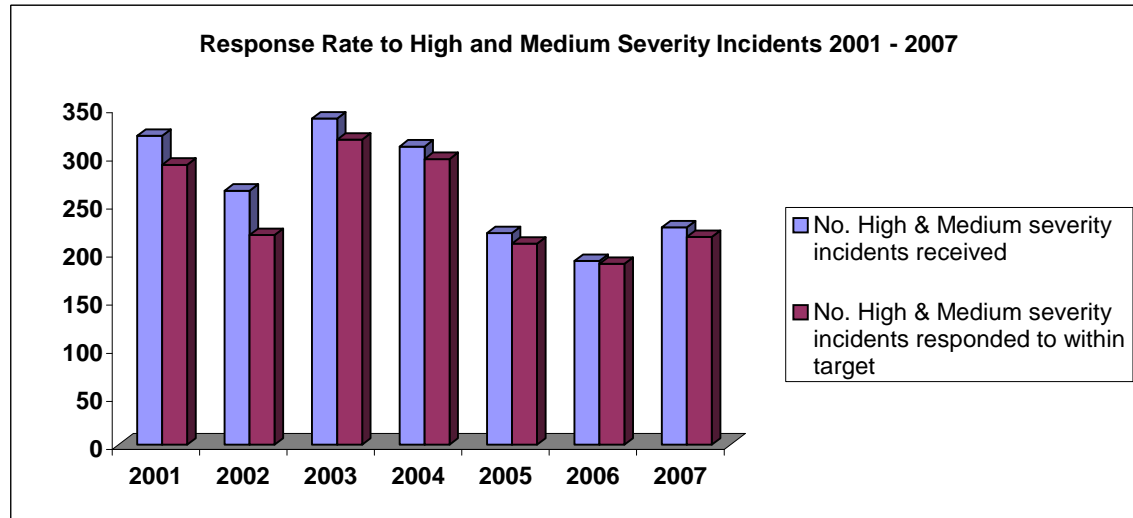


Table 18: Sources of Pollution Causing FishKills in 2007

Source	As a % of the total	2007
Farm	46.7%	7
Water Service/NIWL	13.3%	2
Other	20.0%	3
Industry	13.3%	2
Transport	6.7%	1
Domestic	0.0%	0
Total	100%	15

Figure 25: Sources of Pollution Causing FishKills in 2007

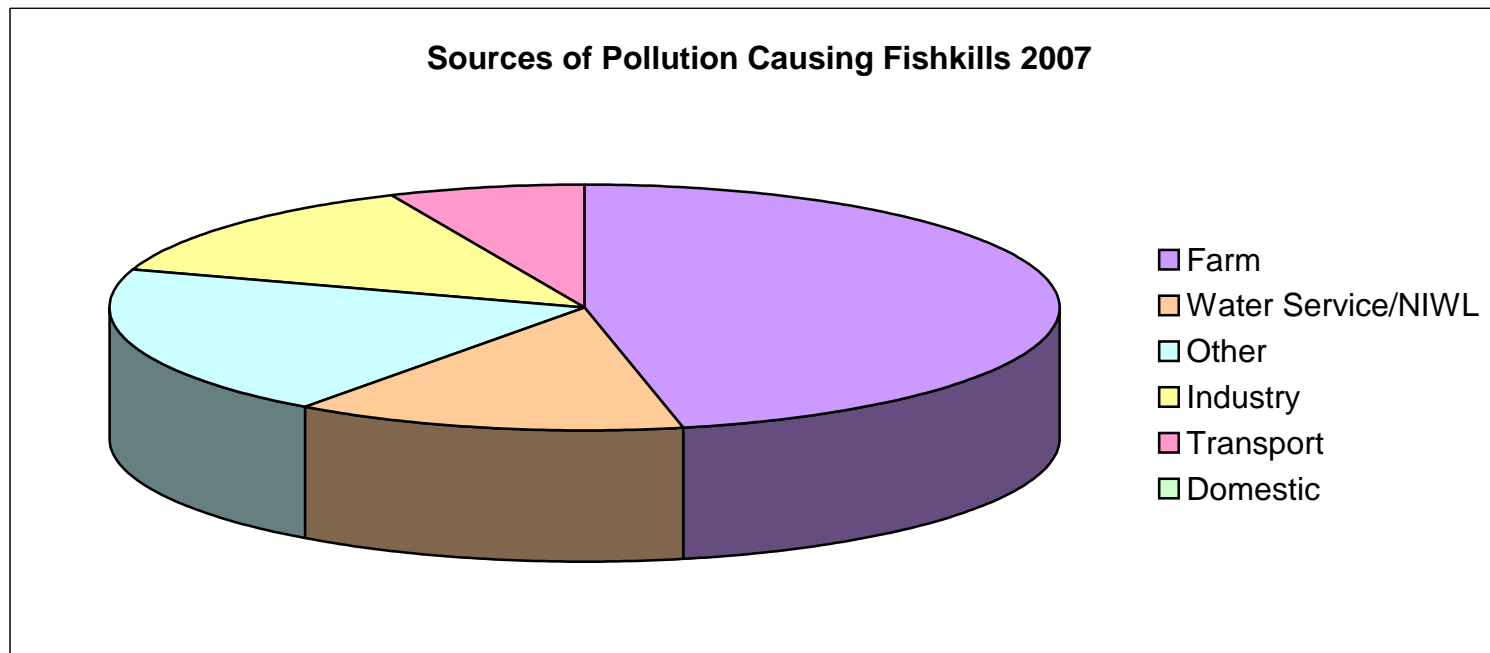
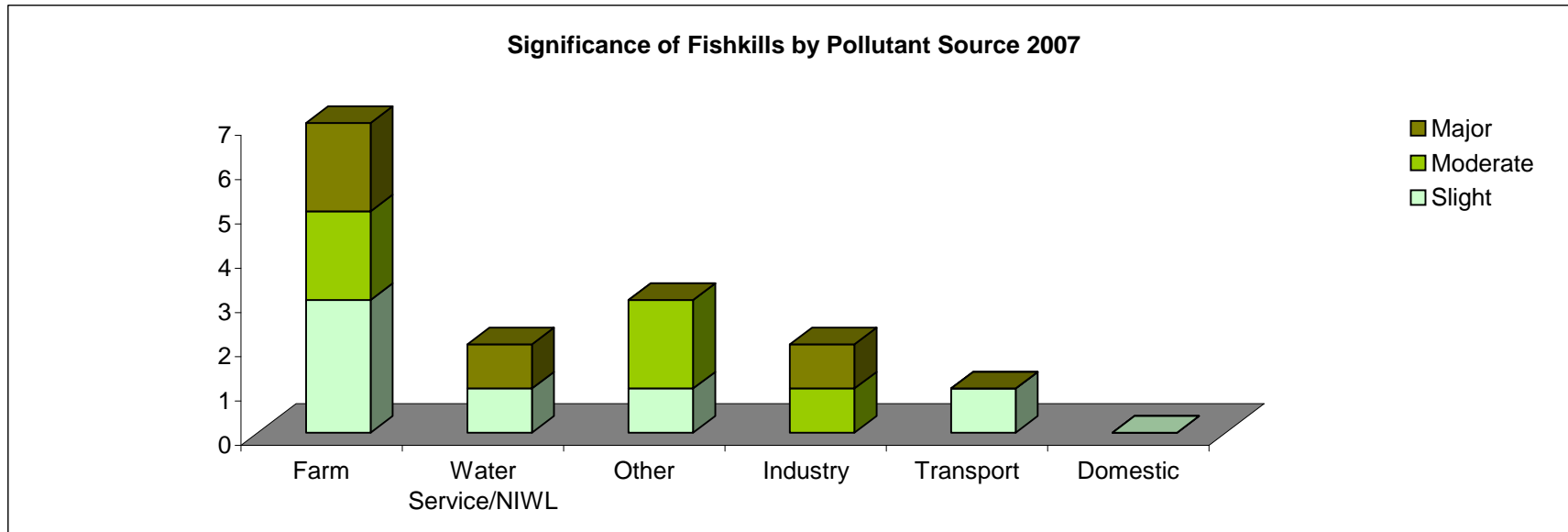


Table 19: Significance of FishKills by Pollutant Source 2007

Source	Slight	Moderate	Major	Total	(See 2006 Report for Classification Definitions)
Farm	3	2	2	7	
Water Service/NIWL	1	0	1	2	
Other	1	2	0	3	
Industry	0	1	1	2	
Transport	1	0	0	1	
Domestic	0	0	0	0	
Total	6	5	4	15	

Figure 26: Significance of FishKills by Pollutant Source 2007



Trend in Pollution Source Causing FishKills 2001 to 2007

	2001	2002	2003	2004	2005	2006	2007	Total
Farming	22	6	8	9	5	3	7	53
Industry	11	4	6	1	1	2	2	25
Water Service/NIWL	8	1	6	4	2	7	2	28
Other	4	4	3	3	2	6	3	22
Transport	0	0	0	1	0	0	1	1
Domestic	0	0	1	0	0	1	0	2
Total	45	15	24	18	10	19	15	131

Figure 27: Trend in Pollution Source Causing FishKills 2001 to 2007

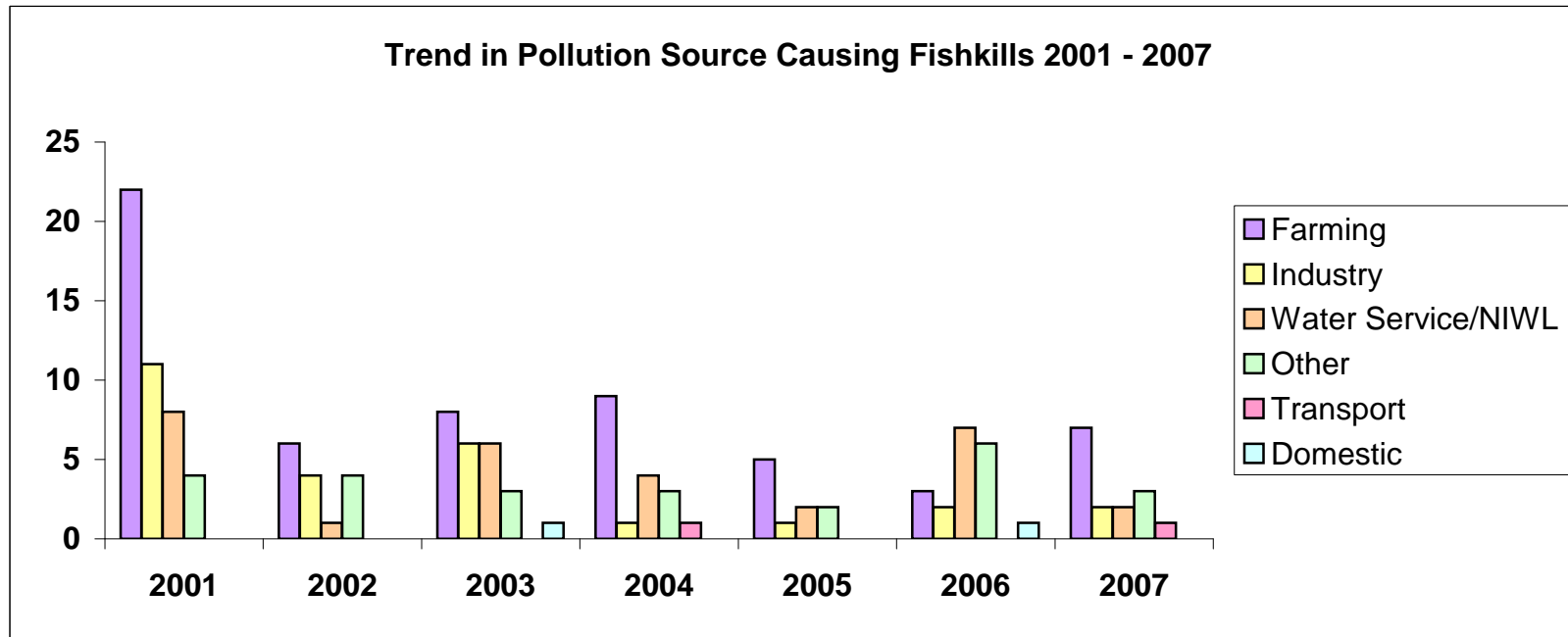


Table 20: Summary of Cases Referred to PPS for Incidents that Occurred in 2006

Summary of Cases Referred to PPS with a Recommendation for Prosecution, for Incidents that occurred during 2006 (As at 9 March 2009)		
Category	Cases referred to PPS for prosecution	% of the total
Agriculture	18	38.3%
Non Agric. Waste Dis.	8	17.0%
Breach Of Consent	3	6.4%
Sewage	6	12.8%
Chemical	4	8.5%
Oil	2	4.3%
Other	6	12.8%
Total	47	100%

Water Pollution Incidents and Enforcement 2007

Table 21: Costs and Fines Imposed under the Water (NI) Order 1999, for Incidents that occurred in 2006 (As at 5 March 2009)

CATEGORY	Analysis Costs	Court Costs	Fines	Total
Agriculture	£1,521.39	£322.50	£8,450.00	£10,293.89
Breach of Consent	£470.00	£208.99	£3,500.00	£4,178.99
Chemical	£1,219.40	£37.00	£4,500.00	£5,756.40
Non Agricultural Waste Discharge	£1,031.13	£242.00	£11,750.00	£13,023.13
Oil	£564.38	£112.00	£1,900.00	£2,576.38
Other	£754.97	£143.00	£28,000.00	£28,897.97
Sewage	£618.39	£148.00	£8,500.00	£9,266.39
TOTAL	£6,179.66	£1,213.49	£66,600.00	£73,993.15

Table 22: Water Pollution Prosecution Cases and Warning Letters 2000 to 2006

Year	Water Order* Prosecution Cases	Fisheries Legislation Prosecution Cases	Total Prosecution Cases	Warning Letters
2000	76	7	83	246
2001	104	5	109	230
2002	99	2	101	202
2003	122	1	123	176
2004	78	1	79	195
2005	48	0	48	185
2006	47	0	47	156

Water Pollution Prosecution Cases and Warning Letters 2000 to 2006

	Warning Letters	Water Order Prosecution Cases	Fisheries Legislation Prosecution Cases	Total Prosecution Cases
2000	246	76	7	83
2001	230	104	5	109
2002	202	99	2	101
2003	176	122	1	123
2004	195	78	1	79
2005	185	48	0	48
2006	156	47	0	47

Figure 28: Water Pollution Prosecution Cases and Warning Letters 2000 to 2006

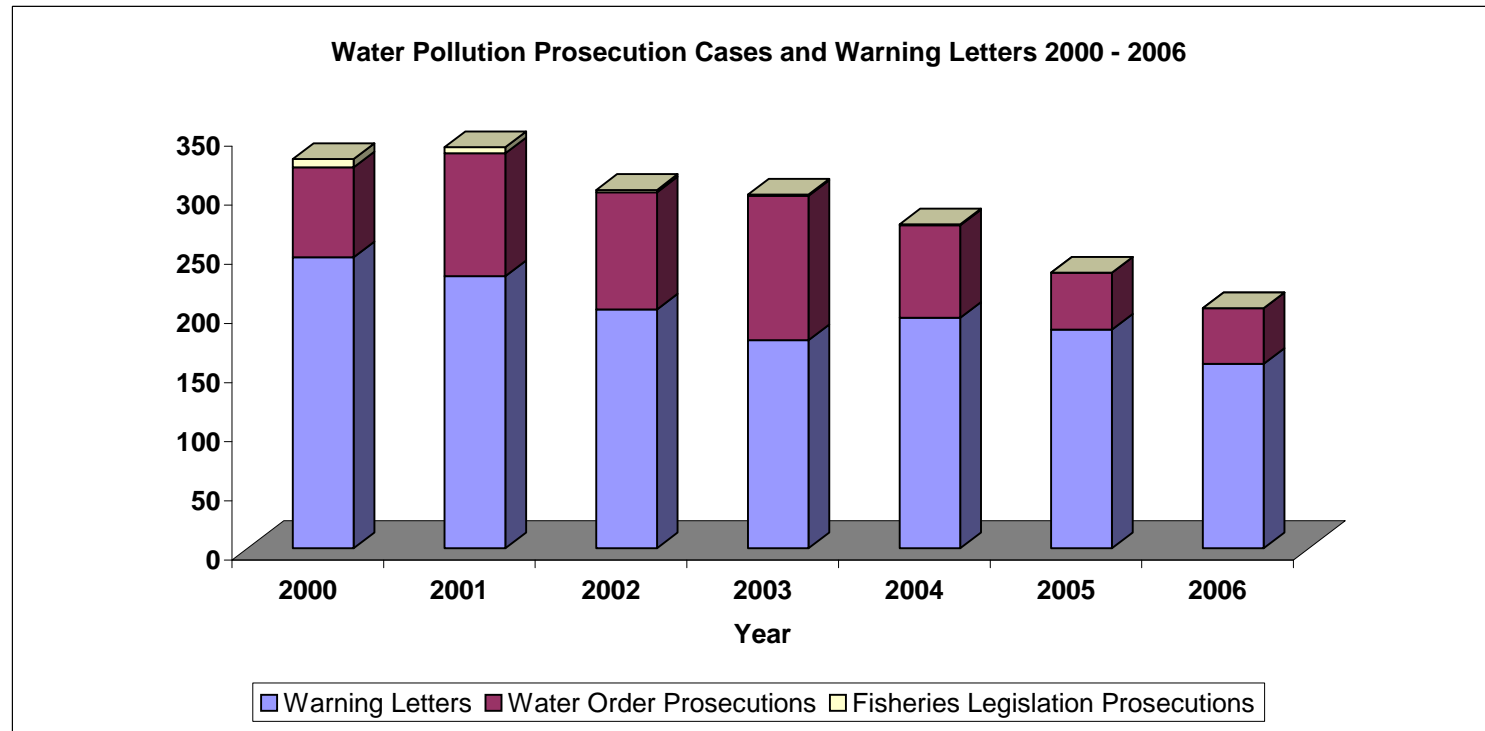


Table 23: Water Pollution Incidents Attributed to Northern Ireland Water Ltd in 2007 (1 April 2007 to 31 December 2007)

2007 Water Pollution Incidents Attributable to Northern Ireland Water (NIWL)	
Period 1 April 2007 to 31 December 2007	
No of Substantiated Incidents	267
No of High Severity Incidents	1
No of Medium Severity Incidents	58
No of Low Severity Incidents	208
No of FishKills	1
Significance of FishKills	1 x "Slight"
Convictions for 2007 Incidents*	6
Pending Cases for 2007 Incidents*	2

(See 2006 Report for Classification Definitions)

*As at 9 March 2009