

Appendix 2 Prioritisation of Environmental Incidents

The following is a qualitative assessment of the principal classes of environmental incidents dealt with by the Pollution Response and Consents Management sections. The purpose of this exercise was to develop a rational basis for the assignment of available resources in the area of incident response and consent management.

Each of the environmental impacts addressed in the following table was assessed in terms of its severity, extent, frequency and duration, with an appropriate score assigned to each category as follows:

Impact Severity (consider severity at the point of adverse impact)

1. None (no environmental impact)
2. Negligible (insignificant environmental impact)
3. Minor (some environmental impact)
4. Moderate (significant environmental impact)
5. Major (severe environmental impact)
6. Catastrophic (severe, irreversible environmental impact)

Impact Extent (consider areal extent of the adverse impact)

1. Contained (doesn't extend beyond source)
2. Proximate (<100m radius)
3. Local (<2km radius)
4. District (<15km radius land/sea, or 5km of coastline) 1
5. Regional (>15km radius land/sea, or 5km of coastline) 1
6. National (>90 km radius, or 1,500 km of coastline) 2

Impact Duration (consider duration of the adverse impact)

1. Instantaneous (< 1 minute)
2. Short-term (< 1 day)
3. Medium-term (<1 week)
4. Long term (< 1 month)
5. Very long-term (< 1 year)
6. Permanent (> 1 year)

Impact Frequency (consider average frequency of adverse impact occurrence)

1. Never (no known occurrence)
2. Annually (once per year or less)
3. Monthly (once per month or less)
4. Weekly (once per week or less)
5. Daily (once per day or less)
6. Continual (always happening)

The scores for each category were then put into the following formula, and individual significance values compared to assess their relative importance (see Table A2-1):

$$\text{Significance} = (\text{Severity} \times \text{Extent}) + (\text{Frequency} \times \text{Duration})$$

Table A2-1 Prioritisation of Environmental Incidents

Rank	Impact On	Origin of Impact	Severity	Extent	Duration	Frequency	Score
1	Freshwater	Silt - quarry operations	4	3	6	3.5	33
2	Freshwater	Silt – subdivision	4	3	4.5	4.5	32.25
3	Freshwater	Gravel take from stream	3	2	4	5	26
4	Freshwater	Agricultural effluent discharge	5	3.5	2.5	3	25
5	CMA - Sea	Oil slick	4.5	3	3.5	3	24
6	Soil	Dumping – vegetation	2.5	2	4.5	4	23
7	Freshwater	Silt - roadwork drainage	4	3	2.5	4	22
7	Freshwater	Sewer overflow	5	3	2	3.5	22
7	Soil	Dumping - non-cleanfill	3.5	2	5	3	22
7	CMA - Sea	Silt - civil works	4	3	4	2.5	22
11	Soil	Dumping - soil/cleanfill	2.5	1.5	4.5	4	21.8
11	CMA - Sea	Silt – dredging	5	3	4.5	1.5	21.8
13	Freshwater	Silt - works in stream	4	3	3	3	21
13	Freshwater	Dumping of chemicals	4	3	3	3	21
13	CMA - Sea	Sewage discharge	4	4	2	2.5	21
16	Freshwater	Algal bloom	4	3	3.5	2.5	20.8
16	Air	Odour – agricultural	4	3	2.5	3.5	20.8
16	CMA - Land	Hydrocarbon spill	4	3	3.5	2.5	20.8
19	Air	Odour - Careys Gully Complex	3	3.5	2	4.5	19.5
19	CMA - Land	Litter	3	3	3	3.5	19.5
21	Freshwater	Industrial site spill/leak	4	3	1.5	4	18
21	Freshwater	Unconsented work	3	3	3	3	18
21	Soil	Dumping – litter	3	2	3	4	18
21	CMA - Sea	Noise from vessel loading	3	4	2	3	18
21	CMA - Sea	Unconsented work	3	3	3	3	18
21	CMA - Land	Unconsented work	3	3	3	3	18
27	CMA - Sea	Noise from vessel horns	3	4	1	5.5	17.5
28	Air	Odour - Taylor Preston	3.5	3	1.5	4.5	17.3
29	CMA - Sea	Noise from powerboat racing	3	4	2.5	2	17
29	CMA - Land	Sewage discharge	4	3	2	2.5	17
31	Freshwater	Water take from stream	3	2.5	1.5	6	16.5
32	Freshwater	Dumping of paint/thinners	3	2	2	5	16
33	Freshwater	Hydrocarbon spill to road drain	3	3	1.5	4.5	15.8
33	Freshwater	Industrial site wash-water	3	3	1.5	4.5	15.8
35	Freshwater	Car wash water to road drain	2	2	2	5.5	15
35	Freshwater	Pollen	1	5	4	2.5	15
35	Freshwater	Water take from groundwater	2.5	3	1.5	5	15
35	Soil	Sewage discharge	4	2	2	3.5	15
35	Soil	Unconsented work	3	2	3	3	15
35	Air	Dust – subdivision	4	2	2	3.5	15
35	Air	Pollen	1	5	4	2.5	15
42	Air	Bonfire - residential site	4	2	1.5	4.5	14.8
43	Air	Dust - aerial top-dressing	4	3	1	2.5	14.5
44	Freshwater	Animal carcass	2	2	2.5	4	14
44	Soil	Animal carcass	2	2	2.5	4	14

Rank	Impact On	Origin of Impact	Severity	Extent	Duration	Frequency	Score
44	Soil	Hydrocarbon spill	4	2	1.5	4	14
47	Air	Odour – Seaview	3.5	2	1.5	4.5	13.8
48	Air	Odour - Asphalt Surfaces	3	2.5	1.5	4	13.5
48	CMA - Land	Animal carcase	2	3	2.5	3	13.5
50	Air	Dust - industrial sites	3	2	2	3.5	13
51	Freshwater	Silt - concrete cutting	2	3	1.5	4.5	12.8
52	Soil	Abandoned vehicle	2	1	3	3.5	12.5
52	Air	Bonfire - industrial site	4	2	1.5	3	12.5
54	Air	Odour - industrial (other)	3	2.5	1.5	3	12
55	CMA - Sea	Animal carcase	2	2	2.5	3	11.5
55	CMA - Sea	Silt - concrete cutting	2	2	1.5	5	11.5
57	Air	Dust – roadworks	3	2	2	2.5	11
58	CMA - Land	Driving on restricted beaches	3	1.5	1.5	4	10.5
59	Freshwater	Fluorescent dye discharge	2	2	2	3	10
59	CMA - Sea	Dust from vessel loading	3	2	2	2	10
61	CMA - Land	Abandoned vehicle	2	1	2	3	8
62	CMA - Sea	Abandoned vehicle	2	1	2	2	6