

Summary of predictions

Soluble - Acute Impact

Sediment - Chronic Impact

Prediction of impact	Step1
	Step2
	Step3

Copper	Zinc

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

Step 1

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST24	
1	1
68.90	68.10
80	81

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
80.70	105.20	1.80	18.90	60.30	18.90	16.10	34.20
91	123	5	30	67	30	24	47

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
23.20	26.20
28	35

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
<b>Toxicity Threshold</b>	197	315	3.5	16770	875	2355	245	515

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

### In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

Copper      Zinc

RST24

2	2
0.2	0.9
1	2
0.2	0.3
1	2

RST6

1	1
0	0.1
0	1
0	0
0	0

0.32	1.19
------	------

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

1.08	3.58
3.08	8.50
5.43	17.01
12.42	41.21

### Step 2

Velocity      0.03 m/s

DI      161.23

% settlement needed      38 %

Tier 2 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST24	
2	2
-	-
-	-
-	-

DI -

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST6	
1	1
-	-
-	-
-	-

Annual average concentration (ug/l)

-	-
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Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

-	-
-	-
-	-
-	-

**Details of the chosen rainfall site**

**SAAR (mm)**                      1111.7  
**Altitude (m)**                      9  
**Easting**                              3176  
**Northing**                            1773  
**Coastal distance (km)**            4.25

### Summary of predictions

Prediction of impact	Step1
	Step2
	Step3

### DETAILED RESULTS

#### In Runoff

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper		Zinc	
RST24			
1	1	1	1
68.90	68.10	68.90	68.10
80	81	80	81

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper		Zinc	
RST6			
1	1	1	1
23.20	26.20	23.20	26.20
28	35	28	35

Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

Thresholds

Event Statistics  
 Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

#### Soluble - Acute Impact

Copper	Zinc

#### Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

Step 1

Step 1

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
80.70	105.20	1.80	18.90	60.30	18.90	16.10	34.20
91	123	5	30	67	30	24	47

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
<b>Toxicity Threshold</b>	197	315	3.5	16770	875	2355	245	515

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

**Copper                  Zinc**

RST24

<b>2</b>	<b>2</b>
<b>0.1</b>	<b>0.6</b>
1	1
0.1	0.2
1	1

RST6

<b>1</b>	<b>1</b>
<b>0</b>	<b>0.1</b>
0	1
0	0
0	0

0.26	0.96
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(ug/l)                  (ug/l)

<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

0.90	2.98
2.49	6.74
4.44	13.86
10.27	33.88

### Step 2

Velocity    **0.01** m/s

DI    **98.99**

% settlement needed    **0** %

Tier 1 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST24	
2	2
-	-
-	-
-	-

DI -

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST6	
1	1
-	-
-	-
-	-

Annual average concentration (ug/l)

-	-
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Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

-	-
-	-
-	-
-	-

**Details of the chosen rainfall site**

**SAAR (mm)**                      1111.7  
**Altitude (m)**                      9  
**Easting**                              3176  
**Northing**                            1773  
**Coastal distance (km)**            4.25

### Summary of predictions

Prediction of impact	Step1
	Step2
	Step3

### DETAILED RESULTS

#### In Runoff

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST24	
1	1
<b>68.90</b>	<b>68.10</b>
80	81

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
<b>23.20</b>	<b>26.20</b>
28	35

Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Thresholds

Event Statistics  
 Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

### Soluble - Acute Impact

Copper	Zinc

### Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

Step 1

Step 1

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
<b>80.70</b>	<b>105.20</b>	<b>1.80</b>	<b>18.90</b>	<b>60.30</b>	<b>18.90</b>	<b>16.10</b>	<b>34.20</b>
91	123	5	30	67	30	24	47

Toxicity  
 Threshold

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
<b>197</b>	<b>315</b>	<b>3.5</b>	<b>16770</b>	<b>875</b>	<b>2355</b>	<b>245</b>	<b>515</b>	<b>515</b>

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

**Copper                  Zinc**

RST24

<b>2</b>	<b>2</b>
<b>0.1</b>	<b>0.6</b>
1	1
0.1	0.2
1	1

RST6

<b>1</b>	<b>1</b>
<b>0</b>	<b>0.1</b>
0	1
0	0
0	0

0.26	0.96
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(ug/l)                  (ug/l)

<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

0.90	2.98
2.49	6.74
4.44	13.86
10.27	33.88

### Step 2

Velocity    **0.01** m/s

DI    **98.99**

% settlement needed    **0** %

Tier 1 is used for the calculation



**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST24	
2	2
-	-
-	-
-	-

DI -

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST6	
1	1
-	-
-	-
-	-

Annual average concentration (ug/l)

-	-
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Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
RST24	21	60
RST6	42	120

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

-	-
-	-
-	-
-	-

**Details of the chosen rainfall site**

**SAAR (mm)** 1111.7  
**Altitude (m)** 9  
**Easting** 3176  
**Northing** 1773  
**Coastal distance (km)** 4.25

Summary of predictions

Soluble - Acute Impact

Sediment - Chronic Impact

Prediction of impact	Step1
	Step2
	Step3

Copper	Zinc

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

Step 1

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST24	
1	1
<b>68.90</b>	<b>68.10</b>
80	81

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
<b>80.70</b>	<b>105.20</b>	<b>1.80</b>	<b>18.90</b>	<b>60.30</b>	<b>18.90</b>	<b>16.10</b>	<b>34.20</b>
91	123	5	30	67	30	24	47

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
<b>23.20</b>	<b>26.20</b>
28	35

Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Thresholds

Event Statistics  
 Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

Toxicity  
 Threshold

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
	<b>197</b>	<b>315</b>	<b>3.5</b>	<b>16770</b>	<b>875</b>	<b>2355</b>	<b>245</b>	<b>515</b>

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

**Copper                  Zinc**

RST24

2	2
0	0.1
0	1
0	0
0	0

RST6

1	1
0	0.1
0	1
0	0
0	0

0.10	0.37
------	------

(ug/l)                  (ug/l)

<b>RST24</b>	21	60
<b>RST6</b>	42	120

0.36	1.25
0.93	2.48
1.73	5.23
4.83	15.71

### Step 2

Velocity     m/s

DI   

% settlement needed     %

Tier 1 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST24			
2		2	
0.00		0.00	
0		0	
0		0	
0		0	

DI 26.55

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

RST6	
1	1
0.00	0.00
0	0
0	0
0	0

Annual average concentration (ug/l)

0.02	0.09
------	------

Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
RST24	21	60
RST6	42	120

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

0.09	0.31
0.23	0.62
0.43	1.31
1.21	3.93

**Details of the chosen rainfall site**

**SAAR (mm)**                    1111.7  
**Altitude (m)**                    9  
**Easting**                        3176  
**Northing**                        1773  
**Coastal distance (km)**        4.25

Summary of predictions

Soluble - Acute Impact

Sediment - Chronic Impact

Prediction of impact	Step1
	Step2
	Step3

Copper	Zinc

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

DETAILED RESULTS

In Runoff

Step 1

Step 1

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST24	
1	1
68.90	68.10
80	81

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
80.70	105.20	1.80	18.90	60.30	18.90	16.10	34.20
91	123	5	30	67	30	24	47

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
23.20	26.20
28	35

Thresholds  
 Thresholds

	(ug/l)	(ug/l)
RST24	21	60
RST6	42	120

Toxicity  
 Threshold

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Toxicity Threshold	197	315	3.5	16770	875	2355	245	515

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

### In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

Copper      Zinc

RST24

2	2
0	0.6
0	1
0	0.2
0	1

RST6

1	1
0	0.1
0	1
0	0
0	0

0.25	0.94
------	------

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

0.86	2.89
2.38	6.64
4.38	13.20
10.41	33.61

### Step 2

Velocity      0.01 m/s

DI      97.68

% settlement needed      0 %

Tier 1 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST24	
2	2
-	-
-	-
-	-

DI -

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper	Zinc
RST6	
1	1
-	-
-	-
-	-

Annual average concentration (ug/l)

-	-
---	---

Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	21	60
<b>RST6</b>	42	120

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

-	-
-	-
-	-
-	-

**Details of the chosen rainfall site**

**SAAR (mm)**                      1111.7  
**Altitude (m)**                      9  
**Easting**                              3176  
**Northing**                            1773  
**Coastal distance (km)**            4.25

## Summary of predictions

Prediction of impact	Step1
	Step2
	Step3

## DETAILED RESULTS

### In Runoff

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

#### Step 1

Copper	Zinc
RST24	
1	1
<b>68.90</b>	<b>68.10</b>
80	81

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
<b>23.20</b>	<b>26.20</b>
28	35

Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Thresholds

Event Statistics  
 Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

## Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

#### Step 1

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
<b>80.70</b>	<b>105.20</b>	<b>1.80</b>	<b>18.90</b>	<b>60.30</b>	<b>18.90</b>	<b>16.10</b>	<b>34.20</b>
91	123	5	30	67	30	24	47

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
<b>Toxicity Threshold</b>	<b>197</b>	<b>315</b>	<b>3.5</b>	<b>16770</b>	<b>875</b>	<b>2355</b>	<b>245</b>	<b>515</b>

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251



## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

**Copper                  Zinc**

RST24

1	1
0	0.2
0	1
0	0
0	0

RST6

0.5	0.5
0	0.1
0	1
0	0
0	0

0.11	0.41
------	------

(ug/l)                  (ug/l)

<b>RST24</b>	21	60
<b>RST6</b>	42	120

0.39	1.37
1.03	2.87
1.93	5.89
5.25	17.18

### Step 2

Velocity     m/s

DI   

% settlement needed     %

Tier 2 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST24			
1		1	
-		-	
-		-	
-		-	

DI -

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

RST6		RST6	
0.5		0.5	
-		-	
-		-	
-		-	

Annual average concentration (ug/l)

-		-	
---	--	---	--

Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

-		-	
-		-	
-		-	
-		-	

**Details of the chosen rainfall site**

**SAAR (mm)** 1111.7  
**Altitude (m)** 9  
**Easting** 3176  
**Northing** 1773  
**Coastal distance (km)** 4.25

## Summary of predictions

Prediction of impact	Step1
	Step2
	Step3

## DETAILED RESULTS

### In Runoff

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

#### Step 1

Copper	Zinc
RST24	
1	1
<b>68.90</b>	<b>68.10</b>
80	81

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year

Copper	Zinc
RST6	
1	1
<b>23.20</b>	<b>26.20</b>
28	35

Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Thresholds

Event Statistics  
 Mean  
 90%ile  
 95%ile  
 99%ile

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

26.56	85.29
51.08	171.67
69.13	259.02
120.65	446.84

## Sediment - Chronic Impact

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene

#### Step 1

Copper	Zinc	Cadmium	Total PAH	Pyrene	Fluoranthene	Anthracene	Phenanthrene
Toxicity Threshold							
1	1	1	1	1	1	1	1
<b>80.70</b>	<b>105.20</b>	<b>1.80</b>	<b>18.90</b>	<b>60.30</b>	<b>18.90</b>	<b>16.10</b>	<b>34.20</b>
91	123	5	30	67	30	24	47

	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
<b>Toxicity Threshold</b>	<b>197</b>	<b>315</b>	<b>3.5</b>	<b>16770</b>	<b>875</b>	<b>2355</b>	<b>245</b>	<b>515</b>

339	1125	1	11143	1928	1850	118	521
768	2648	1	28184	4876	4679	299	1319
970	3476	2	56234	9729	9335	596	2632
1430	5840	4	112202	19411	18626	1189	5251

## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

### Step 2

**Copper      Zinc**

RST24

1	1
0	0.1
0	1
0	0
0	0

RST6

0.5	0.5
0	0.1
0	1
0	0
0	0

0.06	0.22
------	------

(ug/l)                      (ug/l)

<b>RST24</b>	21	60
<b>RST6</b>	42	120

0.22	0.78
0.54	1.51
1.05	3.13
3.14	10.22

### Step 2

Velocity       m/s

DI     

% settlement needed       %

Tier 1 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST24			
1		1	
-		-	
-		-	
-		-	

DI

-

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST6			
0.5		0.5	
-		-	
-		-	
-		-	

Annual average concentration (ug/l)

-		-	
---	--	---	--

Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

-		-	
-		-	
-		-	
-		-	

**Details of the chosen rainfall site**

**SAAR (mm)** 1111.7  
**Altitude (m)** 9  
**Easting** 3176  
**Northing** 1773  
**Coastal distance (km)** 4.25



## In River (no mitigation)

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Annual average concentration (ug/l)

Thresholds  
 Thresholds

Event Statistics    Mean  
 90%ile  
 95%ile  
 99%ile

Step 2

Copper      Zinc

RST24

1	1
0	0.5
0	1
0	0.1
0	1

RST6

0.5	0.5
0	0.1
0	1
0	0
0	0

0.19	0.70
------	------

(ug/l)      (ug/l)

<b>RST24</b>	21	60
<b>RST6</b>	42	120

0.66	2.24
1.80	5.00
3.30	10.07
8.64	27.16

Step 2

Velocity  m/s

DI

% settlement needed  %

Tier 1 is used for the calculation

**In River (with mitigation)**

**Step 3**

Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST24			
1		1	
-		-	
-		-	
-		-	

DI



Allowable Exceedances/year  
**No. of exceedances/year**  
 No. of exceedances/worst year  
 No. of exceedances/summer  
 No. of exceedances/worst summer

Copper		Zinc	
RST6			
0.5		0.5	
-		-	
-		-	
-		-	

Annual average concentration (ug/l)

-		-	
---	--	---	--

Thresholds hresholds  
 Thresholds

	(ug/l)	(ug/l)
<b>RST24</b>	<b>21</b>	<b>60</b>
<b>RST6</b>	<b>42</b>	<b>120</b>

Event Statistics Mean  
 90%ile  
 95%ile  
 99%ile

-		-	
-		-	
-		-	
-		-	

**Details of the chosen rainfall site**

**SAAR (mm)** 1111.7  
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