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ENVIRONMENT PROTECTION DEPARTMENT
CORNWALL AREA

Maenporth EC Bathing Beach
Additional Monitoring Data Report
FINAL REPORT

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Maenporth EC Bathing Water Additional Monitoring Report

1. INTRODUCTION

1.1 Background

The EC Designated Bathing Water at Maenporth (81914873) on the south coast of Cornwall is sampled in accordance with the requirements of the EC Bathing Waters Directive (EC/76/100).

Since 1999 Maenporth Beach has failed to meet the guideline standard requirements once. Previous investigations have shown that the bathing water at Maenporth is influenced by the freshwater input, which flows onto the eastern side of the beach (see Reference 1).

In 1999 Investigations Officer Peter Long added three new sites to gain additional data on sources of bacterial contamination replacing the single freshwater sample site (the single site at the lagoon was influenced by sea water on high spring tides). The three sites chosen were named Maenporth Stream and Maenporth Streams B & C (Sites 6, 8 & 5 respectively), these sites were all located above the tidal limit. Unfortunately total coliform analysis was not included at these sites. For the 2001 bathing season a further six sites were added to the monitoring program, all of which were to be sampled coincident with the statutory bathing water sampling.

1.2 Objective

To collate the additional monitoring data gathered from 1999 to 2001 and attempt to further identify sources of bacterial contamination to the freshwater inputs at Maenporth Beach and analyse for trends.

This data can then be made available for the organisations who are planning to remediate a degraded lagoon at Maenporth. The organisations are (including the EA), Cornwall County Council, English Nature, Carrick and Kerrier District Councils and Cornwall College.

2. RESULTS

The following table lists the location of the data collected and figures showing the catchments and sample sites.

Data	Location
Maenporth Stream at Budock Water, Up and Downstream of Maen Valley Park (Sites 1 - 3)	Table 1
Pennance Stream at Pennance Mill & Maenporth Stream 'C' (Sites 4 & 5)	Table 2
Maenporth Stream at Tregedna & Maenporth Stream 'B' at Bareppa (Sites 6 & 7)	Table 3
Maenporth Stream 'B' at tidal limit (Site 8)	Table 4
Maenporth EC Bathing Water (Site 9)	Table 5
Maenporth Beach catchment overview & sample points	Map 1

3. DISCUSSION

The additional monitoring has confirmed what earlier investigations had found, however it does highlight areas where concentrations of indicator organisms increase. The table below shows the mean concentrations of indicator organisms found in the three streams.



Mean concentrations of indicator organisms increase in the Maenporth Stream between sites 1 and 2 and then site 3, mean faecal coliforms then reduce marginally at site 6 (see tables 1 & 3).

The Pennance Stream (site 4) was identified in the previous investigation as suffering from farm related pollution and it would appear from the data that this has continued, however this is a relatively small stream so loadings of indicator organisms would be low (see table 2).

Site	Mean total coliforms (No. / 100ml)	Mean faecal coliforms (No./100ml)	Mean faecal strep. (No. / 100ml)
Site 1 (M/Stm*) - 2001 only	1526.3	549.3	505.3
Site 2 (M/Stm) - 2001 only	4385.6	2545.8	1030.6
Site 3 (M/Stm) - 2001 only	5490.9	2324.4	1074.7
Site 6 (M/Stm) - 1999 to 2001	No data	2183.9	1174.5
Site 4 (Pennance Stm) - 2001 only	9397.2	5202.2	888.7
Site 5 (M/Stm 'C') - 1999 to 2001	No data	2976.0	1293.0
Site 7 (M/Stm 'B') - 2001 only	2364.6	2028.2	226.8
Site 8 (M/Stm 'B') - 1999 - 2001	2128.9	1959.7	605.4

* M/Stm - Maenporth Stream

Data collected from site 5 on the Maenporth Stream 'C' shows occasional peaks in concentrations of indicator organisms, not all of which coincide with significant rainfall events (see table 2).

Data from the Maenporth Stream 'B' at site 7 also show occasional peaks in concentrations of indicator organisms, again not always coinciding with significant rainfall events, these peaks are also not mirrored in samples taken downstream at site 8. Localised contamination from farms or septic tanks could account for this (see tables 3 & 4).

With the exception of June 2001, rainfall data from the Penryn Reservoir (SW 77503379) raingauge were used. Data from Penryn Reservoir were not available for June 2001 so data from the closest raingauge at St Mawes (SW 84963500) were used.

4. RECOMMENDATIONS

Should Guideline compliance at this Bathing Water become a priority then the following recommendations should be considered.

4.1 Should resources permit the freshwater catchments which drain onto the Maenporth Bathing Beach would benefit from catchment cataloguing surveys, which have proved to be of significant value in the past. This should include hydrometric data to gain information on loadings of indicator organisms which can be used to prioritise which streams are the most significant contributors.

Action: EPr Team Leader – Investigations

4.2 The Agency, together with other local public bodies have for some time been attempting to acquire either a long term lease hold or freehold of a degraded lagoon which the Maenporth Stream flows through prior to the beach. Should an agreement be made with the current landowner, works would be conducted to improve the

lagoon. Should these works take place, securing bathing water guideline standard compliance must be paramount to the design of the works.

Action: EPr Team Leader – Investigations & F.E.R

REFERENCES

1. Long Peter 1999 - Maenporth Water Quality Investigation. EC Bathing Water Directive Failure.

Table 1

Site 1 - Maenporth Stream at Budock Water (81913625) - SW78380 32190

Date	Time (BST)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
03-May-01	1750	1700.0	320.0	191.0	0.0	0.0
09-May-01	1040	220.0	45.0	10.0	0.0	0.0
14-May-01	1620	155.0	155.0	27.0	0.0	0.0
22-May-01	1010	73.0	36.0	45.0	0.0	0.0
02-Jun-01	1330	109.0	36.0	55.0	0.0	0.0
07-Jun-01	1025	440.0	82.0	100.0	0.0	0.0
15-Jun-01	1350	2500.0	2100.0	1518.0	11.3	21.3
20-Jun-01	1050	5900.0	5500.0	330.0	0.0	0.0
26-Jun-01	1440	280.0	173.0	3600.0	0.0	0.0
02-Jul-01	1155	450.0	145.0	240.0	0.0	0.0
10-Jul-01	1505	640.0	620.0	350.0	11.6	1.1
14-Jul-01	935	173.0	36.0	127.0	0.0	1.7
20-Jul-01	1430	1127.0	210.0	173.0	0.0	10.8
01-Aug-01	900	220.0	127.0	480.0	0.3	1.0
07-Aug-01	1450	864.0	620.0	1500.0	2.0	6.4
16-Aug-01	1110	360.0	260.0	280.0	2.5	0.0
22-Aug-01	1415	14100.0	310.0	290.0	1.4	0.1
01-Sep-01	845	460.0	45.0	340.0	0.0	0.0
06-Sep-01	1800	155.0	100.0	220.0	0.7	0.0
14-Sep-01	1025	600.0	65.0	230.0	0.6	0.3
Mean		1526.3	549.3	505.3		

Site 2 - Maenporth Stream Upstream of Maen Valley Park (81913626) - SW78890 31220

Date	Time (BST)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
09-May-01	1050	640.0	320.0	45.0	0.0	0.0
14-May-01	1535	1255.0	964.0	300.0	0.0	0.0
22-May-01	1000	2700.0	1155.0	400.0	0.0	0.0
02-Jun-01	1320	6800.0	2500.0	400.0	0.0	0.0
07-Jun-01	1015	5800.0	3400.0	350.0	0.0	0.0
15-Jun-01	1340	3800.0	1255.0	845.0	11.8	21.3
20-Jun-01	1045	4100.0	3200.0	340.0	0.0	0.0
26-Jun-01	1415	5800.0	5100.0	320.0	0.0	0.0
02-Jul-01	1250	3400.0	1355.0	610.0	0.0	0.0
10-Jul-01	1455	3600.0	1191.0	2400.0	11.6	1.1
14-Jul-01	1020	800.0	500.0	270.0	0.0	1.7
20-Jul-01	1415	2000.0	530.0	330.0	0.0	10.8
01-Aug-01	910	1445.0	1245.0	670.0	0.3	1.0
07-Aug-01	1320	18300.0	9900.0	8400.0	2.0	6.4
22-Aug-01	1400	4400.0	1909.0	410.0	1.4	0.1
01-Sep-01	940	8000.0	6100.0	470.0	0.0	0.0
06-Sep-01	1750	2700.0	2700.0	1036.0	0.7	0.0
14-Sep-01	1015	3400.0	2800.0	955.0	0.6	0.3
Mean		4385.6	2545.8	1030.6		

Site 3 - Maenporth Stream Downstream of Maen Valley Park (81913625) - SW78910 30710

Date	Time (BST)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
02-Jun-01	1430	18200.0	1127.0	330.0	0.0	0.0
07-Jun-01	1005		710.0	300.0	0.0	0.0
15-Jun-01	1335	6200.0	2700.0	1673.0	11.8	21.3
20-Jun-01	1040	4800.0	813.0	340.0	0.0	0.0
26-Jun-01	1430	1227.0	780.0	340.0	0.0	0.0
02-Jul-01	1240	945.0	1100.0	145.0	0.0	0.0
10-Jul-01	1450	1491.0	1145.0	964.0	11.6	1.1
14-Jul-01	1000	4400.0	4000.0	570.0	0.0	1.7
20-Jul-01	1410	5300.0	873.0	310.0	0.0	10.8
01-Aug-01	925	6900.0	3600.0	270.0	0.3	1.0
07-Aug-01	1440	>20000.0	11100.0	8800.0	2.0	6.4
16-Aug-01	1200	3700.0	2900.0	873.0	2.5	0.0
22-Aug-01	1350	2600.0	1418.0	670.0	1.4	0.1
01-Sep-01	930	2700.0	2500.0	490.0	0.0	0.0
06-Sep-01	1710	1900.0	1555.0	400.0	0.7	0.0
14-Sep-01	1010	2000.0	864.0	720.0	0.6	0.3
Mean		5490.9	2324.4	1074.7		

Table 2

Site 4 - Pennance Stream at Pennance Mill (81913690) - SW79050 30620

Date	Time (BST)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Todays Rainfall (mm)
03-May-01	1725	>20000.0	>20000.0	55.0	0.0	0.0
09-May-01	945	18.0	127.0	10.0	0.0	0.0
14-May-01	1600	>20000.0	>20000.0	1200.0	0.0	0.0
22-May-01	955	200.0	145.0	173.0	0.0	0.0
02-Jun-01	1420	28000.0	2000.0	580.0	0.0	0.0
07-Jun-01	1010	>20000.0	4900.0	400.0	0.0	0.0
15-Jun-01	1345	1700.0	2400.0	520.0	11.8	21.3
20-Jun-01	1035	470.0	430.0	200.0	0.0	0.0
26-Jun-01	1335	6700.0	6600.0	580.0	0.0	0.0
02-Jul-01	1235	1900.0	790.0	390.0	0.0	0.0
10-Jul-01	1445	4600.0	5100.0	1436.0	11.6	1.1
14-Jul-01	955	3200.0	2173.0	520.0	0.0	1.7
20-Jul-01	1405	5600.0	3100.0	480.0	0.0	10.8
01-Aug-01	930	6300.0	5700.0	690.0	0.3	1.0
07-Aug-01	1445	19300.0	10800.0	3400.0	2.0	6.4
16-Aug-01	1205	>20000.0	7800.0	4400.0	2.5	0.0
22-Aug-01	1355	>20000.0	8300.0	720.0	1.4	0.1
01-Sep-01	925	5500.0	1218.0	420.0	0.0	0.0
06-Sep-01	1715	3400.0	1800.0	400.0	0.7	0.0
14-Sep-01	1005	1055.0	660.0	1200.0	0.6	0.3
Mean		9397.2	5202.2	888.7		

Site 5 - Maenporth Stream C (81913630) - SW78510 30340

Date	Time (BST)	Salinity (g/kg)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Todays Rainfall (mm)
14-May-99	1345	<1.0		20.0	60.0	0.3	0.0
26-May-99	1505	<1.0		1530.0	1120.0	0.0	0.0
01-Jun-99	1305	<1.0		240.0	30.0	0.0	13.2
07-Jun-99	1015	<1.0		3400.0	1400.0	31.1	1.7
13-Jun-99	1310	<1.0		1240.0	220.0	0.0	0.0
17-Jun-99	912	<1.0		1020.0	80.0	0.0	0.0
23-Jun-99	1320	<1.0		550.0	60.0	0.2	0.0
05-Jul-99	945	<1.0		480.0	110.0	1.2	0.0
23-Jul-99	1300	<1.0		630.0	170.0	0.0	0.0
28-Jul-99	930	<1.0		11600.0	70.0	0.0	0.0
04-Aug-99	1325	<1.0		>20000.0	5500.0	1.9	12.1
12-Aug-99	940	<1.0		>20000.0	640.0	1.5	0.0
21-Aug-99	1310	<1.0		560.0	300.0	0.1	1.0
29-Aug-99	940	<1.0		3000.0	760.0	0.0	0.0
10-Sep-99	1300	<1.0		4900.0	9200.0	0.0	0.0
16-Sep-99	915	<1.0		>20000.0	>20000.0	23.0	3.4
04-May-00	1345	<1.0		45.0	560.0	0.0	0.0
10-May-00	915	<1.0		550.0	155.0	0.0	4.0
15-May-00	1845	<1.0		550.0	90.0	0.0	0.0
28-May-00	1245	<1.0		127.0	136.0	15.2	2.0
03-Jun-00	1400	<1.0		145.0	45.0	0.6	0.0
09-Jun-00	920	3.0		1518.0	390.0	0.6	0.1
15-Jun-00	1443	2.9		1136.0	440.0	0.0	0.0
22-Jun-00	1033	<1.0		560.0	360.0	1.5	2.6
28-Jun-00	1445	<1.0		4900.0	380.0	0.0	0.0
03-Jul-00	1020	<1.0		2300.0	155.0	2.6	16.2
12-Jul-00	1340	<1.0		2600.0	340.0	0.0	0.5
18-Jul-00	1345	5.3		1000.0	470.0	0.0	0.0
24-Jul-00	1405	<1.0		2700.0	36.0	0.0	0.0
07-Aug-00	1335	<1.0		370.0	82.0	0.1	0.0
18-Aug-00	955	<1.0		2000.0	280.0	6.3	4.7
23-Aug-00	1435	<1.0		560.0	620.0	0.0	0.0
29-Aug-00	1045	<1.0		250.0	118.0	0.4	0.0
30-Aug-00	1728		3300.0	2700.0	1055.0	0.0	0.0
04-Sep-00	1405	<1.0		982.0	260.0	0.0	1.2
07-Sep-00	1420	<1.0		750.0	480.0	1.4	2.8
12-Sep-00	1435	<1.0		520.0	520.0	0.0	0.6
03-May-01	1720	<1.0		200.0	10.0	0.0	0.0
14-May-01	1545	<1.0		330.0	27.0	0.0	0.0
22-May-01	950	<1.0		790.0	164.0	0.0	0.0
02-Jun-01	1410	<1.0		240.0	82.0	0.0	0.0
07-Jun-01	950	<1.0		3000.0	136.0	0.0	0.0
15-Jun-01	1320	<1.0		1591.0	270.0	11.8	21.3
20-Jun-01	1015	<1.0		720.0	109.0	0.0	0.0
26-Jun-01	1345	<1.0		490.0	118.0	0.0	0.0
10-Jul-01	1430	<1.0		2700.0	2300.0	0.0	0.0
14-Jul-01	940	<1.0		55.0	45.0	0.0	1.7
20-Jul-01	1350	<1.0		680.0	320.0	0.0	10.8
01-Aug-01	950	<1.0		6000.0	700.0	0.3	1.0
07-Aug-01	1430	<1.0		5800.0	1700.0	2.0	6.4
16-Aug-01	1150	<1.0		4000.0	800.0	2.5	0.0
22-Aug-01	1330	<1.0		380.0	191.0	1.4	0.1
01-Sep-01	920	<1.0		630.0	370.0	0.0	0.0
06-Sep-01	1740	<1.0		>20000.0	16800.0	0.7	0.0
14-Sep-01	950	<1.0		640.0	280.0	0.6	0.3
Mean				2976.0	1293.0		

Table 3

Site 6 - Maenporth Stream at Tregedna (81913620) - SW78800 30250

Date	Time (BST)	Salinity (g/kg)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
03-May-99	915	<1.0		620.0	90.0	0.7	4.9
14-May-99	1335	<1.0		580.0	100.0	0.3	0.0
26-May-99	1500	<1.0		390.0	170.0	0.0	0.0
01-Jun-99	1310	<1.0		1280.0	150.0	0.0	13.2
07-Jun-99	1010	<1.0		8000.0	3000.0	31.1	1.7
13-Jun-99	1315	<1.0		810.0	220.0	0.0	0.0
17-Jun-99	910	<1.0		1440.0	320.0	0.0	0.0
23-Jun-99	1315	<1.0		1430.0	200.0	0.2	0.0
05-Jul-99	940	<1.0		1260.0	160.0	1.2	0.0
12-Jul-99	1700			640.0	300.0	0.0	0.0
17-Jul-99	905	<1.0		2500.0	220.0	0.0	0.0
23-Jul-99	1305	<1.0		1690.0	110.0	0.0	0.0
28-Jul-99	925	<1.0		1230.0	150.0	0.0	0.0
04-Aug-99	1330	<1.0		>20000.0	>20000.0	1.9	12.1
12-Aug-99	945	<1.0		730.0	380.0	1.5	0.0
21-Aug-99	1315	<1.0		420.0	370.0	0.1	1.0
29-Aug-99	945	<1.0		700.0	200.0	0.0	0.0
10-Sep-99	1305	<1.0		690.0	250.0	0.0	0.0
16-Sep-99	910	<1.0		>20000.0	>20000.0	23.0	3.4
04-May-00	1346	<1.0		1245.0	340.0	0.0	0.0
10-May-00	920	<1.0		540.0	230.0	0.0	4.0
15-May-00	1850	<1.0		1154.0	100.0	0.0	0.0
28-May-00	1248	<1.0		9200.0	1527.0	15.2	2.0
03-Jun-00	1355	<10.0		927.0	2200.0	0.6	0.0
09-Jun-00	930	<1.0		570.0	210.0	0.6	0.1
15-Jun-00	1437	<1.0		330.0	260.0	0.0	0.0
22-Jun-00	1030	<1.0		600.0	290.0	1.5	2.6
28-Jun-00	1443	<1.0		2400.0	230.0	0.0	0.0
03-Jul-00	1025	<1.0		1136.0	740.0	2.6	16.2
12-Jul-00	1350	<1.0		580.0	640.0	0.0	0.5
18-Jul-00	1350	<1.0		1036.0	320.0	0.0	0.0
24-Jul-00	1400	<1.0		1164.0	164.0	0.0	0.0
07-Aug-00	1330	<1.0		1300.0	410.0	0.1	0.0
18-Aug-00	950	<1.0		864.0	630.0	6.3	4.7
23-Aug-00	1430	<1.0		640.0	330.0	0.0	0.0
29-Aug-00	1040	<1.0		550.0	570.0	0.4	0.0
30-Aug-00	1720		2500.0	1327.0	300.0	0.0	0.0
04-Sep-00	1400	<1.0		1827.0	250.0	0.0	1.2
07-Sep-00	1414	<1.0		330.0	191.0	1.4	2.8
12-Sep-00	1430	<1.0		5300.0	250.0	0.0	0.6
03-May-01	1715	<1.0		790.0	45.0	0.0	0.0
09-May-01	950	<1.0		1236.0	210.0	0.0	0.0
02-Jun-01	1405	<1.0		480.0	127.0	0.0	0.0
07-Jun-01	955	<1.0		1282.0	210.0	0.0	0.0
15-Jun-01	1325	<1.0		3200.0	1118.0	11.8	21.3
20-Jun-01	1020	<1.0		3700.0	182.0	0.0	0.0
26-Jun-01	1340	<1.0		770.0	260.0	0.0	0.0
02-Jul-01	1230	<1.0		2000.0		0.0	0.0
10-Jul-01	1435	<1.0		760.0	390.0	11.6	1.1
14-Jul-01	930	<1.0		460.0	230.0	0.0	1.7
20-Jul-01	1355	<1.0		1000.0	270.0	0.0	10.8
01-Aug-01	940	<1.0		1536.0	250.0	0.3	1.0
07-Aug-01	1420	<1.0		7500.0	5000.0	2.0	6.4
16-Aug-01	1140	<1.0		955.0	640.0	2.5	0.0
22-Aug-01	1345	<1.0		660.0	280.0	1.4	0.1
01-Sep-01	915	<1.0		900.0	400.0	0.0	0.0
06-Sep-01	1745	<1.0		955.0	340.0	0.7	0.0
14-Sep-01	955	<1.0		1055.0	420.0	0.6	0.3
			Mean	2183.9	1174.5		

Site 7 - Maenporth Stream B at Bareppa (81913695) - SW78090 29980

Date	Time (BST)	Total Coliform (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
03-May-01	1740	200.0	63.0	73.0	0.0	0.0
09-May-01	1030	91.0	<10.0	<10.0	0.0	0.0
14-May-01	1615	36.0	55.0	10.0	0.0	0.0
22-May-01	1005	118.0	164.0	145.0	0.0	0.0
02-Jun-01	1310	218.0	260.0	330.0	0.0	0.0
07-Jun-01	1030	320.0	280.0	450.0	0.0	0.0
15-Jun-01	1355	290.0	200.0	420.0	11.8	21.3
20-Jun-01	1100	109.0	55.0	36.0	0.0	0.0
26-Jun-01	1410	18800.0	13800.0	770.0	0.0	0.0
02-Jul-01	1200	2500.0	2200.0	250.0	0.0	0.0
10-Jul-01	1500	320.0	182.0	155.0	11.6	1.1
14-Jul-01	950	640.0	540.0	164.0	0.0	1.7
20-Jul-01	1420	540.0	450.0	91.0	0.0	10.8
01-Aug-01	1020	1227.0	1200.0	73.0	0.3	1.0
07-Aug-01	1345	540.0	200.0	81.0	2.0	6.4
16-Aug-01	1120	490.0	340.0	136.0	2.5	0.0
22-Aug-01	1405	270.0	109.0	91.0	1.4	0.1
01-Sep-01	850	400.0	360.0	136.0	0.0	0.0
06-Sep-01	1755	>20000.0	>20000.0	1055.0	0.7	0.0
14-Sep-01	1020	182.0	100.0	64.0	0.6	0.3
		Mean	2364.6	2028.2		

Table 4

Site 8 - Maenporth Stream B at tidal limit (81914880) - SW78900 29950

Date	Time (BST)	Salinity (g/kg)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Past 24hrs Rainfall (mm)	Today's Rainfall (mm)
03-May-99	1420			1630.0		0.0	0.0
08-May-99	905			490.0		0.7	4.9
26-May-99	1455			1540.0		0.0	0.0
01-Jun-99	1320			750.0		0.0	13.2
07-Jun-99	1005			5000.0		31.1	1.7
13-Jun-99	1300			2700.0		0.0	0.0
17-Jun-99	905			1040.0		0.0	0.0
23-Jun-99	1333			800.0		0.2	0.0
05-Jul-99	935			770.0		1.2	0.0
23-Jul-99	1255			3300.0		0.0	0.0
28-Jul-99	920			2100.0		0.0	0.0
04-Aug-99	1320			>20000.0		1.9	12.1
12-Aug-99	935			970.0		1.5	0.0
21-Aug-99	1300			860.0		0.1	1.0
29-Aug-99	935			1140.0		0.0	0.0
10-Sep-99	1255			410.0		0.0	0.0
16-Sep-99	905			>20000.0		23.0	3.4
04-May-00	1335			1100.0		0.0	0.0
10-May-00	910			670.0		0.0	4.0
15-May-00	1830			900.0		0.0	0.0
28-May-00	1240			1090.0		15.2	2.0
03-Jun-00	1345			390.0		0.6	0.0
09-Jun-00	933			145.0		0.6	0.0
15-Jun-00	1425			22000.0		0.0	0.0
22-Jun-00	1050			590.0		1.5	2.6
28-Jun-00	1425			1265.0		0.0	0.0
03-Jul-00	1035			1755.0		2.6	16.2
12-Jul-00	1355			360.0		0.0	0.5
18-Jul-00	1355			370.0		0.0	0.0
24-Jul-00	1350			4300.0		0.0	0.0
07-Aug-00	1350			9200.0		0.1	0.0
18-Aug-00	1000			2300.0		6.3	4.7
23-Aug-00	1420			2200.0		0.0	0.0
29-Aug-00	1050			800.0		0.4	0.0
30-Aug-00	1705			4300.0		0.0	0.0
04-Sep-00	1410			845.0		0.0	1.2
07-Sep-00	1400			3600.0		1.4	2.8
12-Sep-00	1415		5800.0	4200.0	4300.0	0.0	0.6
03-May-01	1705	<1.0	1800.0	420.0	27.0	0.0	0.0
09-May-01	1000	<1.0	670.0	270.0	27.0	0.0	0.0
02-Jun-01	1355	<1.0	4100.0	2700.0	440.0	0.0	0.0
07-Jun-01	1000	<1.0	782.0	350.0	55.0	0.0	0.0
15-Jun-01	1330	<1.0	480.0	230.0	82.0	11.8	21.3
20-Jun-01	1030	<1.0	82.0	27.0	18.0	0.0	0.0
26-Jun-01	1355	<1.0	827.0	760.0	155.0	0.0	0.0
02-Jul-01	1215	<1.0	2600.0	1282.0	210.0	0.0	0.0
10-Jul-01	1435	<1.0	230.0	230.0	109.0	11.6	1.1
14-Jul-01	945	<1.0	2500.0	580.0	480.0	0.0	1.7
20-Jul-01	1400	<1.0	780.0	340.0	45.0	0.0	10.8
01-Aug-01	1010	<1.0	1082.0	1136.0	173.0	0.3	0.0
07-Aug-01	1400	<1.0	6300.0	3200.0	1864.0	2.0	6.4
16-Aug-01	1130	<1.0	2000.0	610.0	155.0	2.5	0.0
22-Aug-01	1350	<1.0	1736.0	1300.0	1545.0	1.4	0.1
01-Sep-01	900	<1.0	580.0	610.0	200.0	0.0	0.0
06-Sep-01	1735	<1.0	1500.0	900.0	490.0	0.7	0.0
14-Sep-01	1000	<1.0	6600.0	5000.0	1127.0	0.6	0.3
		Mean	2128.9	1959.7	605.4		

Table 5

Site 9 - Maenporth Beach (81914873) - SW78980 29570

Date	Time (BST)	High Tide (BST)	Total Coliforms (No./100ml)	Faecal Coliforms (No./100ml)	Faecal Strep. (No./100ml)	Salinity (g/kg)	Past 24hrs Rainfall (mm)	Todays Rainfall (mm)
03-May-99	14:15	7.33	50.0	10.0	30.0	30.4	0.0	0.0
03-May-99	09:00	10.50	5.0	5.0	20.0	34.5	0.7	4.9
14-May-99	13:55	5.08	5.0	5.0	10.0	34.8	0.3	0.0
26-May-99	14:50	3.28	5.0	5.0	10.0	35.0	0.0	0.0
01-Jun-99	13:15	7.12	20.0	30.0	10.0	33.4	0.0	13.2
07-Jun-99	10:00	11.40	1420.0	1230.0	250.0	31.1	31.1	1.7
13-Jun-99	12:55	5.18	108.0	81.0	10.0	34.4	0.0	0.0
17-Jun-99	09:00	8.33	10.0	10.0	10.0	34.9	0.0	0.0
23-Jun-99	13:25	1.59	17.0	40.0	10.0	31.4	0.2	0.0
05-Jul-99	09:30	10.10	20.0	50.0	20.0	34.7	1.2	0.0
12-Jul-99	16:50	5.04	5.0	5.0	5.0	34.9	0.0	0.0
17-Jul-99	09:00	859.00	170.0	150.0	100.0	34.6	0.0	0.0
23-Jul-99	12:50	1.50	5.0	5.0	5.0	31.8	0.0	0.0
28-Jul-99	09:15	6.00	700.0	470.0	260.0	34.9	0.0	0.0
04-Aug-99	13:15	10.40	150.0	140.0	130.0	34.3	1.9	12.1
12-Aug-99	09:30	6.31	960.0	910.0	320.0	33.2	1.5	0.0
21-Aug-99	12:55	0.53	62.0	60.0	90.0	34.6	0.1	1.0
29-Aug-99	09:30	7.27	61.0	30.0	5.0	34.9	0.0	0.0
10-Sep-99	12:50	6.13	340.0	290.0	30.0	34.6	0.0	0.0
16-Sep-99	09:00	9.40	104.0	70.0	40.0	34.6	23.0	3.4
04-May-00	13:25	6.03	18.0	5.0	18.0	33.8	0.0	0.0
10-May-00	09:00	10.50	109.0	90.0	27.0	25.6	0.0	4.0
15-May-00	18:25	4.18	36.0	18.0	5.0	34.0	0.0	0.0
28-May-00	12:25	1.10	118.0	155.0	27.0	34.4	15.2	2.0
03-Jun-00	13:40	6.22	27.0	5.0	5.0	34.9	0.6	0.0
09-Jun-00	09:15	11.40	106.0	27.0	5.0	35.0	0.6	0.1
15-Jun-00	14:15	5.00	145.0	36.0	18.0	32.6	0.0	0.0
22-Jun-00	10:45	9.12	46.0	90.0	36.0	34.0	1.5	2.6
28-Jun-00	14:20	2.29	18.0	18.0	5.0	34.1	0.0	0.0
03-Jul-00	10:45	6.57	182.0	118.0	55.0	33.5	2.6	16.2
12-Jul-00	13:30	2.52	5.0	10.0	5.0	35.0	0.0	0.5
18-Jul-00	13:35	7.09	18.0	10.0	18.0	33.2	0.0	0.0
24-Jul-00	13:30	11.00	164.0	100.0	30.0	34.2	0.0	0.0
07-Aug-00	13:40	11.20	46.0	73.0	18.0	32.7	0.1	0.0
18-Aug-00	10:05	8.00	360.0	310.0	173.0	34.0	6.3	4.7
23-Aug-00	14:05	11.40	54.0	36.0	18.0	34.4	0.0	0.0
29-Aug-00	11:00	6.00	1409.0	2400.0	510.0	32.8	0.4	0.0
04-Sep-00	14:20	11.00	5.0	5.0	5.0	34.9	0.0	1.2
07-Sep-00	13:55	0.18	5.0	5.0	10.0	35.0	1.4	2.8
12-Sep-00	14:10	5.38	55.0	64.0	10.0	34.6	0.0	0.6
03-May-01	17:00		63.0	5.0	5.0	33.4	0.0	0.0
09-May-01	09:55	7.01	91.0	82.0	5.0	32.5	0.0	0.0
14-May-01	15:35	10.30	10.0	5.0	10.0	30.0	0.0	0.0
22-May-01	09:45	5.20	430.0	300.0	27.0	32.0	0.0	0.0
02-Jun-01	13:50	2.54	10.0	10.0	5.0	34.5	0.0	0.0
07-Jun-01	09:45	7.00	400.0	390.0	5.0	33.8	0.0	0.0
15-Jun-01	13:15	13.00	55.0	18.0	10.0	33.5	11.8	21.3
20-Jun-01	10:05	17.10	10.0	5.0	18.0	34.5	0.0	0.0
26-Jun-01	13:50	9.54	10.0	5.0	5.0	34.4	0.0	0.0
02-Jul-01	12:20	3.27	392.0	126.0	80.0	32.0	0.0	0.0
10-Jul-01	14:15	8.51	55.0	18.0	10.0	34.5	11.6	1.1
14-Jul-01	10:35	11.50	5.0	18.0	5.0	34.6	0.0	1.7
20-Jul-01	13:35	5.24	18.0	18.0	10.0	34.2	0.0	10.8
01-Aug-01	10:00	3.59	36.0	100.0	5.0	34.2	0.3	1.0
07-Aug-01	13:55	7.57	83.0	64.0	81.0	34.5	2.0	6.4
16-Aug-01	11:30	2.59	10.0	5.0	5.0	34.8	2.5	0.0
22-Aug-01	13:25	8.30	60.0	45.0	10.0	34.4	1.4	0.1
01-Sep-01	09:10	5.28	37.0	36.0	10.0	34.8	0.0	0.0
06-Sep-01	17:25	7.54	64.0	73.0	45.0	34.6	0.7	0.0
14-Sep-01	09:40	15.20	10.0	45.0	10.0	35.0	0.6	0.3
		Mean	152.2	147.1	47.1			

Map 1

Maenporth Beach catchment overview & sample points

