

DEVON AREA INTERNAL REPORT

FURTHER INVESTIGATIONS INTO PIPE DISCHARGES IN THE LOWER TEIGN ESTUARY.

MARCH 1996
DEV/E/15/96

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FURTHER INVESTIGATIONS INTO PIPE DISCHARGES IN THE LOWER TEIGN ESTUARY

1. INTRODUCTION

Since the commissioning of the Teign long sea outfall in May 1993, there has been an overall improvement in the water quality in the lower Teign, although levels are still relatively high in the lower Teign and high concentrations of faecal coliform have occurred on Shaldon beach.

The Ministry of Agriculture Fisheries and Food (MAFF) have also indicated that the shellfish from the Salty have not improved from their original 'C' classification since the commissioning of the Teign LSO.

An investigation was carried out in March 1995, into pipe discharges in the lower Teign estuary (Report DEV/E/11/95) and their possible effect on the water quality.

2. TERMS OF REFERENCE

2.1 OBJECTIVES

A request was received from Regional Tidal Waters to determine the source of the broken pipe (P4) detailed in report DEV/E/11/95, evaluate the ships waste water content and estimate the number of yachts and fishing vessels in the Teign estuary.

2.3 PROJECT TEAM

T. Cronin (Project Leader)
W. Loxton (Project Manager, author)
A. Loxton (Project Technician)

3. METHOD

1. Locate and sample any discharges in the lower Teign, and identify any that were discharging during the previous investigation.
2. Analysis of rainfall data from the rain guage at 'Den Gardens' in Teignmouth, collected during and prior to the investigation, by Devon Area Hydrometrics department.
3. Identify what the ships in the harbour area are discharging and what facilities there are for taking the waste water from the ships.
4. Contact Teignbridge District Council for an estimate of the number of yachts and fishing vessels in the Teign estuary.

ENVIRONMENT AGENCY



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4. RESULTS

4.2 INVESTIGATION RESULTS

This investigation was carried out on 05/01/96 and the sites sampled are shown on figure 1 and the results in Table 1 (Appendix I).

See Appendix II for rainfall data collected during and prior to the investigation.

5. DISCUSSION

The estuary samples above Shaldon bridge and by the mouth are not particularly high

Not all the discharges identified previously were discharging despite heavy rainfall on the day of the investigation and on the previous day.

The pipe (P4) at Ringmore was discharging with a high flow and the bacterial levels were high. This pipe has been identified as a PSEO/CSO (consent details NRA-SW-2864, King Georges field), and by the channel cut through the mud it would appear to be discharging most of the time.

There was a boil to the SE of the fish quay from a 10" cast pipe that was sampled and the bacterial levels were high. This site would need to be investigated under low river flow and on a spring tide.

It was not practical to sample the ship's waste water and the flows during the investigation were not significant to cause a problem. Teignmouth Harbour Master was contacted and he said that most ships have storage tanks on board for their waste water and that if required a tanker can come in to remove the waste water from the ships. The average crew on these ships is six persons.

Teignbridge District Council gave the total number of moorings on the Teign as 441 (1995 season) and an estimate of the number of fishing vessels and yachts where people can live on board is 100.

6. CONCLUSION

There are two discharges that could lead to high bacterial levels in the lower estuary, one above Shaldon bridge and one at the Fish quay.

The ships in the harbour should not discharge waste water and so have no effect on bacterial levels in the lower estuary.

It is believed that the numbers of people staying on board their boats overnight would be few and therefore their effect on the bacterial levels in the estuary minimal.

7. RECOMMENDATIONS

Contact needs to be made with SWWSL to confirm that the pipe located above Shaldon bridge (pipe P4) is a PSEO/CSO.

Investigate if there is a flow from pipe P4 under dry conditions.

Investigate the boil at the Fish Quay.

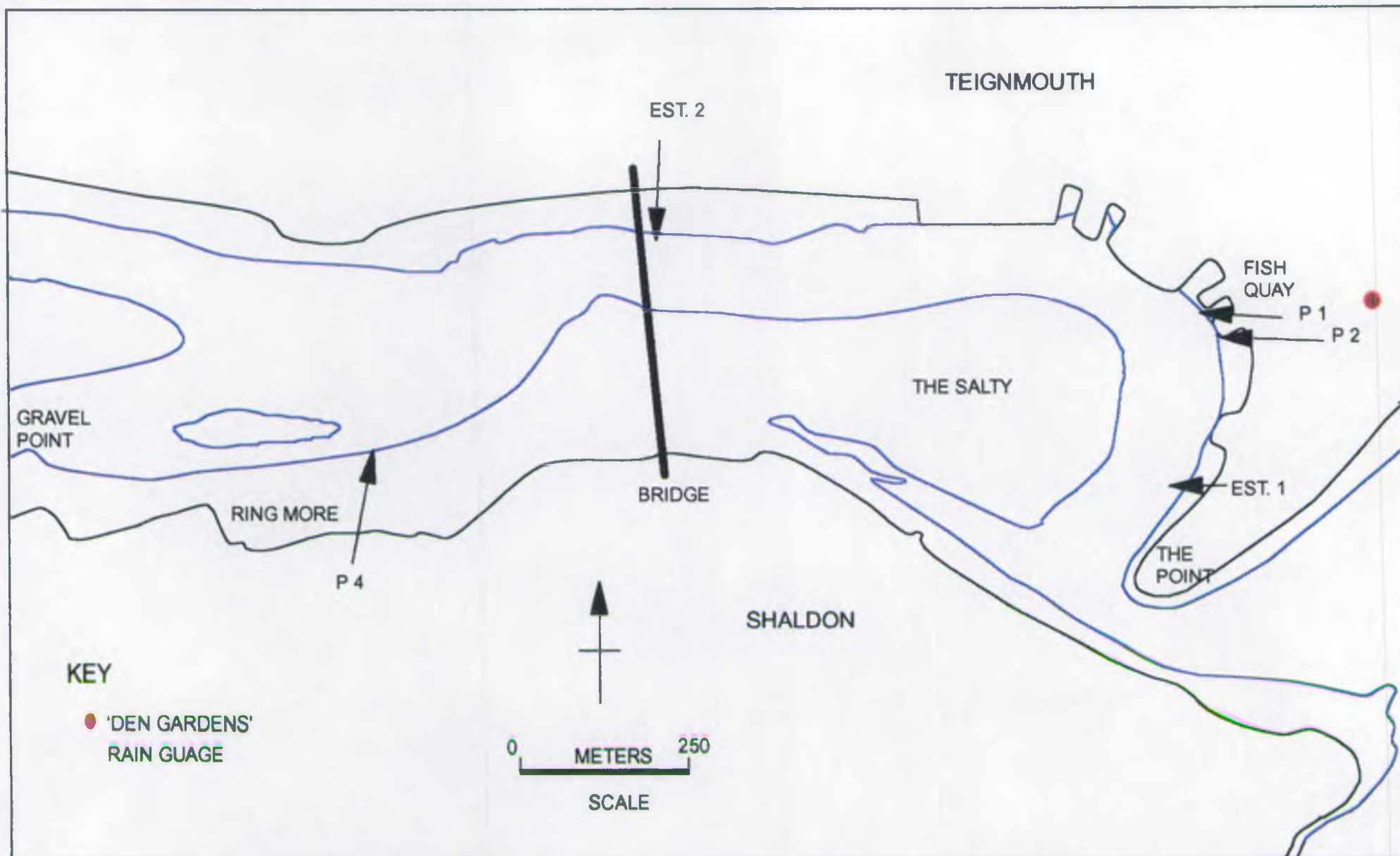


FIGURE 1: THE LOWER TEIGN ESTUARY SHOWING SAMPLING SITES

APPENDIX I

SITE	TIME	T.COLIFORM	E. COLI	F.STREPS
P1	1125	280000	64000	67000
EST. 1	1140	2900	2800	1030
EST. 2	1200	3700	2200	2300
P2	1220	210000	11000	20000
P4	1240	790000	380000	290000

SITE DESCRIPTIONS

P 1 - PIPE AT FISH QUAY

P 2 - BOIL FROM 10" CAST PIPE AT FISH QUAY

EST. 1 - ESTUARY SAMPLE TAKEN NEAR THE FERRY LANDING POINT

EST. 2 - ESTUARY SAMPLE TAKEN FROM JUST BELOW SHALDON BRIDGE

P 4 - PIPE ABOVE SHALDON BRIDGE AT RINGMORE

TABLE 1 - RESULTS OF SAMPLES TAKEN ON 05/01/96

APPENDIX II

MONTH YEAR (JAN) (1998)

DAILY RAINFALL VALUES ARE SHOWN IN MILLIMETRES.

STATION (RF360906)

DESCRIPTION TEIGNMOUTH, DEN GARDENS

NGR SX-9410-7280

NB DATA NOT FULLY QUALITY CONTROLLED

ALTITUDE 3 METRES

CATCHMENT TEIGN

MONTHLY LTA (1941-70) 93 MM

(C.YR)

1	0.0	11	12.6	21	0.0
2	0.7	12	6.3	22	0.1
3	8.7	13	8.8	23	16.2
4	11.9	14	0.9	24	11.8
5	11.8	15	0.2	25	0.0
6	6.9	16	0.0	26	0.0
7	19.8	17	0.1	27	0.0
8	12.5	18	0.3	28	0.0
9	9.8	19	0.0	29	0.0
10	7.7	20	1.6	30	0.0
				31	0.0

MONTHLY TOTAL 135.7

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