

NATIONAL RIVERS AUTHORITY
WELSH REGION
EC BATHING WATERS IMPROVEMENT STRATEGY



WELSH REGION

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EC BATHING WATERS IMPROVEMENT STRATEGY

TERMS OF REFERENCE

To review existing available information to identify remedial works required at EC designated beaches to achieve compliance by 1995.

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EC BATHING WATERS IMPROVEMENT STRATEGY

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SUMMARY

The EC Bathing Waters strategy reviews the actions required by the NRA (Welsh Region) in order to ensure compliance of designated bathing waters with the EC Bathing Waters Directive (76/160/EEC) by 1995.

A total of 10 reports listing 'Uses, Environmental Quality Objectives and Standards' needs to be completed as a prerequisite to setting discharge consent standards, and 17 discharge consents have to be determined in respect of Dwr Cymru - Welsh Water discharges. With a further two investigations required to determine the appropriate action

In addition, 9 further investigations or actions will need to be completed to deal with problems such as farm pollution or private discharges which could result in non-compliance with the Directive.

Summary details of all the actions required are presented in Tables 1 and 2 of this report.

EC BATHING WATERS IMPROVEMENT STRATEGY

1.0 INTRODUCTION

In the Welsh Region, sewage treatment and disposal services are provided to an equivalent population of 2.6 million. About 50% of the sewage from this population is treated at sewage treatment works and the remaining 50% has limited treatment prior to discharge through 140 outfalls situated along the 1300 km-long coastline. The effluent from these outfalls and other discharges impacts upon the surrounding bathing waters resulting in certain instances of non-compliance with the standards of the EC Bathing Waters Directive (76/160/EEC), for those waters designated under this directive.

The strategy outlined in this report reviews existing information relating to EC Bathing Water compliance and presents the action required in order to ensure compliance by 1995. The reports reviewed in preparing this strategy are listed for reference in Appendix 1.

The strategy will enable the NRA (Welsh Region) to positively manage the required improvements through a consenting programme and to monitor the progress of the construction of capital works and other measures. A later phase of this initiative will address those beaches not currently designated under the EC Directive.

2.0 BATHING WATERS

The Welsh Region has 50 EC designated bathing waters of which 42 complied with the Directive in 1989. The location of these designated bathing waters is shown in Figure 1.

Capital works to be undertaken by Dwr Cymru-Welsh Water, have been identified which will give compliance at the eight non-compliant waters together with an additional 26 waters which are considered to be at risk of non-compliance. Investigations have to be undertaken to determine the appropriate action for a further two bathing waters

Schemes covering all non-compliant or potentially non-compliant waters are scheduled for completion by 1995. However, 45% of the programme is still at the conceptual stage and it is possible that the schedule for some schemes will be delayed, with 1997 being a more realistic overall completion/compliance date.(Reference 8).

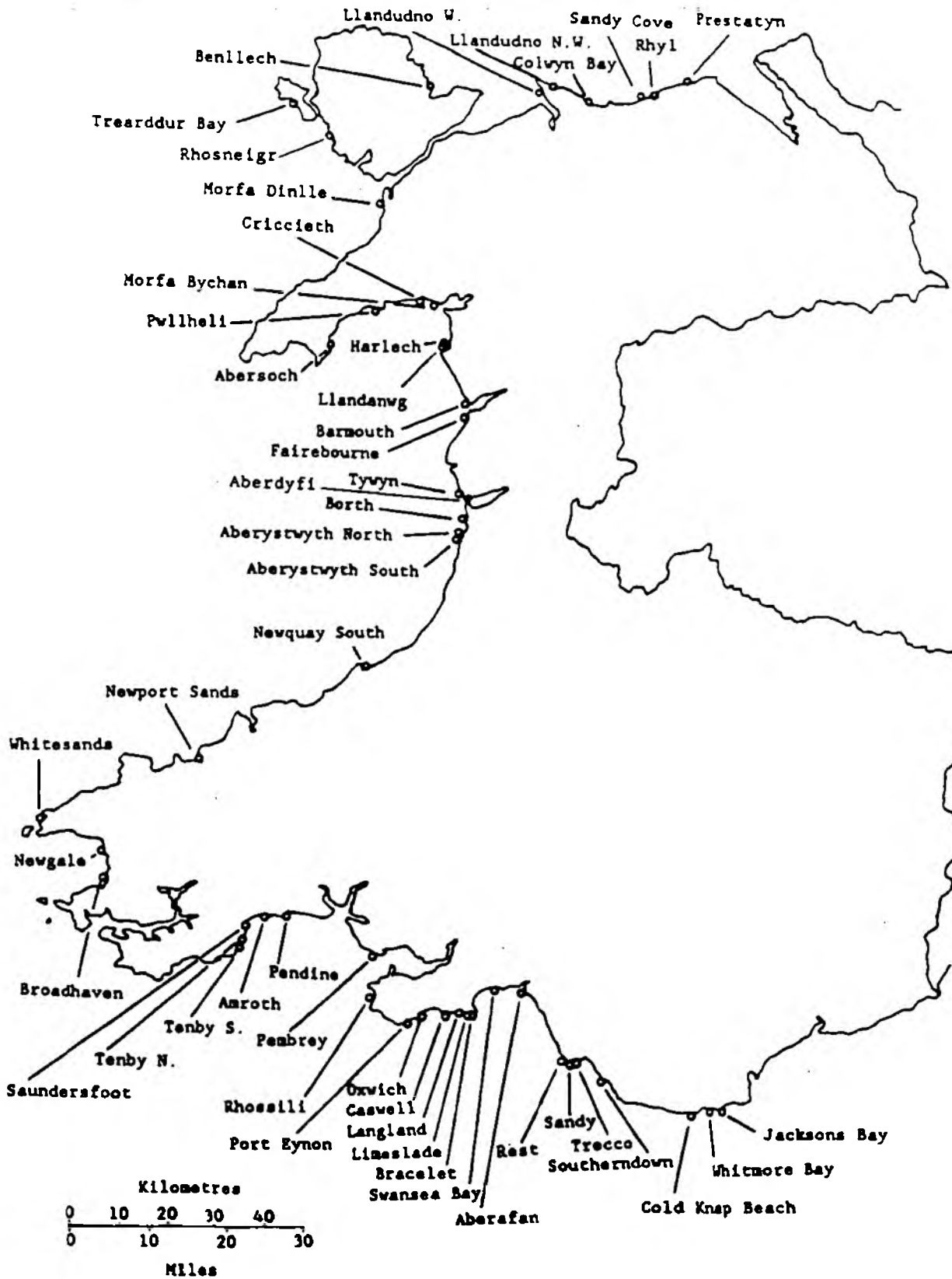


Figure 1

LOCATION OF "DESIGNATED" BATHING WATERS AROUND WALES

3.0 COMPLIANCE

The EC Bathing Waters Directive (76/160/EEC) gives a list of parameters for compliance. For some of these it sets a mandatory value, for some it sets a guide value, for some it sets both a mandatory and a guide value, and for some it sets no value. It also lays down minimum sampling frequencies and provides rules for assessing compliance with the required values. In the United Kingdom the compliance is usually reported in summary form on the basis of the mandatory *Escherichia Coli* and total coliform standards only, and this has been taken as the standard by which compliance is assessed for this report.

The main source of coliforms is sewage discharged into inshore waters from short sewage outfalls or from storm overflows. However, the reasons for a bathing water failing to comply with the mandatory coliform standard may include other sources of coliforms such as discharges to rivers and estuaries, agricultural and urban run-off and bird pollution.

4.0 STRATEGIC APPROACH

4.1 The approach taken in this strategy is summarised as follows :

- (i) To specify the bathing waters affected by Dwr Cymru-Welsh Water discharges and to formalise a consenting programme to ensure compliance by 1995.
- (ii) To specify other causes which affect bathing waters in order to programme investigations and remedial works and to formalise a similar consenting programme to ensure compliance by 1995.

The above programme will then enable progress to be monitored towards overall compliance by 1995.

4.2 The order in which schemes have been progressed in the past has largely been determined by competing demands for available finance. The NRA however will require environmental considerations to be taken into account more positively and this together with the current status of an individual scheme (eg construction may be imminent or even in progress) has dictated the proposed priorities. The priority attached to any particular scheme in this strategy can then be used to assess the implications of any slippage in the programme. It is possible that prioritisation may be further affected in the future, following interpretation of the North Sea Conference Declaration and the statement by the Minister relating to the provision of primary and secondary treatment for discharges to coastal, estuarine and territorial waters.

5.0 ACTION REPORTS

5.1 Two Action Reports are given as Tables 1 and 2 which set out the various actions required by the NRA in order to ensure compliance with the Directive by 1995. A glossary of terms to explain key headings is given in the following section. The tables summarise important information relating to past bathing water compliance performance, priority ranking of schemes, expected date of compliance and responsibility for the various actions required. A summary of the overall position is also presented in Section 6.

The Action Reports cover the following waters:

Table 1 **Bathing Waters affected by Dwr Cymru-Welsh Water Discharges**

Table 2 **Bathing Waters affected by Other Causes**

6.0 ACTION SUMMARY

6.1 Actions required in respect of Dwr Cymru-Welsh Water discharges.

6.1.1 The action required by the Environmental Appraisal Unit to ensure compliance with the Directive by 1995 in respect of Dwr Cymru - Welsh Water discharges, is to complete reports listing 'Uses, Environmental Quality Objectives and Standards' for the following 10 bathing waters:

SW Division	N Division
Amroth	Fairbourne
Broadhaven	Criccieth
Newgale	Pwllheli
Aberystwyth South	Treaddur Bay
	Benlech
	Colwyn Bay

6.1.2 In addition the Environment and Quality Department will be required to enter into technical consultations with the Environmental Appraisal Unit and the discharger, in order to set discharge consent conditions, as outlined in section 6.1.4 below.

6.1.3 The Environmental Appraisal Unit will also need to determine the required action to ensure compliance at Rhosneigr. This action will then have to be implemented.

6.1.4 The action required by the Environment and Quality Department to ensure compliance with the Directive by 1995 (in respect of Dwr Cymru-Welsh Water discharges) is to issue new consents in accordance with the standards established in 6.1.1. and 6.1.3 above, following technical consultations with the discharger for discharges affecting the following bathing waters:-:

SE Division	SW Division	N Division
Jacksons Bay	Aberafan	Tywyn
Whitmore Bay	Swansea Bay	Aberdyfi
Cold Knap	Bracelet Bay	Fairbourne
	Limeslade Bay	Criccieth
	Langland Bay	Pwllheli
	Caswell Bay	Rhosneigr
	Oxwich Bay	Treaddur Bay
	Amroth	Benlech
	Saundersfoot	Llandudno West
	Tenby North	Colwyn Bay
	Broadhaven	Sandy Cove
	Newgale	Rhyl
	Aberystwyth South	

6.2 **Actions required in respect of other potential causes of non compliance**

6.2.1 The actions required by the Environmental Appraisal Unit in respect of this group of waters is presented in Table 2 and requires investigations to be carried out to ascertain stream water quality and other potential causes of non-compliance, as specified in the table, for the following waters:

SW Division

Southerndown
Amroth
Newgale
Newport Sands

N Division

Morfa Bychan

6.2.2 The actions to be undertaken by the Environment and Quality Department are also presented in Table 2 and require the specified actions in respect of the following waters:

SE Division

Jacksons Bay

SW Division

Saundersfoot
Newgale

6.2.3 The various actions detailed in this strategy will need to be programmed by the individual Departments concerned in accordance with the priorities and timescales identified and within the overall objective of achieving compliance by 1995. The Strategic Planning Department will maintain an overview of the overall position and report on progress.

September 1990

GLOSSARY OF TERMS

The Glossary of Terms refers to the terms and abbreviations used in the Action Reports, Tables 1 and 2.

Performance (P/F)	P Pass. F Fail.
Type of works	LSO Long sea outfall. STW Sewage treatment works. SSO Storm sewer overflow. PS Pumping station.
Scheme No.	See Appendix 2.
Expected date of compliance	As at December 1989.
Priority	H High. M Medium L Low
Division	SE Southeast. SW Southwest. N Northern.
Department	EAU Environmental Appraisal Unit. E&Q Environment and Quality.

TABLE 1. E.C. BATHING WATERS IMPROVEMENT STRATEGY - ACTION REPORT

BATHING WATERS AFFECTED BY DWR CYMRU - WELSH WATER DISCHARGES

0 Scheme Status (1=Identified,2=Conceptual,3=Feasibility,4=Detailed design and 5=Construction)

BATHING WATER	DIVISION	USEAGE (High, Med,Low)	PERFORMANCE (P/F)				TYPE OF WORKS:-				SCHEME No. See App. 2	SCHEME STATUS (1-50)	EXPECTED DATE OF COMPLIANCE	USES,EOO. EQS REPORT REQUIRED ACTION: EAU	USES,EOO. EQS REPORT COMPLETED	NEW CONSENT REQUIRED ACTION: EBO	PRIORITY
			1986	1987	1988	1989	LSO	STM	SSO	PS							
Jacksons Bay	SE	H	F	F	F	F	Y	Y	1	2	1995	YES	YES	YES	H		
Whitlure Bay	SE	H	F	F	F	F	Y	Y	1	2	1995	YES	YES	YES	H		
Cold Knop	SE	H	F	F	F	P	Y	Y	1	2	1995	YES	YES	YES	H		
Southerndown	SW	H	F	P	F	P		Y	2	5	1990				COMPLETE		
Trecco Bay	SW	H	F	F	P	F		Y	3	5	1991				IN CONSTRUCTION		
Sandy Bay	SW	H	F	F	F	P		Y	3	5	1991				IN CONSTRUCTION		
Rest Bay	SW	H	F	P	P	P		Y	3	5	1991				IN CONSTRUCTION		
Aberafan	SW	H	F	P	P	P	Y	Y	4	4	1995	YES	YES	YES	H		
Swansea Bay	SW	H	F	F	F	P	Y	Y	5	2	1995	YES	YES	YES	H		
Bracelet Bay	SW	H	P	P	P	P	Y	Y	5	2	1995	YES	YES	YES	H		
Lineslade Bay	SW	H	F	F	P	F	Y	Y	5	2	1995	YES	YES	YES	H		
Laneland Bay	SW	H	F	P	P	F	Y	Y	5	2	1995	YES	YES	YES	H		
Caswell Bay	SW	H	P	F	P	P	Y	Y	5	2	1995	YES	YES	YES	H		
Oswich Bay	SW	H	P	P	P	P	Y	Y	5	2	1995	YES	YES	YES	H		
Rossili	SW	H	F	P	P	P		Y	6	5	1990				COMPLETE		
Amroth	SW	H	F	F	P	P		Y	7	3	1995	YES		YES	H		
Saundersfoot	SW	H	P	F	P	P	Y	Y	Y	Y	8	2	1995	YES	YES	YES	H

TABLE 1 (Continued)

E.C. BATHING WATERS IMPROVEMENT STRATEGY - ACTION REPORT

BATHING WATERS AFFECTED BY DNR CYMRU - WELSH WATER DISCHARGES

0 Scheme Status (1=Identified,2=Conceptual,3=Feasibility,4=Detailed design and 5=Construction)

BATHING WATER	DIVISION	USEAGE (High, Med,Low)	PERFORMANCE (P/F)				TYPE OF WORKS:-				SCHEME No. See App. 2	SCHEME STATUS (1-5)	EXPECTED DATE OF COMPLIANCE	USES.E00, E05 REPORT REQUIRED ACTION: EAU	USES.E00, E05 REPORT COMPLETED	NEW CONSENT REQUIRED ACTION: E60	PRIORITY
			1986	1987	1988	1989	LSO	STM	SSO	PS							
Tenby North	SW	H	P	F	F	P		Y		9	3	1992			YES	H	
Broadhaven	SW	H	F	P	P	P		Y		10	2	1995	YES		YES	H	
Newgale	SW	H	F	P	P	P		Y		10	2	1995	YES		YES	H	
Aberystwyth Sth.	SW	H	F	F	P	P		Y	Y	11	3	1993	YES		YES	H	
Llywyn	N	H	F	P	P	P		Y		12	3	1994	YES	YES	YES	H	
Aberdafi	N	H	F	F	F	P		Y		12	3	1994	YES	YES	YES	H	
Fairbourne	N	H	P	P	P	P		Y		13	3	1994	YES		YES	H	
Barnouth	N	H	P	P	P	P		Y		14	5	1989				COMPLETE	
Llandanog	N	H	P	P	P	P		Y		15	3	1995	Possible future requirement			L	
Harlech	N	H	P	P	P	P		Y		16	3	1994	Possible future requirement			L	
Crocieth	N	H	P	F	P	P		Y		17	3	1995	YES		YES	H	
Pollheli	N	H	P	P	P	P		Y		18	3	1995	YES		YES	H	
Rhosneigr	N	H	P	P	F	P		Investigation Required by EAU to determine appropriate action							H		
Benllech	N	H	P	F	P	P		Y	Y	19	2	1992	YES		YES	H	
Trearddur Bay	N	H	P	F	P	P		Y		20	4	1995	YES		YES	H	
Llandudno West	N	H	F	F	F	F		Y	Y	21	5	1993			YES	IN CONSTRUCTION	

TABLE 1 (Continued) E.C. BATHING WATERS IMPROVEMENT STRATEGY - ACTION REPORT

BATHING WATERS AFFECTED BY DWR CYMRU - WELSH WATER DISCHARGES

* Scheme Status (1=Identified,2=Conceptual,3=Feasibility,4=Detailed design and 5=Construction)

BATHING WATER	DIVISION	USEAGE (High, Med,Low)	PERFORMANCE (P/F)				TYPE OF WORKS:-				SCHEME No. See App. 2	SCHEME STATUS (1-5)	EXPECTED DATE OF COMPLIANCE	USES,EQO, EOS REPORT REQUIRED ACTION: EAU	USES,EQO, EOS REPORT COMPLETED	NEW CONSENT REQUIRED ACTION: EQO	PRIORITY
			1986	1987	1988	1989	LSO	STW	SSO	PS							
Colwyn Bay	N	H	P	P	P	P	Y	Y		22	3	1995	YES		YES	L	
Sandy Cove	N	H	F	F	F	F	Y			23	4	1994	YES	YES	YES	H	
Rhyl	N	H	F	F	F	F	Y			23	4	1994	YES	YES	YES	H	

TABLE 2 E.C. BATHING WATERS IMPROVEMENT STRATEGY - ACTION REPORT

BATHING WATERS AFFECTED BY OTHER CAUSES

BATHING WATER	DIVISION	USEAGE (High, Med, Low)	PERFORMANCE (P/F) 1986 1987 1988 1989				DESCRIPTION OF POTENTIAL PROBLEM	EXPECTED DATE OF COMPLIANCE	INVESTIGATION REQUIRED	DEPARTMENT	PRIORITY
Jacksons Bay	SE	H	F	F	F	F	Toilet facilities on beach.	1995	Toilets to be relocated.	E&O	H
Southerndown	SM	H	F	P	F	P	Stream across beach with unknown water quality.	1990	Investigate water quality.	EAU	H
Rossili	SW	H	F	P	P	P	Pony droppings accumulating on beach on spring tides.	1990	Problem cannot be resolved.		
Peabrey	SW	H	P	P	P	P	Pony droppings accumulating on beach on spring tides.	1990	Problem cannot be resolved.		
Saundersfoot	SM	H	P	F	P	P	Dog fouling on beach.	1995	Investigate need for bylan.	E&O	M
Auroth	SM	H	F	F	P	P	Colby, Castle and New Inn streams are potential causes of failure.	1995	Investigate water quality.	EAU	L
Newgale	SW	H	F	P	P	P	Sewage contamination from caravan site and pollution from farm runoff.	1995	Connect site to mains sewerage. Investigate sources of pollution.	E&O EAU	L
Newport Sands	SM	H	P	P	P	P	R;Nevern dairy catchment. causing farm pollution.	1990	Investigate sources of pollution.	EAU	L
2 Morfa Bychan	N	H	F	F	P	P	Streams contaminated by	1990	Investigate requirement	EAU	H

Abersoch N H Streams nearby Investigation EAU M

APPENDIX 1

LIST OF RELEVANT DOCUMENTS FOR BATHING WATERS STRATEGY GROUP

1. Development Plan for Tidal Discharges (N Strategy) (Parr 1986)
2. Sewage Disposal Strategy for Tidal Waters: South West Division (TW/88/2)
3. Beaches, Bathing Waters in S W Division (TW/88/4)
4. A list of tidal waters discharges
5. Draft proposals for a uniform scheme of monitoring of Bathing Waters within the National Rivers Authority.
6. The effects of sewage and other effluent discharges to the coastal environment of Wales.
7. Welsh Water Authority "definitive list" of capital works schemes (1.7.88)
8. Water Authorities in England and Wales report on Bathing water compliance programme. Report by Binnies for DOE. Dated December 1989.

APPENDIX 2

WELSH WATER CAPITAL WORKS

There are a total of 23 schemes in Welsh Water plc's programme to give compliance at the eight non-compliant and 26 at-risk waters. The schemes are as follows:

**Scheme
Number**

1. **Barry regional, Cardiff** (three waters) - storm relief and sewerage reconstruction, provision of preliminary treatment (screenings) and a new long sea outfall are programmed for completion in 1994/95
2. **Penybont** sludge disposal - this scheme, to be completed in 1989/90, is expected to give the marginal improvements needed for compliance at Southerndown.
3. **Porthcawl** (three waters) - interception of two low water discharges and their transfer to Penybont sewage treatment works. This work is under construction and is scheduled for completion in 1990/91.
4. **Neath Valley** - interception of crude sewage flows in the Neath Valley, with preliminary treatment prior to discharge through a 3.1km long sea outfall. Detailed design is in progress for this scheme, which is programmed for completion in 1994/95 to give compliance at Aberafon.
5. **Swansea regional** (six waters) - currently based on the concept of interceptor sewers and a long sea outfall, subject to the outcome of a feasibility study. This work is programmed for completion in 1994/95.
6. **Llangenith** - refurbishment of sewers and pumping stations currently is in progress and is expected to give the required improvements at Rhossili by 1990.
7. **Amroth** - a scheme for interception of discharges to three streams with treatment before discharge to one of the streams, was completed in 1988. The discharge requires disinfection to give compliance and the work is currently programmed for 1994/95.
8. **Saundersfoot** - replacement of the outfall, which currently discharges primary treated effluent to low water, is programmed for completion by 1991/92.*
9. **Tenby lifeboat** - improvements to the pumping station and the storm sewage overflow, together with the recently completed Tenby long sea outfall, are expected to give the necessary improvements at Tenby North by 1991/92.
10. **Broadhaven and Newgale** - disinfection of storm water overflows and other discharges to give compliance, is currently programmed for 1995.

* This includes improvements to the sewerage system to eliminate frequent discharges to the stream feeding the harbour.

11. **Aberystwyth** - construction of sewers and pumping stations with preliminary treatment of flows before discharge through a long sea outfall. A feasibility study has been completed and the work is scheduled for completion in 1992/93.
12. **Twyn** (two waters) - replacement of a short outfall discharging above low water by a new long sea outfall, preceded by preliminary treatment. A feasibility study has been completed, and the work is scheduled for completion in 1993/94.
13. **Fairbourne** - replacement of the existing outfall to ensure consistent compliance by 1994.
14. **Barmouth** - a new long sea outfall has recently been installed.
15. **Llandanwg** - replacement of the existing outfall which discharges primary treated effluent to low water. Compliance has been achieved over the last three years but the discharge is visible, and the primary purpose of this scheme is to overcome the aesthetic problems of a visible slick by 1994/95.
16. **Harlech** - construction of a new headworks for preliminary treatment before outfall discharge, together with disinfection to give compliance by 1995.
17. **Criccieth** - replacement of two unsatisfactory outfalls by a new long sea outfall, with preliminary treatment. A feasibility study has been completed, and the work is scheduled for completion by 1994/95.
18. **Pwllheli** - replacement of the unsatisfactory outfall. Current proposals may be affected by marina development. 87% of the expenditure is scheduled for 1994/95 and any delay will prejudice compliance programmed for 1995.
19. **Treaddur Bay** - detailed design is in progress for the provision of new outfall headworks for preliminary treatment and disinfection of discharges, which is scheduled for completion by 1991.
20. **Benllech** - the scheme is currently based on the concept of a new long sea outfall, which is scheduled for completion in 1994/95.
21. **Llandudno** - Phase 1a of the regional scheme is currently in progress with the construction of a new long sea outfall with preliminary treatment. Phase 1b requires interception of sewage flows and transfer to the new LSO, and is scheduled for completion by 1992/93.
22. **Colwyn Bay** - extension of the outfall, with disinfection to ensure compliance by 1995.
23. **Rhyl** - detailed design is in progress for a new long sea outfall and headworks for preliminary treatment. The work is scheduled for completion in 1993/94.