

Report of the  
MILFORD HAVEN  
ENVIRONMENTAL MONITORING  
STEERING GROUP

December 1992



# CONTENTS

	<b>Page No.</b>
1. INTRODUCTION	1
2. TERMS OF REFERENCE	1
3. REVIEW STUDY	2
4. SPECIFIC FINDINGS	2
5. CONCLUSIONS AND RECOMMENDATIONS	3
6. FUTURE STRUCTURES	3
7. THE SOTEAG MODEL	4
8. ALTERNATIVE STRUCTURES	4
9. ROLES AND REMITS	4
10. FINAL CONCLUSIONS AND RECOMMENDATIONS	5
APPENDIX 1	"FINANCIAL SUMMARY"
APPENDIX 2	"PROGRAMME OF WORK"

## **1. INTRODUCTION**

1.1 In September 1991 a conference was organised by Dyfed County Council to examine the issue of pollution as it effected the Milford Haven Waterway, following developments in the area and increasing interest in the subject. The aim of the conference was to broaden the understanding of those organisations involved around the Waterway about the range of issues that were involved, and to achieve a greater awareness and understanding of the roles of the various agencies associated with aspects of pollution control. Papers were presented on the subjects of water quality, impacts on the natural environment, monitoring, and the prevention of pollution. The conference was attended by a substantial number of delegates representing all walks of life in the area and a report of proceedings were subsequently published by the Civil Protection Planning Unit on behalf of Dyfed County Council.

1.2 At a subsequent meeting in December of that year Officers representing the lead organisations decided to establish a small Steering Group of Officers of the various agencies and authorities with an interest in the Milford Haven Waterway, to examine, assess and report on the need for increased environmental monitoring of the Waterway. The Working Party was chaired by the Pembrokeshire Coast National Park Officer and included representatives of Dyfed County Council, Preseli and South Pembrokeshire District Council, the Countryside Council for Wales, the National Rivers Authority, Welsh Water, the oil companies operating around the Haven (Elf, Gulf and Texaco) and the Field Studies Council Research Centre at Fort Popton. Membership was subsequently extended to include representatives from the Milford Haven Port Authority, the Milford Haven Port Health Authority and National Power (representing the Pembroke Power Station).

1.3 The formation of the Steering Group, the accord over purposes and funding, and the production of a joint final report should not be under-estimated as a major achievement in itself, in terms of a co-operative approach to problem solving, albeit at a technical level. In this respect Milford Haven is very much a trail-blazer in this field, and an example for others to follow. It also augurs well for future, continued co-operation - certainly at a scientific and technical level - and represents a good foundation on which to build.

## **2. TERMS OF REFERENCE**

2.1 The terms of reference established for the Steering Group were to consider:-

2.1.1 the extent of existing monitoring and whether there is a need for additional work in this respect;

2.1.2 how the data derived from the existing monitoring, and any proposed additional monitoring exercises, can best be collated and interpreted;

2.1.3 how advice based on the data obtained can be formulated and presented in a manner which will enable the agencies with statutory responsibility for activities centred on the Waterway to produce co-ordinated plans for the management of the Haven;

2.1.4 the estimated cost of any additional monitoring or new administrative arrangements, with suggestions as to how these costs should be met; and

2.1.5 a consideration of future organisational structures that might be appropriate for co-ordinating and continuing any on-going research and monitoring work in the Haven.

### **3. REVIEW STUDY**

3.1 At the outset of their deliberations, the Group identified their first task as "the initial review of data and information availability", and concluded that the first priority, and their main remit, was a data appraisal and scientific assessment exercise, although the question of addressing Waterway user and management issues might arise in considering the final conclusions and recommendations. Indeed the achievement of such a task in its own right would provide an extremely valuable document for the future.

3.2 After clarifying the brief, composition and objectives of the Group, consideration was given to the terms of reference of the data base review study itself, and the FSC Research Centre at Fort Popton was asked to prepare a quotation for the work involved. At this stage each representative was asked to report back to his/her parent organisation on the proposed direction which the Steering Group were intending to take, in order to confirm agreement in principle, and to identify and commit the necessary financial backing for the review and the on-going project and monitoring work of the Group.

3.3 Agreement was subsequently reached by all parties, and financial allocations were made available by nearly all the organisations represented on the Group (a financial summary is attached under Appendix 1). The Review Study was then commissioned, an Executive Summary of which is attached to this report. A copy of the full Review is available from the FSC Research Centre at Fort Popton priced £25. A database was also produced in conjunction with the preparation of the Report, details of the costs of which are also available from the same source. The resultant study document has listed over 400 information sources, and involved detailed questionnaires and meetings with over 40 organisations. The Review has demonstrated the amount of data that is available on the Haven, which was considerably more than originally anticipated. Despite the immense amount of work that has been carried out over the past 25 years or so however no strategic plan has emerged, and indeed there has been a significant reduction in environmental monitoring activity since the early 1980s, which has produced a major gap in the available data base material.

### **4. SPECIFIC FINDINGS**

4.1 The Review demonstrated the need to update and extend knowledge in these key areas, these may be summarised as follows:-

- 4.1.1 the physical and chemical environment;
- i. There is a need to reconcile hydrographic and meteorological data.
  - ii. Accurate information is only available for those industrial discharges which had been monitored for consent compliance purposes.
  - iii. Inputs from several sources (including rainfall, road run-off and recreational activities) remains unquantified.
  - iv. Pollutants from historical uses of the estuary (sewage, coal mining, defence activities, etc) remain locked up in sediments.
  - v. There appears to have been no analysis or interpretation of pesticide residue information.
  - vi. No comprehensive mapping of sediments has been carried out since 1984.
  - vi. Finally, there has been a lack of routine water chemistry and monitoring in the Waterway.

- 4.1.2 the biological environment;
- i. there have been relatively few studies of sandy and shingle environments;
  - ii. information on the inter-tidal occurrence of terrestrial invertebrates is also scarce;
  - iii. all biological monitoring in the Haven (except for waterfowl) has lapsed, the last full survey of rocky shores was in 1982, and the last sub-littoral survey in 1984;
  - iv. autecological studies of selected rocky shore animals carried out up to the 1980s have also lapsed;
  - v. the flora and fauna of the water column also appear to have been neglected in recent years.

## **5. CONCLUSIONS AND RECOMMENDATIONS ON THE NEED FOR FURTHER ENVIRONMENTAL MONITORING**

5.1 The recommendations for further work ranked in priority order, are set out in Appendix 2. Although the main conclusion is one of good current environmental quality of the Waterway in the main, gaps do exist in the state of our knowledge, and there is no guarantee that the relatively healthy biological communities recorded in the past still exist today and certainly no guarantee that they will continue through any significant present and future changes made in the way we use the Haven.

5.2 In order to address these questions, the top priority for further work that has been identified by the Group involves categorising sediments, work on sediment sinks, and work on water chemistry: all three of which could be undertaken using the same sites. The work will be expensive, and would need to be phased over a three year period at a cost of between £50 - £80,000 a year. The programme would involve routine sediment and water chemistry sampling work, and a specific three year project on sediment sinks. The detailed work programme, with estimates of cost and other resource implications, is given under Appendix 2. Some preliminary work can be commenced immediately, utilising funds already available to the Group.

## **6. FUTURE STRUCTURES: RECOMMENDATIONS AND CONCLUSIONS**

6.1. Returning to the original terms of reference set out for the Group, Members addressed the outstanding questions of:

- 6.1.1 how to produce co-ordinated and comprehensive plans and programmes for the future monitoring and management of the Haven, and
- 6.1.2 what new administrative arrangements should be established to ensure that this takes place, and how should they be financed.

6.2 These questions raise fundamental issues of how the work is to be undertaken, and how co-ordination is to be secured - in other words:

- 6.2.1 Whether some form of on-going co-ordinating body should be maintained or whether it should be left to each individual organisation to act within its particular sphere of responsibility, and, what should be the role and remit of any new/ on-going body established to undertake this work?
- 6.2.2 Who should administer the regular monitoring which the Group feels is necessary in the future if the required knowledge is to be made available to interested

organisations sufficient to enable them to discharge their responsibilities with due regard to their environmental implications?

6.2.3 Should the administration of what is mainly a technical, scientific programme of work be separated from the financing of such work, and a consideration of management and development issues for the Haven as a whole?

6.2.4 What should be the appropriate constitutional arrangements governing the work of any Group?

## **7. THE 'SOTEAG' (Shetland Oil Terminal Environmental Advisory Group) MODEL**

7.1 Considerable Member interest was expressed at the original September 1991 seminar in the SOTEAG model as operating in the Shetlands under the auspices of the Sullom Voe Association, which collects dues and comprises representation from local authorities and independent organisations on a 50/50 basis, so separating the funding element from the work of the technical advisory group. The conditions in the Milford Haven Waterway are however much more complex, and there are more conflicting issues e.g. recreation, commercial shipping, etc. It may not be possible - either practically or politically - to reproduce the SOTEAG model in the Pembrokeshire situation, as this reflects the very unusual circumstances in the Shetlands, and it would not be appropriate for it to be imported and applied in the very different circumstances prevailing locally.

## **8. ALTERNATIVE STRUCTURES**

8.1 The Steering Group are firmly of the opinion that a continuation in some form of a technical advisory body, at Officer level, to oversee and co-ordinate on-going environmental monitoring programmes is essential. Such a Group - and programme - would require agreement on funding and administrative support for its work. The question arises as to whether this can be achieved without the need to establish any separate governing body to direct the work of the Group, or whether - as at present - this can be achieved by regular reporting by representatives on the Group to their parent organisations, with reference back for decisions on matters of principle and finance, with occasional but regular seminars and briefing meetings on particular issues, and with one organisation taking overall administrative responsibility for the work of the group. This latter scenario might be most appropriate for the Milford Haven Waterway at the present time.

## **9. ROLES AND REMITS**

9.1 There has been a perhaps surprising (in terms of past experience) unanimous support for the work of the Group from a wide range of different organisations, from commercial operators through local authorities to regulatory organisations. This is largely because it has confined itself to date with technical and scientific work of a factual nature, and has in essence been seen as a specific project, rather than an on-going exercise leading to a need for commitment over a wide range of fields of scientific activity over a period of time. It is undoubtedly the case that there would be a continuing commitment to specific on-going project work of an essentially technical and scientific nature. There may be occasions where the detailed nature of the programme might impinge upon the statutory responsibilities of constituent organisations, but to date this problem has been overcome through compromise, flexibility and common-sense. In addition, the voluntary sector has been consulted at the questionnaire stage, and has also contributed to the data collection and review exercise.

9.2 An extension of the role of any future co-ordinating Group into economic development and management areas would undoubtedly pose questions of duplication of work and responsibilities, political, public accountability and policy considerations, commercial sensitivities and the issue of confidentiality of information. Concerns were also expressed from several representatives at the implications of a wider remit, which raised different issues, and it was felt more appropriate to build on the sense of co-operation exhibited by the organisations represented on the Group. No one organisation can operate in isolation from the activities and impact of others, and the Haven has to be treated in a holistic manner. Indeed this is one of the main lessons from the Review Study : the environment of the Waterway is the same for all those who use it or who have an interest in it, and the actions of one can affect that environment and therefore the interests of all others.

## **10. FINAL CONCLUSIONS AND RECOMMENDATIONS**

10.1 As an immediate priority, an urgent programme of work, aimed at filling the identified gaps in our knowledge, and updating the data currently available, should be initiated as specified in paragraph 5.2 and Appendix 2 to this report. Some of this work will then form part of a regular and continuous programme of environmental monitoring of the state of the overall environment of the Milford Haven Waterway. It is also essential that such an on-going programme is established and maintained in order to provide proper co-ordination, a basis for policy formulation, and for taking individual development decisions.

10.2 In order to ensure the proper implementation of such a programme, the existing technical officer Steering Group should be established on a permanent basis, representing, as it does, the main organisations having a direct interest in the Waterway, with appropriate funding and administrative support arrangements.

Finally, as it's "Mission Statement" the Group hopes that, as a result of it's work, the maintenance and enhancement of a rich and diverse marine environment within the Milford Haven Waterway will be recognised by all those organisations operating on the Haven as a key element in their environmental policy objectives. In this respect, the primacy of sustaining the rich and diverse marine environment of the Milford Haven Waterway should be established and agreed as a responsibility for all those organisations operating in the Haven.

7th December, 1992

# APPENDIX 1

## MILFORD HAVEN WATERWAY ENVIRONMENTAL MONITORING FUND

### Contributions for '92/93:

ORGANISATION	CONTRIBUTION £
Countryside Council for Wales	7,500 (2,500 paid. March '92)
Preseli Pembrokeshire DC	2,500
Welsh Water	2,500
National Power	1,000 *
South Pembrokeshire DC	2,500
Pembrokeshire Coast National Park	2,500
Elf	1,000 *
Gulf	1,000 *
Texaco	1,000 *
NRA	2,000 (plus £3,000 of analysis supplied at cost)
DCC	10,000
<b>TOTAL</b>	<b>£33,500      (£36,500)</b>

\* Initial contribution to production of report

December, 1992





Recommendation	Priority	April	April	April	April	April	April	April
		92/93	93/94	94/95	95/96	96/97	97/98	98/99
7 Sink areas of sediment accretion; a radionuclide dating study of sediment cores	1							----->
8 Wildfowl and wader populations	1	----->	-----> 1000	-----> 1000	-----> 1000			----->
9 Contaminant sourcing studies	1							----->
10 Water quality in major recreation areas: linked to 4 above.	2	----->	----->				----->	----->
11 Use of Skomer as a control	1	----->	----->					----->
12 Development work on the data base, in particular linking to a GIS (Geographical Information System).							----->	
<b>Sub-total monitoring</b>		<b>14500</b>	<b>29900</b>	<b>41000</b>	<b>41000</b>			

**Notes:**

- (a) Some income might be generated to offset against these costs.
- (b) The scientific adviser could be drawn from a number of academic, commercial or statutory organisations.
- (c) It is already apparent that the Steering Group requires some dedicated administrative report with an identifiable contact point.
- (d) There is a high degree of subsidy in the cost of analyses to be carried out in 1993/1994 as part of the general water quality monitoring programme.  
This subsidy, in the form of analytical prices at cost from the NRA, may not be available in subsequent years, hence the significant increase in projected costs.



Recommendation	Priority	April	April	April	April	April	April	April
		92/93	93/94	94/95	95/96	96/97	97/98	98/99
21 Dredging impacts on sediment transport	2		→		→		→	
22 Recreation use survey	3							
23 Atmospheric inputs to the waterway	3							
24 Changes in community structure from bait digging	3							
25 Intertidal terrestrial invertebrates	3							
26 Shingle and gravel bank studies	3							
<b>GRAND TOTAL</b>		<b>15700</b>	<b>36100</b>	<b>48500</b>	<b>48500</b>			

**Note:**

Recommendations 13 to 17 inclusive and 23 to 26 inclusive need not necessarily be addressed through the research and monitoring contract route. Approaches to academic institutions and individuals may elicit interest in 'grant aided studies'. The group could therefore deploy small sums for maximum research effect.