

EA - NCEHS

Box 2

Paper EHS/599/3

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NATIONAL CENTRE
FOR
ECOTOXICOLOGY & HAZARDOUS
SUBSTANCES

ANNUAL REPORT

APRIL 1998 - MARCH 1999

APRIL 1999

ENVIRONMENT AGENCY



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NATIONAL CENTRE FOR ECOTOXICOLOGY & HAZARDOUS SUBSTANCES

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Statement from the Chairman of the Customer Board

In the UK many tens of thousands of chemicals are used each day. These range from pharmaceutical products to household cleansers in the home, and from agricultural fertilisers and pesticides to the manufacture of plastics and textiles by industry. The chemicals industry contributes more than 2% annually to the nation's GDP; it is our biggest export manufacturing industry, and it provides employment for several hundred thousand individuals.

The Environment Agency for England and Wales has a duty to monitor and assess the state of the environment. In addition the Agency has the power to ensure regulations are applied to protect the environment. It is therefore essential to understand the balance that needs to be struck between the use by society of an ever growing list of existing and new chemicals and the potential threat that these chemicals can pose to human health and to the environment if appropriate checks and controls are not in place. Many of the environmental issues of concern are global in nature.

The National Centre for Ecotoxicology & Hazardous Substances is one of a number of expert centres established by the Agency to provide strategic direction and a focus of national expertise. The work of the Centre covers many facets concerning chemicals in the environment. During the last financial year the centre has strengthened its skill base with the appointment of experienced scientists to senior positions and the recruitment of a number of young academics. Additionally, the Chemicals Assessment Unit, which transferred from DETR, has been fully integrated into the Centre at Wallingford and our ecotoxicology laboratory at Waterlooville gained UKAS accreditation.

Experts from the Centre continue to provide technical support on toxic substances to Government working groups and advisory panels, a number of which report directly to the EU Commission. The Centre has also contributed to a number of external consultation exercises including the DETR strategy on "the sustainable production and use of chemicals", the Water Framework Directive priority chemicals list and the OSPAR DYNAMEC group on the "prioritisation of hazardous substances".

Internally, the Centre has recently produced the Agency Strategy on Eutrophication, managed the responses to the Endocrine Disrupting Chemicals Strategy consultation, and progressed the joint industry/regulator sponsored Direct Toxicity Assessment demonstration programme. R&D programmes and the establishment of a topic area at the Centre have underpinned development of strategic issues. The Centre continues to enhance its technical support and toxicological advisory services to the Regions and Areas.

Paul Leinster - Chairman of the Customer Board.

1. Report of the Customer Board

The work of the Centre is directed and controlled by members of the Customer Board, representing the major stakeholder interests.

Membership of the Customer Board (April 1998 – March 1999)

Paul Leinster – Director of Environmental Protection
Chris Birks – Regional General Manager, Thames Region
Martin Griffiths – Head of Water Quality
Steve Humphrey – Head of Process Industries Regulation
John Seager – Head of Environmental Monitoring & Assessment
Mick Pearson – Regional Environmental Protection Manager, Anglian Region
Steve Killeen – Head Office Informed Client
John Handley/David Baxter – Head Office Corporate Planning
Peter Hinchcliffe – Department of the Environment, Transport & the Regions (DETR)
Andrew Haig – Scottish Environment Protection Agency (SEPA)
Peter Calow – Sheffield University
Jim Wharfe – Head of National Centre
Joyce Preston – National Centre Business Development Manager (Technical Secretary)
(Roy Ramsey – DoE Northern Ireland, Corresponding membership)

(Please note for details of Customer Board Terms of Reference see Business Plan 1999 – March 2002).

The Customer Board met on three occasions during the financial year 1998-1999. A list of the papers considered is shown in *Appendix I*.

At the meeting in May 1998, the Board formally approved the Business Plan 1998-2001 written in support of the Agency's Environmental Strategy. In taking this decision the Board accepted a revised budget of £1,612k for the financial year 1998-1999 and agreed that it was the responsibility of the Centre to minimise the impact on agreed work programmes. The Board acknowledged the Centre's emergency response capability; in particular its involvement in the Kennet and Avon Canal Pollution incident and recommended that support for such emergencies be included in future Business Plans. The Board supported the proposal for a Peer Review Group, as it would provide an opportunity for the Centre to be less insular, with creation deferred to 1999-2000 due to financial constraints in 1998-1999.

The second meeting of the Board took place in September 1998 at which the Annual Report for the financial year 1997-1998 was presented. This report emphasised that the year had been one of establishing the Centre at Wallingford, relocating staff, filling the structure, consolidating existing work programmes and sustaining consistent delivery.

At this stage in the financial year and with support (in principle) from key customers within the Agency, the draft Business Plan 1999-2002 was presented to the Board. This Plan emphasised the need to integrate the work of the Centre into mainstream business. The Board agreed to the introduction of a suite of Output Measures (OM's) for the Centre, which would reflect environmental benefit, efficiency savings and influence and credibility. The Board was provided with an update on the MOU between DETR and Agency.

At the meeting in January 1999 the final Business Plan 1999-2002 (which now includes a prioritised work programme) was approved. The Board was provided with an update on the implementation of Centre OMs, development of an Agency Chemical Strategy together with a review of the benefits of attending international conferences. Both the development of a Chemical Strategy and the need to keep in touch with the cutting edge of science through attendance at conferences met with support.

2. Summary of the Year, April 1998 – March 1999

The financial year 1998-1999 has been one of further consolidation and mainstream business integration for the Centre. This has been both a natural and planned progression following the inheritance of work programmes from previous expert National Centres and from the transfer of the Chemicals Assessment Unit from the DETR. Whilst every effort has been made to preserve the well established, highly recognised, discrete areas of expertise such as, Chemicals Assessments Unit, Pesticides and the Ecotoxicology Advisory Service the desire for integration has been pursued vigorously. The National Centre Management Team has started to consider alternative ways, including a matrix management approach, of employing the current skill base to address cross-functional issues.

To celebrate the staff structure reaching full compliment (28 FTE) at the half-year stage, an internal seminar was hosted, which brought virtually all staff together for the first time. The purposes being to raise the general level of awareness and understanding of the Centres business, and how this relates to the Agency's aims and objectives.

The Centre has raised its profile through the introduction and use of a unique Centre design on publications, posters etc., a basic Information Sheet and a series of Factfiles that were made available internally.

The Centre has not only realised discrete outputs from the Business Plan 1998-2001 (1998-1999 work programmes) but also forged links within the Agency and outside with Industry, Academia and other interested parties. For example the Centre is engaged on collaborative studies with: the Universities of Sheffield, Reading, Stirling and Royal Holloway College in the NERC Environmental Diagnostics programme; with the Zeneca environmental laboratory and Dundee University on endocrine disrupting chemicals; and with UKWIR, the CIA and the CBI in the DTA demonstration programme.

The Centre has dealt with requests for general advice and information from Regions and Areas and provided specific advice and information through its advisory and testing services and facilities. These have included the Environmental Toxicology service, Blue-Green Algal service and the UKAS accredited laboratory based at Waterlooville.

The Centre has fulfilled the joint UK competent authority role with the Health and Safety Executive (HSE) for the Notification of New Substances (NONs) and the Existing Substances Regulations (ESR) and has achieved national targets under NON's.

The Centre has advised and influenced expert national and international groups; including the Advisory Committee on Pesticides, the Advisory Committee on Toxic Substances, the Pesticides in the Environment Working Group, the Biocides Usage Group, the Pesticides Forum, the Environmental Quality Standards Group and various OSPAR Working Groups.

Internationally the Centre represented the UK at EU Working Group meetings on environmental classification and risk assessment, (as National Contact Point); represented the UK at the OECD in discussions on international risk assessments; and acted as EU lead in negotiations on the Global meeting on Harmonisation of Environmental Classification Schemes. At meetings in Charlotte and Washington with USEPA and Environment Canada in November 98, and in Edinburgh in March 99, staff furthered the mutually beneficial flow of transatlantic information.

Key Achievements and Outputs for financial year 1998-1999

A consultation document setting out the Agency's proposal for a national management strategy on aquatic eutrophication was issued in December 1998. Consultation ended February 1999, followed by a national seminar for key external organisations, to gain feedback. The final strategy will provide a more coherent and coordinated approach to the management of this important and complex environmental issue.



Revised national policies on toxic/nuisance algal monitoring and management were issued in autumn 1998. An updated public leaflet on Marine Algae was published in September 1998 and an Algal Information Pack issued in January 1999 to help regions and areas raise awareness and clarify responsibilities with EHO's, MAFF and others.

The Centre managed the review of comments submitted after Agency's consultation on Endocrine Disrupting Substances and provided technical input into the development of Final Strategy. This strategy will establish how the Agency will manage these hazardous substances to protect wildlife and the environment.

The Centre has secured over £1 million of external funding for projects addressing endocrine disrupting substances, notably EDMAR (Endocrine Disruptors in the Marine Environment). This collaborative programme will deliver information on the causes and consequences of endocrine disruption in marine wildlife.

The Ecotoxicology testing laboratory achieved full UKAS accreditation in June 1998 and passed its first annual surveillance visit in February 1999. The laboratory provides a high quality toxicity testing service to Regions and Areas.

A review of Human Health information needs has been completed and funding has been approved for a contract post in the Centre for 1999-2000. This review will provide a better understanding of the Agency's role and position.



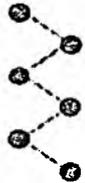
The Chemicals Assessment Unit achieved 100% compliance with targets under the NONS Charter. 150 new substance notifications processed, with an additional 25 received for higher tonnage review. For these 80 risk assessments have been completed on behalf of European Commission and member states.

A major contribution was made in the classification of substances as either List 1 or List 2 as part of the implementation of the Groundwater Regulations, under the Groundwater Directive. This classification supports the assessments made by area staff in regulating discharges to groundwater.



The Centre contributed to the development of a 'Dangerous Substances Consenting Policy'. This policy ensures that the UK fully implements the Dangerous Substances Directive that ensures the correct degree of control is achieved over discharges of dangerous substances based on their potential environmental significance.

The first ETAG (Environmental Toxicology Advisory Group for Regional staff) training session titled 'Principles and Practices in Ecotoxicology' was held in November 1998. The course was the first in a series that will ensure consistency and quality in implementing ecotoxicological advice and guidance to areas and regions.



The Centre helped organise, and supported the SETAC International Conference on "Effluent Ecotoxicology: a European Perspective" in Edinburgh which will feed input to the OSPAR POINT working group, and promote international harmonisation.

The Chemicals Assessment Unit has input into both the DETR Chemicals Strategy and that of the EC/OECD. The Unit has also acted as UK and EU lead in negotiations over harmonisation of environmental classification; agreement has been reached on the classification of 300 substances.

Agreement was reached with Railtrack regarding the protection of track lengths associated with vulnerable drinking water sources.



The Centre chaired the Agency's panel (Urban Waste Water Treatment Comprehensive Studies Directive) ensuring national consistency of approach in the run up to the Government's September 1998 policy announcement on secondary treatment.

The Aire Project within the DTA Demonstration Programme has been completed and final report produced. Interim reports for the Esk and Tees produced.

The Centre chaired the Textile & Sheep Dip Group and made a major contribution to the development of a 'Sheep Dip Strategy' published in February 1999.



POPPIE CD-ROM (Pesticides Prediction Model) was distributed in May 1998. It provides guidance to Regional/Area staff on how to target monitoring programmes to maximise resource use.

Key Presentations for financial year 1998-1999

Presentations on the Agency's Strategy for Endocrine Disrupting Substances were made to the 3rd IBC technical conference "Endocrine Disruptors in the Environment" and the "Japanese Society for Endocrine Disruptor Research" in Kyoto, December 1998. Details of research programmes and ideas for controlling and managing these substances were included.

9 posters were presented at the "SETAC International Conference - Effluent Ecotoxicology; A European Perspective" in March 1999 in Edinburgh (some in collaboration with external organisations), on a range of topics including the progress of the DTA Demonstration Programme and issues arising from this work; the evaluation and development of potential DTA methods, and the work of the ecotoxicology laboratory.

Three papers were presented at the "IAWQ 3rd International Conference on Diffuse Pollution" hosted by SEPA in Edinburgh in September 1998; "Developing a Strategy on Eutrophication" and "The Controversial Role of Tile Drainage in Phosphorus Export from Agricultural Land", both of which were subsequently published in Water, Science & Technology, and "Diffuse Pollution of Environmental Waters by Pesticides; Strategies for Monitoring & Control".

Several presentations relating to the proposed Strategy on Eutrophication have been made including:

Towards Integrated Phosphorus Management in River Basins, Cranfield University in September 1998
DETR Technical Committee on Detergents in the Environment, London in November 1998
UK Eutrophication Forum, Bristol in February 1999

A presentation on a paper "Phosphorus Fractionation as a Fingerprinting Tool for Tracing Phosphorus Movement in Agricultural Soils" was made at the Coventry University conference; "Fingerprinting Techniques in Geomorphology"

Dupont Conference, September 1998, East Anglia - paper on wide ranging pesticide issues

Brighton Crop Protection Conference, November 1998 - manned Agency stand, paper on LERAPS (Local Environmental Risk Assessment for Pesticides)

Bracken Workshop, November 1998, Manchester - chaired and presented at Agency workshop on bracken

Bromine Science Environmental Forum seminar, Tokyo, November 1998. A paper was presented on "Risk Assessment of Brominated Diphenyl Ethers".

A talk was given on "The Use of Hazard & Risk Assessment in the Environmental Regulation of Chemicals" at the IBC Conference "Ecotoxicology & Environmental Risk Assessment of Chemicals", London in November 1998.

IBC Conference "Global Harmonisation of Chemicals Management", London. Paper titled "Future Trends in Environmental Classification".

A verbal presentation on the "Development of a Strategy for Chemicals in the Environment", was made to the US EPA Air Quality and the Chemical Manufacturing Industry Group in Charlotte and Washington, USA in November 1998



Key Publications for financial year 1998-1999

Three peer-reviewed papers on Endocrine Disruption were published in Environmental Science & Technology and are receiving high levels of citation. They came from two Agency-funded programmes on endocrine disruptors and their effects.



Aerial Spraying with Asulam to Control Bracken, - guidance Notes

Revised leaflet on Marine Algae

POPPIE CD-ROM with 1996 data

Eutrophication Consultation Document

Two papers (see above for details of presentations) on proposed Eutrophication Strategy and Phosphorus Pathways in Water, Science & Technology

Pesticide Aquatic Pollution Incidents in England & Wales 1992-1996 distributed throughout the Agency

The Use of Herbicides to Control Weeds in or Near Water - guidance notes for internal use

Pesticides in the Aquatic Environment Annual Monitoring Report 1996 distributed throughout the Agency



In collaboration with the US EPA a paper on "Toxicity Assessment: Its Role in Regulation" was published in "Pollution Risk Assessment and Management". The paper provided an overview of toxicity assessment and its role in an integrated approach for pollution prevention and control of potentially lethal toxic waste discharges.

3 Resource Summary

3.1 April 1998 – March 1999

The financial outturn against budget is shown in chart 1.

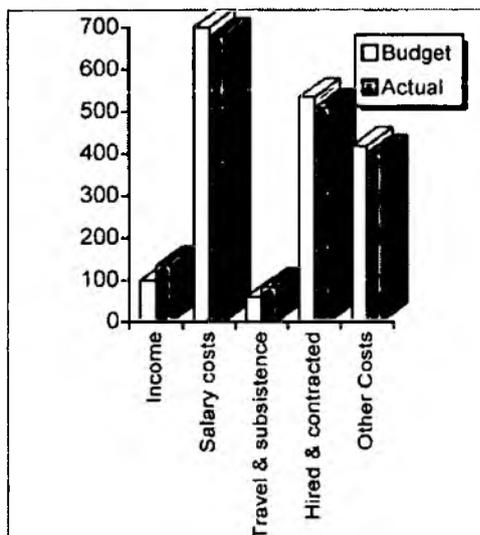
For the financial year 1998-1999 the allocated budget for the Centre was £1,612k with a projected income of £100k from NONS charges providing a total operating budget of £1,712k.

There has been a continued increase in demand for the Centre's resource during the year. This includes, for example, a growing number of enquiries from Head Office; Regions and Areas; involvement in emergency incidents, requests for expert opinion on consultation exercises and state of the Environment reports, priority commitments to the Comprehensive Studies' Review, expert involvement on Agency and external working groups.

Meeting this demand has largely been achieved by tight budgetary control including enhanced profiling and accurate forecasting and extending planned output timescales with agreement of Customers.

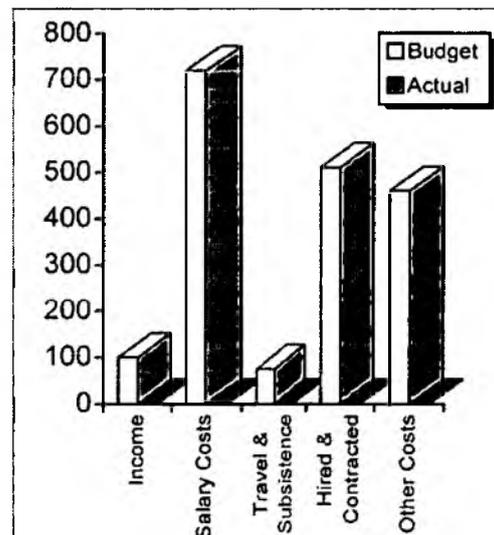
At the half-year stage a decision was made to return £100k to EP Directorate to undertake work on the Groundwater Directive (Groundwater Regulations). This decision was in response to an underspend against the budget at that point in time, reflected largely in employees costs, relocation and training. This situation was due in part to a number of structured posts remaining vacant well into the second quarter of the year; a decision not to recruit short-term personnel from external agencies, contract payments specifically for BRE (Building and Research Establishment) being over accrued in the previous year and training initiatives taking longer to realise. A decision was made to re-structure and re-profile the budget, which now reflected a new total operating budget of £1,612k for the year 1998-1999 only.

Chart 1. Outturn against budget
April 98 – March 99



Total operating budget £1,612 k
Actual Expenditure £1,609 k

Chart 2. Approved revenue budget
April 1999 – March 2000



Total operating budget £1,765 k

3.2 April 1999 – March 2000

The proposed budget for the Centre for the financial year 1999-2000, presented to the September Customer Board was set at £1,712k. This assumed an allocation of £1,612k from the Agency and an income of £100k through NONS charges. The proposal reflected a 'no change' situation compared with 1998-1999 but was considered to be the minimum to deliver the work programmes outlined in the Business Plan 1999-2002.

The agreed final allocation of £1,665k is based on a proposal of £1,612k, plus an additional £60k to cover a Human Health contract post minus a reduction of £7k for publishing documents. This allocation with an assumed income of £100k from NONS charges provides a total operating budget of £1,765k for the financial year 1999-2000.

3.3 1999/2000 R&D Budget

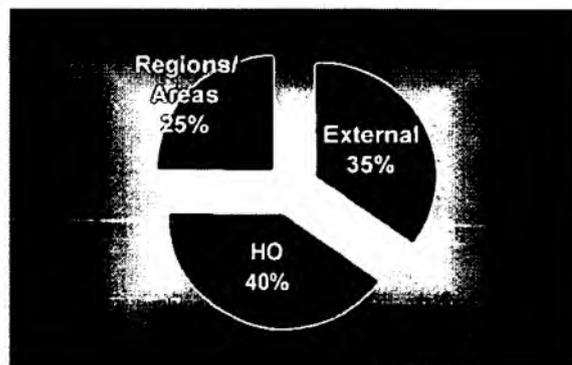
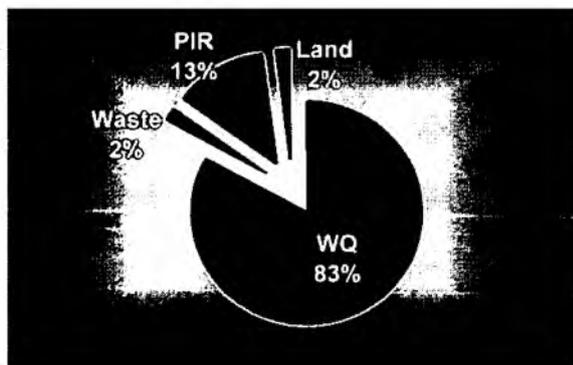
The Centre manages a large portfolio of R&D projects with projected Agency expenditure up to the end of March 2002 in excess of £3,200k. The actual expenditure on research managed by Centre staff is enhanced significantly by additional collaborative funding estimated at £3,900k.

The Centre is currently looking at a longer-term programme to meet Agency business needs and strategic requirements. It is looking to deliver a smaller number of larger projects and fewer new starts. Details of projects in the topic area for ecotoxicology and hazardous substances are reported in the NCEHS Business Plan 1999-2001.

3.4 Major customer groups and resource allocation.

The Centre is currently funded on the following basis;

The predicted resource deployment, in response to business needs is estimated at;



Source: Prioritised Work Programme, Business Plan 1999/2000

PIR - Process Industry Regulation WQ - Water Quality

APPENDIX 1

List of papers considered by the Customer Board

May 1998

- EHS/ 598/1 Manpower/Budget Review
- EHS/598/2 Working Groups and Peer Review Group
- EHS/598/3 Emergency Response Capability
- EHS/598/4 R&D Programme
- EHS/598/5 Centre Deliverables
Business Plan 1998/99 (1998-2001)

September 1998

- EHS/998/1A Draft Business Plan 1999/2000
- EHS/998/1B Annual Report 97/98
- EHS/998/2 Output Performance Measures (Now Output Measures)
- EHS/998/3 Financial Summary @ end July 1998
- EHS/998/4 Business Plan 98/99 Performance Summary
- EHS/998/5 MOU Update
- EHS/998/6 Water Quality Planning Paper
- EHS/998/7 R&D Paper

January 1999

- EHS/199/1 Final Business Plan 1999/2000 (1999-2002)
- EHS/199/2 Progress Report on Implementation of Centre Output Measures (OMs)
- EHS/199/3 Proposed Performance Review for Customer Board
- EHS/199/4 Review for Sept 1998 – Nov 1998 (business plans, budgets OMs etc)
- EHS/199/5 Chemical Strategy Paper
- EHS/199/6 Review of SETAC (US) visit
- EHS/199/7 Report of USEAP/CMA meetings

APPENDIX 2

Acronyms & Abbreviations

ACP	Advisory Committee on Pesticides
ACHS	Advisory Committee on Hazardous Substances
ACTS	Advisory Committee on Toxic Substances
ADAS	Agricultural Development Advisory Service
BAA	British Agrochemicals Association
BASIS	British Agrochemicals Standards Inspection Scheme
BCPC	British Crop Protection Council
BRE	Building Research Establishment
CAS	Chemicals Abstract Services
CEFIC	European Chemical Industry Association
CHIP	Chemicals - Hazard Information and Packaging for Supply
CIA	Chemical Industry Association
CPL	Classification, Packaging & Labelling
CIWEM	Chartered Institute of Water and Environmental Management
DETR	Department of Transport, Environment and the Regions
DYNAMEC	Dynamic Selection and Prioritisation Mechanism working group
ECB	European Chemicals Bureau
EDMAR	Endocrine Disruptors in the Marine Environment
EHO	Environmental Health Officers
EQS	Environmental Quality Standards
ESR	Existing Substances Regulations
ETAG	Environmental Toxicology Advisory Group
ETAS	Environmental Toxicology Advisory Service
EU Comm	European Union Commission
EUSES	European Union System for the Evaluation of Substances
FRCA	Farming & Rural Conservation Agency
FWAG	Farming & Wildlife Advisory Group
HSE	Health & Safety Executive
IAWQ	International Association of Water Quality
IFE	Institute of Freshwater Ecology
IMO	International Maritime Organisation
IPCS	International Programme on Chemical Safety
IRPTC	International Register of Potentially Toxic Chemicals
ITE	Institute of Terrestrial Ecology
IUCLID	International Uniform Chemical Information Database
JRC	Joint Research Centre
MAFF	Ministry of Agriculture, Fisheries & Food
NERC	Natural Environment Research Council
NOAH	National Office of Animal Health
NONS	Notification of New Substances
OECD	Organisation for Economic Co-operation & Development
OSPAR	Oslo and Paris Commission
PARCOM	Paris Commission
POPPIE	Prediction of Pesticide Pollution in the Environment
PEWG	Pesticides in the Environment Working Group
PSD	Pesticide Safety Directorate

RA	Risk assessment
RLUG	The Agency's Rural Land Use Group
SEPA	Scottish Environment Protection Agency
SETAC	Society for Environmental Toxicology & Chemistry
SIDS	Screening Information Data Set
SNIFFER	Scotland and Northern Ireland Forum For Environmental Research
UNEP	United Nations Environment Programme
UKAS	UK Accreditation Service (formerly NAMAS)
UKASTA	United Kingdom Agricultural Supply Trade Association
UKWIR	UK Water Industry Research
USEPA	United States Environment Protection Agency
VMD	Veterinary Medicines Directorate
VPC	Veterinary Products Committee
WATCH	Working Group on the Assessment of Toxic Chemicals