

Monitoring Bathing Waters - A Practical Guide to the Design and Implementation of Assessments and Monitoring Programmes

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Chapter 6*: PUBLIC PARTICIPATION AND COMMUNICATION

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Successful beach management requires an understanding of the nature and dynamics of a beach system, i.e. the physical, chemical and biological interactions that take place on and around the beach, the requirements and perceptions of the beach users, economic and tourism interests and environmental protection measures. Inevitably, there are conflicts between these elements, although many of these conflicts can be resolved through effective communication at an early stage, through information and, above all, active participation of all parties, particularly the public.

Large differences exist between the capacity and mechanisms for communication in resort beaches near big urban areas and in rural beaches used only by a limited number of people. Nevertheless, beach managers should consult with, and inform, beach users at all appropriate stages. The success of beach management depends very much on the active participation and involvement of the local population and of beach visitors (Camhis and Coccossis, 1982; Gubbay, 1994). The underlying principle is that the public has a right to know, a right to be heard and a right of co-decision. In keeping with the principles of Agenda 21 (UNCED, 1992), the public should be involved in information gathering and management of recreational water use areas. In resort areas, the management tasks are usually predominantly in the hands of the local government or health authority. Progressively more responsibility lies with the local community or individual user as beaches become more rural.

The public can take an active role in a variety of practical activities concerned with beach management. The participation of the public in monitoring helps to raise awareness of the condition of the recreational water use area and provides a cost-effective method of gathering large amounts of data which can then be acted upon by beach managers (see Chapter 12). Involvement of the public in special interest groups, such as voluntary lifeguard organisations, helps to educate the public for self protection. Beach managers have a responsibility to educate the public about hazards related to the recreational water use area, to provide warnings to the public and to provide other information. There are a variety of methods for communicating with the public, such as flags, signs, literature or beach awards. Whichever method is used, it is imperative that the public understands clearly the message being conveyed.

6.1 Public participation schemes

A number of community participation schemes have been developed worldwide. An example is the "Officer Snook Program" which was initiated in 1992 at Miami Beach and was sponsored by the United States Coast Guard. This scheme includes videos, slide shows, competitions, cleanups and recycling programmes involving 25,000 elementary schools (Sevin and Sevin, 1995). In Glacier Bay, Alaska the prevention of marine debris is an integral part of the visitor management and education programme (Synder, 1995). Some schemes are aimed at specific types of marine debris. In Tasmania, Australia the use of television advertisements was an integral part of a community awareness programme initiated in response to the growing entanglement of marine mammals and seabirds in marine debris (Slater, 1995). In southern Africa, the Dolphin Action and Protection Group launched a national campaign in 1987 entitled "Save our Sealife: Prevent Plastic Pollution". The scheme targeted shipping and fishing companies, industry, schools and the general public, and involved the distribution of pamphlets, the initiation of beach-cleans and the raising of the issue in Parliament. The scheme has now been extended to Antarctica, Namibia and islands in the Southern Atlantic and Indian Oceans (Rice, 1995).

Education and public awareness are key elements in the reduction of marine debris. Public involvement in beach litter management takes two forms: direct action such as beach cleanups and monitoring; and indirect action, such as education, award schemes and legislation. The involvement of the public in beach monitoring and cleanup programmes has dual advantages in that it allows a large sample size to be achieved, and raises awareness among society which will then translate into effective individual action to reduce litter at source. Involvement of the public in such campaigns has been achieved world-wide. Coastwatch Europe, for example, involves tens of thousands of volunteers each year in monitoring marine debris (Dubsky, 1995).

The largest network organising beach clean events is the Center for Marine Conservation (CMC) based in Washington DC, USA. This centre organises annual beach cleans during "Coastweek" at the end of September and beginning of October. Volunteers use standard recording cards which divide debris into eight major categories according to the fabrication material and a further 65 categories according to type of item. Guidance notes are provided, including an identification guide and information on how the data is used. Volunteers are asked to record the location of the beach and the nearest city, the estimated distance covered and the number of bags filled with debris (Bierce and O'Hara, 1992, 1993).

6.2 Local communication

Chapters 2 and 9 provide examples of schemes involving registration and classification designed to help managers identify the characteristics of their recreational water use area and its different uses. It is extremely important at the stage of beach classification to involve all interested parties. The more people feel they are involved, the easier it is to get active and constructive participation and support for monitoring programmes, development plans and environmental protection measures. When beach management plans are operational, further information updates are important. This information needs to involve aspects of beach safety and water quality.

Baseline surveys, eco-audits, or shore and hinterland surveys are an excellent way to gather data about the bathing water itself, the surrounding aquatic environment and the hinterland. For resort beaches, the baseline survey should be carried out during the main bathing season, when caravan parks are full, local restaurants are running at peak capacity and facilities such as public toilets and showers are being well used. If a survey is undertaken out of season unexpected events, such as seepage from overloaded septic tanks and storm drains, are likely to be missed. It is essential that the baseline survey is augmented with background information concerning seasonal changes. Such information can be gained from local people, such as year-round swimmers or non-governmental organisations.

Local public participation should be part of the whole exercise from survey to subsequent action. However, it must be borne in mind that involving local public participation during baseline survey data gathering might occasionally invite bias into reporting unless care is taken by the survey team. The baseline survey will provide a variety of information that can be used in plans for informing the beach users and visitors on safety and health risks.

6.3 Types of information

6.3.1 Beach safety

Unless users are aware of the hazards and regulations applicable to particular areas, they are unable to make an informed choice about their destination or to react appropriately to management strategies. While there may be resort areas with an abundance of public information and controls, it is not economically viable, nor necessarily desirable, to extend such infrastructure to rural bathing places, used by only a few people. However, it is in everybody's interest that bathing is as safe as possible even in these isolated areas.

Strategies for accident prevention should first address the removal of hazards. If this is not possible, steps should be taken to reduce the level of risk. Information is particularly important where less can be done physically to reduce the risk. In this regard, all available techniques should be used to convey safety messages, such as the provision of safety signs and notices, flags and brochures (see Chapter 7).

6.3.2 Water quality

The primary reason for monitoring bathing water quality and for informing the public is to protect public health. Members of the public are unlikely to want to know the details of sample treatment in the laboratory, although they would need to know whether the water quality is safe. It is essential that information provided to the public is presented in a clear, unambiguous and easily understood way. Some of the cheapest and quickest approaches to assembling and presenting summary data are often the most effective.

6.4 Award schemes

Award schemes are often used as an incentive programme to involve all parties concerned in participating in optimising beach safety, water quality and education

activities. Awards are generally the recognition of effort, or of standard achieved. Most award schemes look at only a few of the parameters associated with beach classification. They often fail to take account of the beach user's perception of the environment. The ideal scheme should consider physical, biological and human parameters. The first two are relatively easy to measure (see Chapters 8, 10 and 11), the latter is more difficult to assess.

Beach award and evaluation systems are valuable tools for the promotion and management of beaches and tourism. Annual and systematic surveys of a variety of parameters, including beach litter, have been undertaken for a number of award schemes. Beach awards can be important agents for change, integrating a variety of factors, including water quality, safety, litter, and beach management practice in general. Resorts, in particular, want these awards and manage their beaches to ensure that they comply with the requirements of the award.

6.4.1 Blue Flag

Probably the most widely known beach award within the European and Mediterranean context is the Blue Flag Award. The Blue Flag scheme is organised by the Federation of Environmental Education in Europe (FEEE) (FEEE, 1998). The Blue Flag Campaign was started in 1987 as one of the many activities of the European Year of the Environment. It is a Europe-wide initiative involving more than 1,000 beaches and 500 marinas in 19 European countries. Within the European Union, only "identified" bathing waters within the terms of the Bathing Waters Directive 76/160/EEC are eligible for the award. Outside the European Union, almost any beach could apply for the award via the national operator. Qualification is based on a wide variety of criteria (some of which are obligatory, others are guideline criteria) divided into four groups: environmental education and information, environmental management, water quality, and safety and services. In terms of the environmental education criteria "the aim of the campaign is to increase the public's environmental awareness and to create a platform for active participation in the protection of the environment" (FEEE, 1998). Co-operation between FEEE and the United Nations Environment Programme, Industry and Environment (UNEP IE) office resulted in a pilot project for implementing the Blue Flag concept in non-European regions.

To combine monitoring of Blue Flag holders with gathering extra information, an "In Season Beach Award" was run in Ireland in 1992 for 100 beaches. Points were allocated for a range of criteria and each beach was visited and checked thoroughly by one of a volunteer team (see Box 6.1).

Box 6.1 The In-Season Beach Award

The presence of a Blue Flag indicates that the visitor should find dependable water quality, cleaning, toilets and other facilities on a managed beach. It does not relate to wind shelter, diving facilities, beautiful scenery, etc., nor does it allow the visitor to predict when swimming might be safe or unsafe and on which days lifeguards are supposed to be on duty. Nevertheless, such questions would be asked by more concerned tourists before booking their holiday or before heading off to any particular beach from several possible beaches that are at an equal distance away.

In order to combine the checking of Blue Flag winners with the gathering of extra information, an in-season beach award was designed and run in Ireland in 1992 for the 100 top beaches. A national weekly newspaper sponsored the award. A list of the top 100 beaches was prepared from Blue Flag entries, augmented by further beaches known from local community notes. A detailed questionnaire was designed and tested on different beaches before being adapted. A volunteer team with a good environmental background was established and trained together. Each beach was visited in the peak July and August bathing season and checked thoroughly by a member of the team. Where possible, local people were interviewed. Photographs and sketches augmented the reports filed by the team.

Points were allocated, on a predetermined scale, for natural assets and facilities provided, with an option of bonus points for special quality. In the health category, for example, a stream was considered something positive as a natural asset and allocated a point. Sixty-seven beaches had such an asset. Unfortunately, the majority of the streams turned out to be polluted when checked for faecal streptococci. A clean stream with good invertebrate diversity was thus a rare quality, and was awarded an extra six points. The display of water quality results and minimal frequency monitoring was also awarded a point. Moreover, when members of the public questioned at random found the information clear and understandable, an extra three points were awarded. Winners were announced in each of the following sections: water quality, other facilities, natural beauty and wildlife value.

The scheme received very good publicity and initiated a lot of local activity to remove accumulations of litter. Those beaches shortlisted as final award winners were revisited over a two-day period by the sponsor's helicopter. While a beach with undependable water quality could not become a winner, it could get a very high number of points for other assets. The results could then be used to argue for improvement of the weakest feature, e.g. water quality.

6.4.2 Costa Rica

Chaverri (1989) devised a rating system to identify beaches suitable for governmental and private tourist development in Costa Rica under the authority of the Marine and Terrestrial Act (Ley Marítimo Terrestre). Up to 113 factors, classed as either positive and negative, were given a score between zero and four, with the final rating score for the beach obtained by subtracting the sum of the "negative" scores from the sum of the "positive" scores. The factors comprised six groups. Some selected factors were water, beach, sand, rock, general beach environment and the surrounding area.

No attempt was made to attribute quantitative values to scores for any of the factors, so that the beach score for any factor was based purely on the subjective judgement of the particular assessor. In addition, no attempt was made to assess the importance attached by beach users to any of the factors in the checklist, to assess which factors were of importance for various types of beaches (apart from a differentiation between sand and rock areas), or to attach weightings to the various factors. Even the rigid division of factors into "positive" and "negative" categories could be considered to be subjective.

6.4.3 Black Sea Environment Programme

The Black Sea Environment Programme aims to strengthen and create regional capacities for managing the Black Sea, in particular by developing policies and legislative frameworks relating to pollution, health, biodiversity, and to attract investment. The programme emphasises the importance of harmonisation of methodologies and standards for evaluation of bathing beaches and beach quality. It provides guidelines for assessment of bathing beaches and bathing water quality, and on how to implement assessment programmes and to evaluate the results.

The programme suggests a questionnaire for registering beach quality that takes into account details concerning beach facilities, physical characteristics of the beach, usage, accessibility, water quality and designation. It does not involve "scoring" the beaches. The final classification is based on the following definition: "*a good beach is a safe beach as well as a beach with good water and beach quality*" (WHO, 1995). The beach is classified according to any problems discovered and, using this classification, an action programme can be identified. The objective of the programme is then to encourage the use of data to refine the action programmes to solve problems that have been highlighted through the monitoring programmes.

6.4.4 Schemes developed for Turkey

Morgan *et al.* (1995) used a questionnaire based on beach users preferences and priorities linked with a 47 factor checklist for five Turkish beaches; Oludeniz beach scored the highest with 87 per cent. Additionally, Morgan *et al.* (1996) carried out further studies on Turkish, Spanish and Maltese beaches by testing beach user perception for 50 beach aspects. Williams and Morgan (1995) have also assessed 28 Turkish beaches in terms of 50 physical, biological and human parameters based on the views of a range of international coastal experts; Dalaman beach rated the highest at 93 per cent. Beaches were scored for each parameter on a scale of one (poor) to five (good). Williams *et al.* (1993b) and Leatherman (1997) have used a similar scale for 182 beaches in the south west peninsula of the UK and 650 beaches in the USA respectively. These checklists could be readily improved because many aspects of the beach environment were classified as good or bad without regard to the varying preferences of different types of users, and various uses, of the beach environment. Many factors were judged on a subjective basis with no weightings attached. In addition no attempt was made to resolve the problem of different views and preferences of visitors to different types of beach.

6.4.5 Local quality schemes

Various local schemes exist to assess beach and water quality, such as the Solent Water Quality Awards, which were established in 1992 and are administered through the Solent Water Quality Conference, a consortium of local authorities and interest groups in Hampshire, UK. All bathing waters in the Solent region (identified and non-identified) that are used regularly for bathing can enter the scheme. The criteria for achieving an award are:

- At least one representative sampling point must be selected for each beach.
- Imperative standards of the EU bathing water directive (CEC, 1976) must be met.
- The water must not contain any gross pollution by faeces or other sewage-related debris, or suffer from persistent occurrence of oil, tar or a significant smell.
- Supporting information, such as water quality results from the previous years must be given.

The main criticism of these awards is that they do not consider the beach itself and are restricted to the water quality.

6.4.6 Other schemes

Recent studies suggest strongly that people with different personalities and demographic variables have different requirements for the beach environment and prefer to visit different types of beaches (Morgan *et al.*, 1993; Williams *et al.*, 1993b; Williams and Morgan, 1995). This poses a problem for beach ratings, but it can be overcome by dividing the beaches into a number of categories on the basis of degree of commercialisation, i.e. presence or absence of particular facilities. For example, Williams *et al.* (1993a,b) and Morgan *et al.* (1993, 1995) used questionnaire surveys as a basis for establishing preferences and priorities of beach users at various beach types, and to weight the various factors in a beach quality rating scale. The scheme was carried out in two main stages. Firstly, an assessment was made of the preferences for various beach features (such as pocket, log spiral or linear beaches) and facilities (such as toilets) and the attributes of the visitors to different types of beaches. This enabled the various factors in the beach quality rating scale to be optimised and correctly weighted. This was followed by the introduction of a checklist for the beach quality rating scale containing classifications and categories of 48 beach aspects closely matched to those in the questionnaire. As many beach aspects as were reasonably possible were assigned classifications based on quantifiable values. Weighting and scoring of the various beach aspects on the checklist was generated by analysis of questionnaire responses.

6.4.7 Standardising grades and categories

The standardisation of grades and categories for describing and informing the public of the quality of recreational water use areas is complicated by the variety of aims that exist amongst different schemes. Recently, Earll *et al.* (1997) put forward the idea of a standardised litter pollution category, i.e. the "ABCD" grading system used in the "Code

of Practice on Litter and Refuse” developed by the 1990 Environmental Protection Act (DoE, 1991) and the Thames Clean Project (Lloyd, 1996). Litter categories suggested by Earll *et al.* (1997) are:

Grade A Absent, no evidence of litter anywhere.

Grade B Trace, small items only.

Grade C Unacceptable, widespread distribution with minor accumulations.

Grade D Objectionable amount, area heavily littered with accumulations along the boundaries.

Litter categories of concern to the general public include sewage-related debris, litter accumulations and harmful litter such as medical waste. The number of items listed in Table 6.1 relates to a 100 m stretch of beach at the high water strand line. A recreational water use area would receive a grading based on one of the categories falling into the worst grade, i.e. if one of the categories scores a “D” then the beach is graded a “D” beach. The actual numbers proposed in Table 6.1 are subject to further research. A constant strand line length of 100 m has been advocated but this could cause problems for small pocket beaches of less than 100 m in length.

Table 6.1 Proposed classification scheme for the assessment of aesthetic quality of coastal and bathing beaches

Category/type	A	B	C	D
Sewage-related debris				
General	0	0	1-5	6+
Cotton buds	0	1-9	10-49	50+
Litter				
Gross	0	1-5	10-24	25+
General	0-49	50-99	100-999	1,000+
Harmful	0	0	1-3	4+
Accumulations				
Number	0	0	1-3	4+
Total items	0	1-5	4-49	50+
Oil	Absent	Trace	Some	Objectionable
Faeces	0	1	2-9	10+

Source: Earll *et al.*, 1997

6.5 Education

Awareness on water safety may be achieved through community education. This can be by means of talks to groups and schools, information sheets and posters, videos or practical activities. Public participation and education can be promoted through

government advisory committees, citizens advisory committees, interest group representatives, public hearings, broad dissemination, information gatherings, community meetings, media campaigns, brochures, newsletters, school programmes, community exhibitions and user group training.

6.5.1 School education

School education differs greatly between countries and also between regions and school types. Most students never see a County Council or Parliament debate and have never asked their local representative to pose a written question for them (such as why the local beach is not designated). In addition, environmental law is rarely taught in schools. Although water quality experiments might be carried out in chemistry and biology classes, and field-work might be undertaken, the results are rarely compared with real data generated by official monitoring programmes.

The involvement of school groups in awareness campaigns such as Coast-watch Europe (Dubsky, 1995) (see Box 6.2), in beach cleans such as those organised by the CMC in the USA (Bierce and O'Hara, 1993) and in other community participation programmes (Box 6.3) (see also Chapter 12) is becoming more widespread. Understanding provides the ability to make informed decisions. Bathing is practised so widely as a form of recreation that information relating to its safe enjoyment should be widely disseminated beyond swimming classes. A basic understanding of water pollution, water quality and dangers on the shore may be taught beneficially in school such that the knowledge gained is applied early.

Box 6.2 Coastwatch Europe survey

Coastwatch Europe is an international network of universities and environmental groups co-operating on coastal zone management issues, as well as public information, participation and training schemes. The core Coastwatch project, shared by 23 participating countries, is the Coastwatch Europe survey. A single set of questions is agreed internationally by all co-ordinators in order to give baseline information about all sections of the coast. The questionnaire is translated into national languages, and may be augmented by extra national questions and, where financially possible, with water quality testing. Local baseline surveys are undertaken by local volunteers on 500 m stretches of shore from the water's edge, covering the splash zone and immediate hinterland. The volunteers are recruited through newspaper publication of the questionnaire or through associations (schools, scouts, ladies clubs, divers or sea anglers). Since 1989 there have been over 10,000 sites surveyed every autumn, making it the largest volunteer data set for the coast of Europe.

In many countries the scheme does not just involve environmental groups, universities and local volunteers, but also local authorities. Before the survey starts, surveyors are provided with a local contact and are equipped with coded maps of their area, questionnaires, survey notes and test kits. The survey often leads to follow-up actions, such as experienced in County Louth (Ireland). The County Council asked surveyors to return questionnaires to the authority before submitting them to Coastwatch, with the pledge that officials would look through the data and act on broken pipes, illegal dumping, etc. within weeks of receiving the information. As promised, within a month of receiving the data a big coastal clean up was started by the Council, which invited local people to join in. Such co-operation in management builds good will and translates into better coastal quality.

In running the survey and various forms of follow-up action, Coastwatch co-ordinators have found that Europe-wide, specific volunteer subsets, such as fishermen and yachtsmen, have excellent knowledge based on their experiences of living and working in the locations. In most cases, simply raising the polluters' awareness of the consequences of their actions and bringing people together in the common cause of making their local water safe, brings about the required change. Sometimes, lack of finance is clearly the limiting factor.

Increasingly, it is the local people who ask for guidelines to gather baseline information and draw up a management plan for their area. The survey has often resulted in cases of co-operation between local public and officials for common aims and quality control, such as the joint management of litter, introduction of recycling campaigns or nature trails. If sewage treatment is inadequate, for example, a combined effort in lobbying the government to supply the necessary funding can be much more effective than either local people or a local authority asking alone. In cases where officials cannot be persuaded to join in, scientifically qualified environmental groups can be an alternative.

Box 6.3 Community participation schemes

Negril Coral Reef Preservation Society (NCRPS) based in Jamaica is a nonprofit non-governmental organisation that was formed by a group of diving operators in 1990 because of concern over the state of the reefs. At the time of its inception, the main goal was to install reef mooring buoys on frequently dived reefs in a growing tourist town that was once a fishing village. Thirty-five state-of-the-art reef mooring buoys were installed in 1991 with the help of "REEF RELIEF", a partner organisation in Key West, Florida. Although the reef mooring buoys prevented over 20,000 anchorages annually, it was decided that the project should be expanded.

Deteriorating water quality was identified as the biggest threat to Negril's (and Jamaica's) reefs. Lack of proper sewage treatment, deforestation, poor agricultural and solid waste management practices allowed nutrient-laden effluents to enter coastal waters. The nutrients were stimulating the growth of nuisance algae, which were smothering the reefs. As a result, the coastal waters of Negril are now in the advanced stages of eutrophication and live coral coverage is less than 10 per cent, while algae dominate more than 65 per cent of the reef. The NCRPS has as one of its primary concerns the restoration of water quality so that coral reefs can, hopefully, someday return to their previous state, or at least become recovering reefs. In 1997, a small water quality monitoring laboratory was established at the NCRPS Headquarters. A water quality monitoring programme was initiated, measuring nutrient levels in rivers, streams, ground, and coastal waters throughout the Negril Environmental Protection Area and National Marine Park. Monthly samples were collected by the NCRPS rangers and analysed in the local laboratory, while some samples were sent to outside laboratories for analysis.

An aggressive public education campaign targeting schools, communities and the hospitality industry involved raising awareness of water quality issues. Annual workshops entitled "Protecting Jamaica's Coral Reef Ecosystem" allow open discussion and participatory planning of management initiatives. A Junior Ranger training programme, involving hundreds of children between the ages of 10 and 17 years, gets students and teachers within the local schools involved in learning about water quality issues and taking part in the monitoring programme. In the context of establishing a management structure for a Marine Park, the water quality initiatives are included in an overall coral reef monitoring programme. In partnership with the Jamaican government, through locally established "Resort Boards", NCRPS has also designed a

watersports and recreational zoning programme. Demarcation buoys set 300 feet from shore mark a safe swimming zone, and there are plans to expand this programme by adding additional buoys for demarcation of non-motorised craft and environmental zones. The Society is responsible for the installation and maintenance of these demarcation buoys, and the rangers patrol them together with the police, to ensure that rules and regulations are adhered to.

Source: Negril Coral Reef Preservation Society, Pers. Comm.

6.5.2 Special interest groups

Swimming, lifesaving and other local interest groups play an important part in the education and awareness of the public towards recreational water-use quality and safety (Box 6.3). Recognition of beach hazards has led to the introduction of various beach safety regulations and the establishment of lifesaving clubs at many resorts, particularly in the USA, Australia and New Zealand. Surf Life Saving, Australia, for example, is a national organisation co-ordinating 255 Life Saving Clubs and professional lifeguards who patrol 300 beaches and make over 10,000 rescues each year. This organisation has also sponsored the Beach Safety Management Programme, documenting coastal hazards and their impacts on public safety on more than 7,000 Australian ocean beaches. It has developed a database for every beach, showing location, access, nature, physical characteristics, facilities, use, and beach and surf conditions, together with an assessment of risk levels (on a scale of 1 to 10) and a prediction of the cost required to maintain adequate levels of public safety on each beach (Short *et al.*, 1993).

6.6 Elements of good practice

- The findings of any monitoring programmes should be discussed with the appropriate local, regional and/or national authorities and others involved in management (including integrated water resource management), such as the industrial development or national planning boards.
- The results of monitoring programmes should be reported to all concerned parties, including the public, legislators and planners. Any information relating to the quality of recreational water use areas should be clear, concise and should integrate microbiological, aesthetic and safety aspects.
- In issuing information to interested parties (the public, regulators, NGOs, legislators, etc.), it is essential that their concerns are kept in mind.
- Reports addressing the quality of recreational water use areas should be accompanied by references to local and visitor perceptions of the aesthetic quality and risks to human health.
- The deleterious impacts of human health hazards and aesthetic pollution, and of control measures to avoid or reduce such impacts, should be introduced into environmental health education programmes in both formal and informal educational establishments.

- The usefulness of the information obtained from monitoring is severely limited unless an administrative and legal framework (together with an institutional and financial commitment to appropriate follow-up action) exists at local, regional and international level.

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