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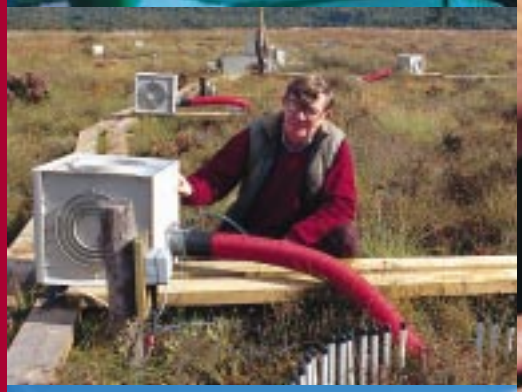

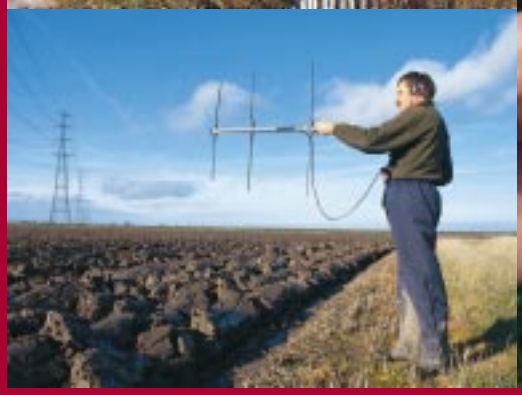

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'Making Connections': Proceedings of the second North East Kent Coastal Conference, 11 November 2004

Philip Rogers
Ecology Research Group
Department of Geographical and Life Sciences
Canterbury Christ Church University College
North Holmes Road
Canterbury CT1 1QA

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Contents

Introduction

Management of the north east Kent coast is coming of age: 2005 represents five years of management under the North East Kent European marine sites Management Scheme.

So, what makes the north east Kent coast different from other coastlines? It is covered by many nature conservation designations, including two Sites of Special Scientific Interest (SSSIs), which are designated on the basis of geological interest as well as wildlife value. The Thanet Coast, from Birchington to Pegwell, is also designated as a Special Area of Conservation (SAC) for its chalk reefs and sea caves, and this relatively small area holds 20% of all the UK's coastal chalk and 12% of Europe's. The adjacent Sandwich Bay is designated as a SAC for its sand dune and mudflat habitats. Other conservation designations focus on species, for example the Thanet Coast and Sandwich Bay Special Protection Area (SPA) protects two species of wintering bird: turnstone and golden plover. Thanet Coast and Sandwich Bay is also internationally recognised as a Ramsar Site, for its bird and invertebrate life. It is this mosaic of natural habitats, and collection of features and species, all within a comparatively small area, that makes this coastline different from many others.

Over the last five years, much has been achieved in the management and conservation of the area's valuable coastal features, and the plants and animals that live there. A lot of work has been accomplished through working with stakeholders in reaching consensus and in decision-making, education and taking responsibility. A substantial amount of scientific research has been achieved in the last two years alone, and the coastline continues to attract new studies. It is now clear that there is a better understanding of natural processes that occur around the north east Kent coast than ever before.

However, it has become clear over the lifetime of the existing Management Scheme that there are larger forces at work that affect the north east Kent coast. As a result, contradictions have arisen, because the focus on protection of a number of individual components of the site does not always reflect the effects of larger outside influences, some of which are beyond the remit of the Management Scheme. At the first North East Kent coast conference in October 2002, these issues began to surface. For example, there were suggestions that nutrient enrichment and possible eutrophication was changing the macro-algal intertidal communities found on the chalk reefs. Research is still ongoing, however it has been established that there is an influence of nutrients from both local sources and sources outside of the SAC area.

There is now an acknowledgement that attempts to protect elements of the site are best accomplished with due consideration to the whole site and the wider influences on it – taking an 'Ecosystem Approach' to the management of the area. 2005 sees a review of the current Management Scheme, and a revised scheme will be in place by April 2006. It is proposed that the management and conservation of the north east Kent coast are enhanced by using the principles of the Ecosystem Approach to underpin this review.

The 2002 conference brought together many interested parties. As a result of a desire for greater communication, co-operation and co-ordination, the North East Kent Coastal Advisory Group (NEKCAG) was formed (now the North East Kent Coastal Scientific Advisory Group - NEKCSAG). In the last two years, NEKCSAG has set up working groups to produce a researchers' code of conduct, a database group to amalgamate data from the coastline, and researched impacts of shellfish harvesting, with more projects on the way.

This second conference, held on 11 November 2004, enabled NEKCSAG members to meet other interested parties, present recent work, and discuss various current issues. The title of the conference was *Making connections,* reflecting the new Ecosystem Approach thinking.

It also linked recent research and management advances surrounding human influences on the coast as well as the more traditional areas of scientific research. The day consisted of eight short presentations, two question and answer slots, and workshop discussions looking at how the adoption of the Ecosystem Approach will shape the next Management Scheme.

This report presents papers based on each of the presentation given on the day. The full verbatim write-up of the workshops and question and answer sessions is also presented, in Appendix 1 of this report.

Philip Rogers
On behalf of NEKCSAG.

Attendance list

Name	Organisation
Mike Albury	'Bayblast' RHIB Trips
Tim Aldous	Durrell Institute of Conservation & Ecology, University of Kent
Naomi Biggs	Thanet District Council
Linda Bleasdale	Local resident
Fred Booth	Kent Wildlife Trust / Kent Field Club
Alasdair Bruce	Geologist/Rock Doc Ltd
Jonathan Bramley	Bramley Associates
Bryony Chapman	Kent Wildlife Trust
Tony Child	Thanet Coast Project, Thanet District Council
Prof. Georges Dussart	Canterbury Christ Church University College (CCCUC)
Richard Evans	Warwick Energy Ltd
Pete Forrest	Kent Wildlife Trust
Norman Foulkes	Thanet District Council
Manda Gifford	Canterbury City Council
Martin Griffiths	Sandwich Bay Bird Observatory Trust /University of Kent
Stephane Gueritte	CCCUC
John Hawkins	Canterbury City Council
Elizabeth Holliday	Kent Coastal Officer, Kent County Council
Mike Humber	Thanet District Council
Ian Humpheryes	Environment Agency
Roger Just	
Ray Lee	Marine Wildlife Assessments
Brett Lewis	Lewis Ecology
Dr. Corinne Martin	Canterbury Christ Church University College
Paul Martin	Environmental Health, Thanet District Council
Joe McCarthy	Thanet District Council
Jodie McGregor	Medway Swale Estuary Partnership
Sarah Maloney	Canterbury City Council
Jason Mitchell	Kentish Stour Countryside Project
Yoshitaka Ota	University of Kent
David & Irene Neden	Local residents
Susannah Peckham	English Nature
Diana Pound	Ecologist, dialogue matters
Philip Rogers	Canterbury Christ Church University College
Chris Riddell	Great Stour Downstream Interests Group
Craig Samuels	Planet Thanet
Lionel Solly	Conservation Officer, English Nature
John Stroud	Kent and Essex Sea Fisheries Committee
Ian Tittley	Natural History Museum, Department of Botany
Emilie Touze	Kent County Council
Mike Turner	'Wildlife' Sailing Trips
Stuart Vahid	Student
Mike Walkey	DICE, University of Kent
John Websper	Planet Thanet /SBBOT
Dylan Wrathall	Planet Thanet

Programme

9.30 – 10.00	Arrive, register and coffee
10.00-10.05	**Welcome to the day** Philip Rogers, NEKCSAG & CCCUC
10.05-10.20	**Introduction to the day: Systems thinking** Diana Pound, Ecologist

Making Connections: Human systems
(Morning session chaired by Philip Rogers, NEKCSAG & CCCUC)

10.20-10.40	**European Marine Sites – North East Kent Management Scheme update** Susannah Peckham, Conservation Officer, English Nature
10.40-11.00	**Making links with local people – The Thanet Coast Project** Tony Child, Thanet Coast Project
****11.00**	**Two minute silence will be observed****
11.02-11.20	**Fisheries on the North East Kent coast: An anthropological study** Yoshitaka Ota, University of Kent
11.20-11.40	**Kent Coastal Project – What is it and what is it achieving?** Elizabeth Holliday, Kent Coastal Officer, Kent County Council
11.40-12.0	**Questions and answers**
12.00-12.50	**Lunch break**

Making Connections: Natural systems
(Afternoon session chaired by Philip Rogers, NEKCAG & CCCUC)

12.50-1.00	**Raising questions – thinking about what the Ecosystem Approach means for science** Diana Pound, Ecologist
1.00-1.20	**CHARM – Mapping the Eastern English Channel** Dr. Corinne S. Martin, CHARM (Eastern Channel Habitat Atlas for Marine Resource Management), Marine Fisheries GIS Unit, Department of Geographical and Life Sciences, Christ Church University College
1.20-1.40	**Kent's forgotten mammals – Seal haul out sites off of the North Kent coast** Jonathan Bramley, Bramley Associates

1.40-2.00	**So did it recover? – Using winkles to investigate recovery from a change in sewage discharge on the Thanet Coast.** Prof. Georges Dussart, Ecology Research Group, Department of Geographical and Life Sciences, Christ Church University College
2.00 - 2.20	**The marine algal flora of Thanet: past, present, and future; stability or change?** Ian Tittley, Natural History Museum, London
2.20-2.40	**Questions and answers**
2.40-3.00	**Tea break**
3.00-4.00	**Workshop – What does the Ecosystem Approach mean for the coastal and marine areas of NE Kent?** (Three discussion groups)
4.00-4.30	**Feedback from discussion groups; final questions; what happens next?**
4.30	**Close of conference and departure**

Presentations

Systems thinking

Diana Pound BSc MSc, IEEM, IUCN CEC
Dialogue Matters, Wye, Kent TN25 5BU

All those who work with a focus on the natural environment are familiar with the concept of sustainability and understand what it means in practice – or do we?

The concept of sustainability derives from the Earth Summit held in 1992 in Rio de Janeiro. At the summit it was widely acknowledged that traditional approaches to the management of natural resources and human impacts were inadequate. Environmental degradation, with consequent knock to effects on social and economic well-being, was continuing apace and a new approach was needed. A multilateral environmental agreement called the Convention on Biological Diversity (CBD) was signed and by March 2003, 183 nations (all but three countries in the world) were CBD Party States (JNCC 2003). During negotiations, there was a general agreement on the necessity of striking the right balance between conservation and use. The concept of 'sustainability' was developed from this and expressed in the Convention's three main objectives:

1. Conserving biological diversity.
2. The sustainable use of its components.
3. The fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

Regrettably, since then the concept of sustainability has become blurred, often meaning little more than something that is a little greener than it might otherwise be. In practice, decisions are labelled 'sustainable' without being based on the functional limits of supporting ecosystems. If systems are stressed beyond their functional limits, either by abstracting resources or depositing waste, the ecosystem will collapse with unpredictable consequences. These are likely to bring high socio-economic and environmental costs. Without basing decisions on functional limits, the drive towards sustainability remains little more than a nice idea. In 1995, in recognition of the need to bring clarity to the concept of sustainability, the 'Ecosystem Approach' was developed; it has been adopted as the primary framework for action under the Convention.

The Ecosystem Approach is: 'a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way' (CBD).

In 1998, at a CBD workshop in Malawi, the concept was developed further and resulted in 12 guiding principles (sometimes referred to as the *Malawi Principles*). The workshop concluded that the 12 principles had to be taken from the conceptual realm and made operational and so five points of operational guidance have also been developed (see text boxes).

'Ecosystem' means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit". (Article 2 of the Convention)

The Ecosystem Approach represents a paradigm shift in thinking. It roots the concept of sustainability in fully functioning ecosystems with integrated management across sectoral interests and the sharing of benefits.

Thinking in this holistic way is a welcome departure from the narrow focus on individual species, habitats and isolated sites that has characterised much biodiversity conservation. The North East Kent European marine sites Management Scheme (Pound 2001) is an example of where statutory and policy drivers caused management to focus on just a limited range of species and habitats that occur within the area:

- wintering turnstone and golden plover,
- breeding little tern,
- reefs (the wave cut chalk shores that extend from the base of the cliff out to sea and are colonised by unusual combinations of marine plants and animals),
- sea caves.

Taking this fragmented view of natural environments is not based on systems thinking, and without systems thinking the following tends to happen:

- a reductionist approach where management fixates on part of the system and misses the whole,
- acting to produce short-term benefit at long-term cost,
- taking small actions that have unexpectedly large or unforeseen effects,
- finding that the solution to one problem causes another problem elsewhere in the system with unintended consequences.

The 12 Malawi Principles are:

1. The objectives of management of land, water and living resources are a matter of societal choice.
2. Management should be decentralised to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Need to understand and manage the ecosystem in an economic context.
5. Conservation of ecosystem structure and function to provide ecosystem services should be a priority.
6. Ecosystem must be managed within the limits of their functioning.
7. The approach should be taken at the appropriate spatial and temporal scales.
8. Process and objectives for ecosystem management should be set for the long term.
9. Management must recognise that change is inevitable.
10. Seek the appropriate balance between integration, conservation and use of biodiversity.
11. Decision-making should consider all forms of relevant information (scientific, indigenous and local).
12. Involve all relevant sectors of society and scientific disciplines.

The Ecosystem Approach has the potential to overcome these kind of effects and the 'shortcomings and deficiencies of using classical nature conservation approaches as the sole tool for management of biodiversity'. (CBD)

The five points of operational guidance are:

1. Focus on the relationship and processes within the ecosystem.
2. Enhance benefit sharing.
3. Use adaptive management practices.
4. Carry out management actions at the scale appropriate to the issue, with decentralisation to the lowest level appropriate.
5. Ensure intersectoral co-operation.

The focus of the current literature on the Ecosystem Approach does not demonstrate what is achievable. However, it does demonstrate an acute awareness of how little is known. It also demonstrates the amount of knowledge required to understand even the most simple and easy to study systems. As a result, concern is expressed about the meaning

of the 12 principles and whether or not it will mean biodiversity losing out (Nowicki,and others, in press).

When a science community is faced with uncertainty, the fix is usually seen as more research to play for time and to delay decision making until more is known. It would seem the Ecosystem Approach is no exception. However, not knowing how a system works cannot be an excuse for ignoring its existence and either failing to make any decisions (a decision in itself) or continuing to make them based on old conservation approaches that are now considered flawed.

'Adaptive management' (CBD, Operational Guidance 3, see text box) means acknowledging that not only is little known but that it cannot be known before management decisions have to be made. This means management has to be flexible enough to respond to changing natural and socio-economic processes and new scientific understanding, whilst still aiming towards an agreed and defined overall goal.

Bringing this back to the management of the north east Kent coast means starting to grapple with the Ecosystem Approach as more than a theoretical concept. It will mean beginning the process of trying to define the local ecosystem(s), understanding ecosystem resilience, spatial and temporal scales, relationships with adjacent or linked ecosystems and natural change. Taking the Ecosystem Approach forwards means not just developing increased understanding of the natural parts of the system, but also understanding the human systems used in managing, using and harvesting the resources of the area and the feedback mechanisms between them.

The Ecosystem Approach, challenging and hard to implement as it may be, is not going to go away. The UK Government has already made a commitment in exploring ways of turning it into a practical reality (Defra 2004), and it has been adopted as a cornerstone of the Government's Marine Stewardship Process (the framework for delivering the UK's Marine sustainable development strategy). Moving from generic principles and political commitments to using the Ecosystem Approach 'to influence and improve management arrangements on a day to day basis' is the next challenge (Laffoley and others 2004).

With its groundbreaking history of integrated decision making and stakeholder involvement in the European marine site management scheme, north east Kent is well placed to demonstrate how taking the Ecosystem Approach can work at the local level.

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Rapid review of current management of the NE Kent European marine sites against the 12 principles of the Ecosystem Approach

Ecosystem Approach Principle	The stakeholder dialogue and current management scheme	Discussion	What would need to be done to bring management closer to the ecosystems approach
1. The objectives of management of land, water and living resources are a matter of societal choice.	Societal choice has been made at different levels: Selecting particular habitats and species as worthy of protection under the Directives. — European Selection of Thanet as a candidate Special Area of Conservation (cSAC) and defining the boundary. — National Decide how human activities can be managed to minimise effects on the habitats and species. — Local Be consistent with, or actively promote, socio-economic benefits.	The focus of ecosystems approach is about holistic management and moving away from a fragmented approach that focus on particular species or habitats. This concurs with 'societal choice' at the local level. Local people expressed frustration with the narrow focus of the management scheme wanting it to be holistic and include: • all habitats protected under SSSI designation and geological features; • other features valued locally eg all wintering birds, seahorses, seals and fish	• Future management would reflect local 'societal choice' and be extended to include all parts of the ecosystem and include those habitats and species that are key to the functioning of the system as well as those valued for other reasons at local, national and European level; • management of the natural environment would continue to engage positively with other benefits to promote sustainable use. This includes recreation and tourism, which underpin the local economy; • future versions of the Management Scheme would be written to take an ecosystem approach. Parts of the scheme that were statutory requirements under the Habitats Regulations could be differentiated from other parts.
2. Management should be decentralised to the lowest appropriate level.	An innovative stakeholder consensus-building process, that engaged a wide range of local and regional stakeholders, was used to decide the content of the management scheme. Following this more strategic process, management was taken to the grass roots level with local interests agreeing their own codes of conduct.	The innovative process used to develop the first management scheme engaged local people who represented a wide range of interests.	• The process of stakeholder participation and consensus-building (not mere consultation) used for the first Management Scheme meets Principle 2 and would continue to be used for future management decision making.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.	Management decisions were not evaluated to assess their effects on adjacent or other ecosystems.	Ecosystems are a concept that can be defined at many levels. Before the effects on adjacent or other systems can be assessed, the ecosystem or systems that are the focus of management decision-making need to be defined.	The first steps would be to: • identify and define this ecosystem; • identify and define adjacent or other ecosystems; • include consideration of the effects of management on these systems; • summarise findings in future Management Schemes.

Ecosystem Approach Principle	The stakeholder dialogue and current management scheme	Discussion	What would need to be done to bring management closer to the ecosystems approach
4. Need to understand and manage the ecosystem in an economic context (*and remove perverse economic incentives*).	The stakeholder process was used to decide the content of the management scheme including local socio-economic issues related to the coast. However, resulting actions were not taken forward under the scheme itself. A flaw in the process was that many new social and economic projects were proposed and gained new legitimacy and momentum by being discussed in the process. However, they were not implemented as a direct result of the process. This was because of staff changes in the local authority and a lack of ownership at the departmental level. This only became apparent when the officer who was going to 'champion' the projects left and no one else took up the task. This caused stakeholders disappointment although in the longer term many ideas were implemented through other means. The main economic use of the site is recreation and this was integrated with management of the habits and species. The only activities that extract anything from the area are fishing and shellfishing. Shellfishing is being evaluated to assess what effect it is having and whether or not it is sustainable. However, this activity is cultural and not driven by 'perverse economic incentives'. Inputs to the system include waste water but this is being evaluated and reviewed under the Waste Water Treatment Directive.	It is important to engage a wide group of stakeholders in the decision-making process. Managers need to understand the social and economic as well as the environmental context, acceptable management can then be agreed. It is important that stakeholders make proposals. However, these must be proactively evaluated as part of the decision-making process. This will then ensure that they can be done and incorporated into organisational work programmes.	Future management would: • continue to integrate socio-economic and environmental agendas; • ensure that if organisations agree and support particular action, implementation is not dependant on individuals but incorporated in organisational work programmes.
5. Conservation of ecosystem structure and function to provide ecosystem services should be a priority.	The management scheme itself was narrowly focused on particular habitats and species. The decision making process, however, had a broader remit, seeking to look for outcomes which gave social, economic and environmental benefit. Nevertheless, it did not include the objective of managing structure function for the services it provides humans.	Despite the more holistic approach, the focus on the environment was unilateral ie looking at the effects of human activities on particular features rather than looking to see if the structure and function of the ecosystem could maintain human need. For example, fishing, shell fishing, and recreation or coastal protection.	Future management would: • identify the key ecosystem services provided by the local coastal and marine ecosystem/s; • consider the environment from both perspectives ie – the effect of humans on the environment, and, – the ability of the current structure and function to provide sustainable 'ecosystem services' over the long-term.

Ecosystem Approach Principle	The stakeholder dialogue and current management scheme	Discussion	What would need to be done to bring management closer to the ecosystems approach
6. Ecosystem must be managed within the limits of their functioning.	The process identified potential or actual effects of current human activity on the protected habitats and species and these were explored in discussion. Where data was available from other sources (eg base line surveys and water quality monitoring) it was used to form a view about how significant an effect might be. This should have picked up significant problems in ecosystem function and where it was under stress but ecosystem function was not specifically considered.	The focus of management was on protecting habitats and species. However, these were not necessarily keystone species, or sensitive indicator species. As a result these would not necessarily indicate the health of ecosystem function, or pick up subtle declines.	Future management would: • start work on understanding the functioning of the ecosystem: – its relationships and processes (eg energy flows, genetic mixing, interdependencies, feedback mechanisms, trends, natural change), – identify keystone species, – identify indicator species of ecosystem function and limits, – ecosystem resilience and functional limits; • evaluate existing monitoring to find out to what extent it indicates ecosystem function; • include human processes as part of functional systems; • extend evaluation of human use to include direct and indirect effects on all features of conservation interest (local, national and European); • evaluate the likely effect of known 'locked in change' eg global warming and sea level rise.
7. The approach should be taken at the appropriate spatial and temporal scales.	The focus of the decision-making was the shore and near shore. Decisions about management took place at this local scale engaging a wide range of local stakeholders. Some decisions relating to policy were taken at a national level and rolled out to all European Marine sites.	The process used to decide the management scheme was ahead of its time. It involved innovative stakeholder participation in the decision-making for protecting site management and integrating that with social and economic interests.	The process adopted met this principle and so future management would do the same.
8. Process and objectives for ecosystem management should be set for the long term.	The decision-making process used long-term objectives and then planned what would need to be done in the first 5 years is set out a clear action plan. Now that baselines have been set, and the first five years of management is well under way, it is possible to evaluate trends both in human use and the ecosystem itself.	The use of long-term objectives and short-term action missed out consideration of 'locked-in' change ie sea level rise and the effect this may have on the ecosystem. As much of the shoreline is fixed with coastal protection, natural process of erosion are not taking place. Eventually, intertidal zones will become subtidal. This was not discussed or taken into account in the setting of objectives.	Future management would: • take account of sea level rise and the effect of other long term processes in considering long-term objectives and how these could be met; • include long-term defined objectives for ecological function not just particular features; • include the likely long term effect (and sustainability) of short term (5 year) management actions.

Ecosystem Approach Principle	The stakeholder dialogue and current management scheme	Discussion	What would need to be done to bring management closer to the ecosystems approach
9. Management must recognise that change is inevitable.	The focus of management in the scheme was on various habitats and species and the objectives 'take account of natural change'. However, it does not say how differentiation can occur between human-induced change and natural change, nor the current degree of naturalness.	Defining 'natural change' is difficult and will only develop over time. The scheme does not provide for the introduction of new recreational activities and uses being taking place in the area. It also does not discuss other processes of change within the system eg social and economic changes, nor how it might adapt to these.	**Management would:** • meet objectives that are set in a way to allow for flexible, adaptive management whilst at the same time defining clear long-term goals; • describe the ways in which the system is currently not in a natural state. For example, 75% of the cliff is 'protected' with concrete; • seek to understand and take into account the long term trends and process of change in all three parts of the ecosystem: social, economic and environmental.
10. Seek the appropriate balance between integration, conservation and use of biodiversity.	This was a founding principle of the stakeholder dialogue and the actions listed in the management scheme.		Management would: • do the same again – only better with more information and using the ecosystems approach!
11. Decision-making should consider all forms of relevant information (scientific, indigenous and local).	This was a founding principle of the stakeholder dialogue and the actions listed in the management scheme.		Management would: • **do the same again – only better with more information and using the ecosystems approach!**
12. Involve all relevant sectors of society and scientific disciplines.	This was a founding principle of the stakeholder dialogue, however, whilst the process sought to include all sectors of society it only included environmental scientists - not social scientists or economic experts.		Management would: • review the list of stakeholders and add any that should be included; • involve all stakeholders in a stakeholder dialogue that took the ecosystems approach.