

# THE WAY AHEAD

## Think tank session reports

### 31. WORKING WITH INDUSTRY IN A BIOREGIONAL PLANNING CONTEXT

Discussion leader: Penny van Oosterzee  
Discovery Ecotours, Darwin

We addressed the relationship between industry and bioregional planning and how the requirements of industry can be incorporated in the planning process. It was interesting to learn that only two in our group were involved in owning and managing a commercial enterprise - myself as a tourist operator and Phillip Hughes as a cattle grazer. That is probably a reflection of one of the weaknesses of bioregional planning in that we are really only getting part of the community even thinking about it. So as an industry person, what I suggested to the group was that we actually do a part of the business plan. A SWOT Analysis. A Strengths, Weaknesses, Opportunity and Threats Analysis of bioregional planning - try to do it from an industry perspective.

#### Strengths:

The strength of bioregional planning for industry is that it provides a focus and a basis for cooperation, connects people to the land and gives them an understanding of the land and a sense of place - all these wonderful things. It provides meaning to the concept of ecological sustainable development. It also reflects industry's dependence on biodiversity and we're really talking about primary industry and tourism there. I'm not sure that it reflects mining's interdependence on biodiversity. It would reflect fisheries and many of the other industries as well. It provides a framework not only for biodiversity conservation but also for management, collecting data, monitoring, assessing accumulative impact and therefore a framework for adaptive management.

#### Weaknesses:

Nobody knows what the hell we're on about. Now the reason we said that was because Phillip Hughes had just gone into Melbourne, you know - its just down the road there, and he'd spoken to a couple of cab drivers and asked them what they thought biodiversity was and they didn't have a clue and I think as a tour operator and also a person that gets out on the land myself, that's a correct reflection of what the community thinks out there or doesn't think.

One of the other weaknesses is that GIS (Geographic Information Systems) becomes a focus rather than the process and that we're looking at special boundaries and patterns once again and so therefore its more of the same because we are going back to the dominant paradigm. That it's just another jargon term and perceived as a greenie initiative is a problem that is very real. That it's too hard and takes too much time is also something that people are sceptical about. That it doesn't account for economic factors which are externally driven such as the fact that Asia's becoming one of the dominant economic powers in the world is another weakness.

There's no resource to fund it and it may create another level of government or at least initially and initially also create problems with communication if you are deciding to talk about bioregions, suddenly you've got to communicate with three different local governments rather than one.

#### Opportunities:

An opportunity for political and social revolution - back to the 60s and a new way to think about solutions to discover what motivates community. It is a way for us to focus on ways of finding out what

motivates the community. It allows new partnerships, and necessary partnerships, it creates two way communication, it teaches local community to stand up and say “this is what we want and what we need”. If Aboriginal people, for instance, feel that they own the biodiversity then that’s terrific. Tourists see biodiversity as ecosystem. They are going to go to the wet tropics or they are going to go to desert ecosystem or they are going to go to South West Australia to look at the wildlife. You can actually use that to build an industry so it’s very opportune.

We can combine resources to manage impact because at the moment there are some projects where wildlife research programs might be funded without the various agencies or interest groups talking to each other. A bioregional approach encourages communication.

## Threats:

Political Decisions. It was mentioned in our group how the Cape York Land Use Planning program had been underway for quite some time when the Queensland Government came along and said “whack - we’re going to have a wilderness area along the coast here” and the whole process just fell in a heap and nobody trusts the government or the concept of bioregion any more.

Threats to existing status quo. Governments and the public may be threatened by it because it introduces change. The local community particularly feels threatened by it particularly if they don’t understand it. While we are thinking locally, it also depends on what happens globally and internationally. So unless we keep that in perspective we will keep on getting bogged down on boundaries rather than process.



## 32. PLANNING METHODOLOGIES AND SYSTEMS APPROPRIATE TO BIOREGIONAL PLANNING

Discussion leader: Barbara Norman  
Royal Australian Institute of Planning

We thought that we would start with the easy question. What is bioregional planning? The reason why we thought to start with this question, which none of us wanted to address really, was how can you work out what planning methodology to use if you don't know what you are working towards. So this is our contribution to this conference.

Bioregional planning involves the integration and coordination of a range of approaches and measures to conserve biodiversity in an ESD context and a biophysical framework. Very simple language isn't it? I'm sure everyone would understand it. But that's our contribution and in terms of a specific outcome I hope that people will ask questions about this later. One of the big issues behind that definition was whether bioregional planning was about protected areas or about something much broader and I guess we decided it was about both.

Why is bioregional planning important? This seems a rather obvious question but when you are talking to government officials or other decision makers it is necessary to explain that if we do not conserve biodiversity then we may not be here at some point. So if you can give it a very sort of fundamental definition and a justification then you might get a bit further with trying to convince people. So bioregional planning, from our group's perspective, was that it provided us with an ability to, or a mechanism to understand and to cope with a changing world.

We then thought a constructive thing would be to list the desirable attributes of any planning methodology we might have and this is the results of what could be, in old fashioned language, described as a brainstorming session. Desirable attributes of any planning methodology or system for bioregional planning should be one of participation which leads to an informed participatory process that leads to informed decision making. It must be transparent and open because no-one in the community will trust it otherwise and that's been demonstrated in many other areas and fields. It must be based on an understanding of biophysical elements and processes and clearly that's also about education. It must recognise multiple jurisdictions and be integrated with economic and social considerations, and it must be dynamic and involving in nature and operation. You might think these are all obvious statements but it actually took a lot of work to develop this out of perhaps about 20 different options.

So what does this all mean in terms of specific action? Very quickly. We thought there were four fields that we could address in a concrete way. First is data. Data seems to be a big issue particularly amongst the scientists and clearly it needs to be open and accessible. It also needs to be user friendly so of course we said why not put it on the Internet. However, people who are experienced in this field said you also need safeguards because areas that are identified as being important might be deliberately altered or destroyed to avoid planning or development constraints. So, we also felt that it might be constructive to develop specific protocols about how to make this data available in an appropriate manner. But unless you do make it open and accessible there is no way that conservation groups and NGOs can participate in a meaningful way and that's fundamental to any process.

The second thing is education. Planners can develop a narrow focus so if you want more fundamental change at all levels of government you need to be getting into those Institutions and you need to be talking about biodiversity, you need to be building links between the environment institute, the engineers institute, the architects institute, the landscape architects institute. It is the members of these organisations that make the decisions and write the reports in local government and State and Commonwealth government agencies so you must start to put emphasis into that area.

Thirdly, there are institutional mechanisms. We opted for the more conservative approach because we felt people don't need another committee. We've got Landcare committees, we've got Total Catchment Committees, we are going to have Coastcare, we've got all these things happening, why don't we just try to utilise the existing structures. One of the most useful things that you can do for an officer that's out

there trying to push some new idea is to develop support networks that build confidence and commitment. Those networks can build allegiances or alliances that can also tap into funding sources at all levels of government.

Finally, there is a need to provide seed funding for initiatives in bioregional planning at local government level. That is not an unreasonable thing to be looking at, because if you look at heritage conservation ten years ago that's exactly what happened. Now you have heritage planning officers in many local councils. That is something that DEST should seriously look at in the future.



### 33. COMMUNITY INVOLVEMENT, CONSULTATION AND MEDIATION

Discussion leader: Jason Alexander  
Australian Conservation Foundation

Now Community Consultation, we know that there's been lots of it and there's going to be lots more of it. Our group started off by talking about the sort that doesn't work. The black hole approach, the one way flow of information, the consultation that drags information out of the community and gives nothing back or the consultation that occurs when those in power have no intention of changing the decisions and it's tokenistic. I'll use a fax I received this week about the Lakes Management Plan as an example. It was posted to my office on October the 12th, delivered on the 16th - the accompanying letter from the consultants declares that we have until November 3rd for public reaction. So after 14 years we have exactly three weeks within which we must find a copy of the plan, none are on public display, pursue its bureaucratic detail, consult with colleagues and report back to the consultants.

Our group spent quite a lot of time dealing with the appropriateness or the methods for bringing national interests or the national community into local or regional consultation. We wanted less random community consultation and participation, more coordinated, integrated and systematic planning and implementation processes which include well resourced community consultation and participation. We want bioregional planning processes that integrate social, economic and ecological processes and are aligned so that the current mess of regional planning processes which include integrated catchment management or total catchment management, Regional Economic Development Organisations, biodiversity planning, local government and regional organisations of councils and State government processes are brought into some kind of integrated framework.

Really, people are sick of being consulted, and consulted, and consulted and that there's another plan, and another plan and another plan and really sick of having separate government departments that have sectoral interests turning up, establishing a pet committee, going forward and developing a plan. You could be in one town developing three or four separate regional plans that have got conflicting aims and you've got no way of knowing who is going to go out there into the market or the political process and work out which plan is going to win.

Sectoral planning, we concluded, therefore is contrary to ESD and also tends to reduce democratic involvement. Most of the committees which are established have ministerial appointments or bureaucratic appointments and tend to override or ignore any kind of basic democratic principles or accountability through the ballot box. Community participation really requires creative frameworks for ongoing participation but these really are about maintaining inspirational involvement.

Some of the suggestions were the use of more community and environmental monitoring, arts and cultural festivals, creative education and so on, but we've really got to extend the process well beyond the traditional kind of white Anglo Saxon bureaucratic meetings and documents. We also thought that it was very important that any planning processes start with the agreed policy goals of 1995. That we're not really putting some of the basic societal goals up for reconsideration so some of those things may well be the national goal towards preservation of biodiversity and so on. So we're really not saying look let's go back to basics and re-invent everything, and so the foundation for what we're planning is really important. So those goals maybe, for example, protect biodiversity or to have drinkable water and so on.

We also felt that it is absolutely necessary that there's an established set of community consultation and participation principles, protocols and processes and that those processes clearly identify how national, regional and local interests are involved, that they include systematic approaches to broad and fair representation and open and meaningful processes, for example, involvement of the people or the community from early stages in a planning process and also for example in land use planning decisions perhaps a percentage of any government expenditure on planning goes towards community involvement.

We also thought, well how would you develop such a set of principles and best practice and planning and so our final recommendation is that there is a need for a review of current attempts, and past attempts, at bioregional planning or just regional planning to produce a manual of best practice and models of

community consultation and participation. This should identify opportunities and constraints to integrating the social economic and ecological values and generate a set of guidelines so that local and State governments would know what is the best practice, what is the acceptable method of consulting and participating in community consultation and participation.

The participation processes must be adequately resourced and that means money for training people including basic things such as childcare and to pay for the cost of running public meetings. The timing of the process and its length is also important - it can be too short or too long. The timetable for things like public meetings is critical. If you hold them on a weekday you exclude people who work nine to five, if you hold them on a Saturday afternoon people who play football don't come and so on.

The questions of languages other than English are also critical, some of Australia's daily land use decisions are taken by people whose dominant language is other than English. In some communities people whose first language is not English might comprise 40 or 50 per cent of the population. Cultural diversity and diversity in process is absolutely critical and a proportion of all planning budgets should be devoted to participation.

Finally, some members of our group decided that it was all far too skewed in favour of humans and that we need to develop methods for involving the other species. The Parliament of the Animals we think is absolutely necessary.



## 34. INFORMATION GATHERING, STORAGE RETRIEVAL AND ITS USE

Discussion leader: Tricia Kaye  
Environmental Resources Information Network  
Department of Environment, Sport and Territories

We had some professional people in our group who are involved in information gathering and analysis so we were able to make a fairly specific recommendation straight up. The Government should make 15 million dollars available right now and we would be very able to dispose of that in an entirely appropriate fashion. That figure should be compared with the amount that is used to compile the Australian Census (which I think is about 20 million dollars) to document the distribution and behaviour of only one species.

Our second point, which we also think should be done immediately, is to establish a Secretariat to coordinate the establishment of a protocol for collecting and using information for bioregional planning. Such a Secretariat, maybe say two people, is really important to get some coordination into this area. We've already heard that there's a lot of data being collected at the moment in Australia. If that data isn't coordinated then its never going to be able to fit together and make a big picture. We won't be capitalising on our investment. Along with that we need a steering committee or some body of people who can oversee that process and ensure that stakeholders' requirements are taken care of.

That is our major recommendation and we then looked at individual items that we were dealing with and some of the actions that this Secretariat might start working on immediately. Under collection of data - it is really important that we identify existing programs and gaps and there's a little bit going on in that direction and the beginning of a national effort. But if one wanted to know, for instance what is going on in another State it might be fairly difficult. So first we need to be able to find out what's going on so that we can actually use those existing programs and see where we can move, how they can be resourced to fill in the gaps.

The second important thing is to set priorities for collection of information and of course stakeholders' needs would be accounted for in the setting of priorities. Establishing a national protocol, well that's extremely important if people are collecting it to different protocols we will end up with the railway gauge problem that we are all familiar with. We also think it's important to fund workshops to bring people together to increase the communication between people involved in data collection.

We are also advocating that data should be stored at the point where its collected. The people that are responsible for the data should also be responsible for its quality should control its update. As far as possible, we are advocating distributed data networks and the electronic transfer of data. Also along those lines some security issues were raised, for instance, in relation to endangered species and we would say that its not necessary that people make all of their data available but at least they should make the knowledge of that data available. They should be contributing to the data directories that are being compiled and of course the new ones that will be compiled out of this process.

The other really important thing is that the data needs to be archived. There are many instances in Australia where original data has been lost and again we are not capitalising on our investment if we collect data and then lose it and are then unable to access it at a later date. Resources must be available to enable people to maintain their data in an appropriate form. In most cases that will be on a computer to enable them to manage it properly and provide the access to that information.

Retrieval - it is important that data be available so it can be used. There is no point in collecting it and leaving it sitting on the shelf. There is a number of places where it should be and we're now finding that there is communication technology through the Internet that we can use to make data available and to provide these distributed databases. There should be encouragement of communication networks and real time data communication.

Use - data shouldn't be collected before it has been decided and defined how it is to be used. In most system development, the first thing that should be completed is a user requirement analysis. That is not

the case with a lot of data that is being collected. The uses have not been properly defined. We also need to identify how it is going to be analysed and interpreted.

This is a really significant thing - a lot of the information that we're dealing with is fairly complex, fairly scientific and it is really important that misinterpretation does not occur or at least that we do as much as we can to prevent its occurrence. In some cases there will be misinterpretations but it can be at least kept to a minimum. To do that we are going to have to allocate resources to analyse and interpret data. It's not sufficient to just to go out and collect it.

Politicians and other decision makers may not be qualified to deal with raw data and it must first be analysed and interpreted. That means that it must be provided in a form that can be used for decision making. Finally, the use of data needs to be within a defined management framework. So in a local bioregional planning exercise there needs to be a management framework within which data is playing a role and that needs to be understood by those that are collecting it as well as by those that are using it in the larger planning process. So I hope I've convinced you about the 15 million dollars that we believe we should receive for this project.



## 35. LOCAL, STATE AND FEDERAL GOVERNMENT INVOLVEMENT IN BIOREGIONAL PLANNING

Discussion leader: Anne Conway  
Department of Urban Affairs and Planning  
New South Wales

We had a very interesting group where most people were from the community and local government interests including both councillors and officers from local government. A smaller number were State government people and there was one from a Commonwealth Government agency. I thought there was a very interesting reversal of the normal hierarchy, with local government and community groups outnumbering State and Commonwealth officials.

The first issue that we discussed was how important it is that information and its communication is a critical element of good planning. Our recommendation is that workshops and training were certainly needed for local government councillors to get an awareness and an understanding of what issues are involved in bioregional planning. It was felt that there is little understanding out there among the people that we are going to have to put all this sort of thing into effect. What they needed to do was to get an awareness and understanding of the issues, then things could be trialed and evaluated and then finally adopted. So if there were strategies and funding provided, that was seen to be very important. It is also important to provide funding for a range of information dissemination needs, we've been talking about GIS databases - people don't know what they are and so there's a need to disseminate information about them. It is also as central, as the last group reported, to share that information and there should be a variety of fora to achieve that goal.

The third recommendation related to local government officials and officers needing to get an understanding of the principles of environmental and biodiversity planning and management. The packaging of information is critical because GIS systems and data can be threatening to those unfamiliar to them. It is particularly important to use things like maps and photos. If you give something to decision makers in a format that they can understand and feel comfortable with they can then focus on the planning process.

Another issue which was obviously very important was that there was a lot of information in State government and Commonwealth Government agencies that should be made available to local government and to the regions. Biodiversity and conservation planning must be seen as being the business of local government. There has been a real devolution of activities to local government and so there needs to be a strong move, particularly from State governments and the Commonwealth Government to give local government legitimacy for bioregional planning.

The next area that we looked at was operational issues and it was considered that it was important that examples of bioregional planning be undertaken, to show how it is done and these should be funded so local government can see how it works and that there are benefits coming from it and how they adapt and incorporate it into their own existing organisations and current practices. A series of pilot studies, it was felt, was important and that they should be funded and that there should be an exploration of diverse approaches to planning. There's not just going to be one system that will work for all areas and all States. It was felt that this would lead to a development of a framework which would then allow bioregional planning to be effectively implemented, but again recognising those differences between and within States.

Some things would work in urban areas that wouldn't work in rural areas and visa versa. It was also felt important that there be an evaluation of biodiversity policies and programs and long term monitoring was an issue that we discussed at length. The results must be used and not just locked away. You don't monitor for the sake of monitoring, it is monitoring to be used, to refine the process and to communicate it so that people can learn from it.

The next area we looked at was integration. One of the problems that's been picked up in a couple of the other workshops is the need to integrate environmental, economic and social values into planning

systems. There needs to be a culture change for the three levels of government to work cooperatively and share information. There is also a need within governments for people to be committed to bioregional planning. Both within the Commonwealth Government and within State governments there are considerable differences of commitment to planning for the conservation of biodiversity.

There is a need to review and/or rationalise legislation to ensure that it incorporates principles of biodiversity into broader legislation or in any review of current legislation. There was a suggestion that the information flow needs to be improved enormously, particularly from bodies such as the Council of Australian Governments where initiatives such as the Inter-Governmental Agreement on the Environment could be reviewed to ensure consistency with other legislation.

Community involvement was seen as being totally fundamental to all of our deliberations and recommendations that flowed from them. It is important to identify the community involved and to identify the various interests and pathways that then could be utilised. Most of those things seem to be relatively well known at local government level and that knowledge could be used in bioregional planning and the community workshops that might be associated with it.

We were then left with three issues which weren't exactly recommendations but they were issues that the workshop felt were worth bringing forward. The first was the question of urban areas versus rural areas. The urban areas are where the people are and where there will be a lot of effort going into urban planning. But in the rural areas there's that difficulty about who gets involved in bioregional planning. In the arid zone there are very few people who live there but a lot of people in the urban areas who care quite passionately about its biodiversity and how it gets managed.

The other two issues revolved around the costs of the conservation of biodiversity. The community should be prepared to pay for biodiversity conservation and that raised the question of compensation and we sort of edged around that a bit but we felt that if the community was committed to this then it should be prepared to pay for it. We also felt that there were very positive things about the conservation of biodiversity but we often tend to look at it in a negative way. There is a need for people to look at biodiversity positively and the value it has for the community.



## 36. CONTINUING MANAGEMENT AND MONITORING TO INFLUENCE PLANNING

Discussion leader: Hugh Possingham  
Department of Environmental Science  
University of Adelaide

What I'm going to try and do is say some of the things that are going to be interesting and provocative and might stir up some discussion.

We really talked about biodiversity planning specifically rather than bioregional planning and maybe that was a no no but we did it anyway, I'm not sure how much we realised we were doing it and I suppose I would have been more comfortable with a conference on biodiversity planning. I don't really understand what bioregional planning is. I think biodiversity planning can be done under any level or scale. There are all these planning things and as Jason correctly says; do we need some more planning rules overlaying all the top? Why can't we do our biodiversity planning everywhere, at every scale of planning and just integrate it into the existing system? That is an extreme point of view and in a way we worked on that basis. We were talking about biodiversity planning and bioregions provide one of the context issues for biodiversity planning.

The kind of ideas that we covered were that we really had to define targets and that is what we emphasised. If you are going to do biodiversity planning you have to have clear and explicit targets, the economists and the social scientists they know what they want in an area so we need to know what we want. That is where the whole thing is falling down because the biodiversity people cannot go and say what they want and when they want it. Once you have set targets the only way to show that your'e getting anywhere is to monitor those targets, to evaluate your objectives and achieving those targets.

Someone in our group intelligently asked 'who's going to do all this biodiversity planning, who's going to do bioregional planning if we're going to set up whole new structures '? Well we couldn't really see it happening in South Australia, they have about, you know, two dollars left after the State budget's done. We cannot see it being done unless it's integrated into other levels of planning.

So let's talk quickly about targets. Some clear simple targets, they have got to be relevant, they have got to be attacking the issue of biodiversity, they have got to be simple enough that people can understand them and translate them. For example, species recovery - does it have to be nationally threatened species, it could be a locally threatened species and that should be a target; water flow and quality, a process level target; retaining and restoring a certain percentage of every habitat type; retaining and restoring landscape characters. They are all targets that we can now explicitly put down for any region whether it be a local council region, whether it be a State, whether it be a catchment, it doesn't really matter.

Of course the targets are completely meaningless unless you evaluate your ability to reach those targets and that is essential if your'e going to come to the table where people are arguing about economic goals, agricultural production goals. If you don't have your targets there then your'e not going to get anywhere.

So, given these targets, we wanted to talk about monitoring and I think some of these points have already been covered, but basically we wanted to rework monitoring into evaluation because monitoring is not a sexy word, it's hard to get money for it. So you can now scrub out monitoring and call it evaluation. It fits in with quality control and things like that. But monitoring should ideally be community based and undertaken from an educational point of view.

Clearly, monitoring must address the targets that have been set. Targets have to come first and the monitoring has to tie exactly into them. You can think of setting targets for water quality and government sponsored community based educational programs such as Waterwatch for monitoring progress toward set goals. If our target is to maintain the diversity and richness of bird species in any sort of region then the Australian bird count is one community based solution to that sort of problem. There may be other monitoring activities for vegetation rehabilitation such as setting up photo points.

Some monitoring or evaluation activities might require skills and/or resources beyond the scope of the community. Specialist activities such as air photo interpretation to detect habitat loss and fire frequency and extent may have to be done by State agencies. There are also some biodiversity targets which are going to be very difficult to monitor and I think that's a big challenge for us all. For example, monitoring a cryptic species you know is threatened and vulnerable. How are you going to achieve that target without enormous amounts of money? It is almost impossible. Notwithstanding, monitoring and evaluation at the community level makes the conservation of biodiversity understandable and important to that community.

And finally management, we briefly noted that really all management is experimental. Management should have an experimental element to it because then the monitoring must follow. We came up with some examples of where predator control and other issues could be put on an experimental basis and not just done in a willy nilly fashion. If you do them on an experimental basis you have to monitor them and clearly again they can be integrated into existing structures and community involvement.

To end off in a full circle. We saw this all integrated together as a feedback system. That is the main point we wanted to say. Evaluation must feed back into management. Management should be re-phrased, possibly called experimental management or adaptive management. There should be feedback between monitoring, management and achieving targets. You would redefine some of your targets for biodiversity management based on what monitoring you had done so there is feedback in the entire system. The community involvement in this evaluation process is not just essential for its success but also increases understanding the values underlying the conservation of biodiversity.



## 37. MANAGING AND LIVING WITH CHANGE

Discussion leader: Roger Kitching  
Faculty of Environmental Sciences and CRC  
in Tropical Rainforest Ecology and Management,  
Griffith University

I'll try to be brief, we are getting a measure of repetition which is gratifying actually, it suggests that the same things have been emerging in different people's minds throughout this conference. Managing and living with change - what sort of change? We identified different types of change that we wanted to have a quick look at. Long term environmental change, we started out by calling that climate change but there could be other things involved here, political change, attitude change and institutional change. In long term environmental change, or considering long term environmental change which we defined as spatial and temporal change in biophysical features etc., we felt that the appropriate response to this would have to be a whole landscape approach.

Biodiversity conservation would have to be integrated with existing land use practices. This is not a bright new, "lets all go back to the beginning and start again" sort of approach. Try to understand what the changes might be and how they would occur, a sort of modelling approach that's been discussed, and ensure that the information bases are available to everyone, that's a repetition of what other people have said. Land use practices can be adjusted, that is to say that management can be adapted - again a recurrent theme across several of these think tanks. Planning systems need to be flexible and transparent which is a bit of a parenthetical statement but if you are talking about monitoring and living with change you encounter a lot of those sorts of things.

Political change. We talked about the distinction between big P and small P politics. Its not just party politics but we do need to increase the knowledge and awareness amongst politicians. We need to provide opportunities for multi-portfolio benefits, we need to incorporate biodiversity as something that every policy issue is sort of checked against. Apparently in certain documents that circulate in our beloved Capital there are little boxes on the top of the documents which say economical implications, equity implications, whatever! We need biodiversity implications to be ticked on the top of those memorandum sheets as well, or at least the opportunity for that.

The economic cost of biodiversity loss, restoration and any other associated costs should be incorporated into national accounts right from the beginning and I think we know more or less how to do that now. We need to develop programmable analytical tools, that's a bit of a brisk and global generalisation. The outcome we would look for is to change both the politicians and the voters and to generate ultimately bipartisan support for biodiversity policies and that's very important. All of this of course, involves creating political will. I think the bipartisan business is very important.

Attitude and behavioural change. This is really about how do you sell these sorts of approaches. We need to build a familiar base, it was pointed out that Landcare had been successful because it was something that had become very familiar to people. The local Landcare committees and coordinators and things became very quickly part of everyday life and there may well be room for a biodiversity operation of a similar sort, perhaps even operating through an existing group. People need to be convinced of the necessity of change, people will have to be dealt with appropriately at the local level which may often be smaller than a bioregion. It's no use trying to deal with the entire population of the Murray-Darling region, your operational level for community involvement is much smaller than that.

Meaningful scales of consultation and community involvement need to be discussed and established . The scales will vary with issues. People need to be personally involved. It is no good just sending around questionnaires or leaflets of the sort I get from my local councillor once every three years. You need a much more personal approach than that because, in fact, biodiversity does involve people personally, it's their future, their children's future, their occupation, their future well-being at stake.

Local action should be measurable, this comes back to the monitoring issue that Hugh mentioned, and outcomes should be identified. At least initially when you are trying to establish the general bona fides of the whole approach. Again, with many other groups, we feel that some case studies across States should be

established to become examples of best practice. Summarising all of that - bioregional planning or biodiversity planning must empower people to cope with change. Change is going to happen but people must be empowered to cope with change by involving them in the decision processes that are moderating that change.

Almost lastly, institutional changes. This is where we had most difficulty, possibly because nobody seems to know how to change institutions. Institutions seems to change but there seems to be some intrinsic process going on there which nobody will take responsibility for. However, we do need to facilitate cultural changes within and across institutions which needs many multi-pronged approaches. Leadership from within. How do we find those leaders, we don't know. Broad institutional links are needed across government departments, levels of government, NGO's, government authorities, industry groups and so on.

We need a process of challenge for existing institutions which involve stakeholders but we did actually reject the idea that you should willy nilly set up new institutions until you are absolutely certain that the existing institutions couldn't cope with whatever new tasks you hand in mind. And institutions must have a responsiveness to all stake holders. Institutional cultures more accepting of and responsive to change need to be developed. In other words there needs to be a measure of accepting change. After all institutions expect the change they foist on us to be accepted rather than institutions merely coping with change.

And last, I take the opportunity as one of the last formal speakers just to put this up there. Remember that biodiversity conservation is a cross sectional issue as is set out in the ESD directive and it's far too important, in my view and in the view of our think tank group, to be allowed to become merely a special interest issue.

## APPENDIX

### Conference participants

Mr Jason Alexandra  
Australian Conservation Foundation

Mr Stephen Ambrose  
RAOU

Ms Elizabeth Anderson  
Local Government Assoc of Tasmania

Ms Kate Andrews  
Australian Heritage Commission

Mr David Barratt  
ANCA

Mr Mac Barry  
Australian Cane Farmers Association

Professor Andrew Beattie  
Macquarie University  
Key Centre For Biodiversity & Bio  
resources School of Biological Sciences

Mr Ivor Beatty  
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