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Report of the Second Workshop on Mining and Biodiversity

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Izabella Koziell, IIED and MMSD

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Background

This workshop was the second of two organised under the 'Mining and Biodiversity' sub-component of the overall Mining, Minerals and Sustainable Development (MMSD) process. The aim of this sub-component is to identify the critical issues that surround mining and biodiversity, and provide 'best-bet' suggestions on ways forward. The written output of the process will contribute towards MMSD's Final Report and possibly other related initiatives.

The workshop brought together individuals from mining and energy companies, conservation and development NGOs, academic and research institutions, international organisations and government from different countries: Australia, Canada, Chile, South Africa, Uganda, Peru, the UK and the USA – see Annex 2. Special thanks go to all the participants of both workshops. Their contributions helped move the debate forward on what is a complex and contentious issue. Indeed the debate in both workshops was so rich as to result in a whole suite of possible action points.

The minutes presented here reflect MMSD's interpretation of the discussion. In documenting the debates held, every effort has been made to represent the range of issues arising as objectively as possible. As to be expected, this has not been an easy task, as there are differences of opinion on certain issues. The issues presented should not therefore be directly attributed to any of the individuals, institutions or companies present at the

workshop. Nor should the suggested actions be seen as formal commitments from the institutions involved.

The challenge now lies in ensuring that the links established and the progress made during these last two MMSD workshops do not lose their momentum. The meeting emphasized International Council on Minerals and Metals (ICMM)'s critical role in maintaining this momentum, in partnerships with others, e.g. IUCN and/or UNEP. It was also stressed that ICMM's work should encompass a much broader agenda than that of World Heritage Sites, the focus of ICMM's predecessor the International Council on Metals and the Environment (ICME).

1. Overall summary

It was very encouraging to note that the debate has advanced significantly since the first workshop. Particularly encouraging was the emerging consensus that joint actions between responsible mining companies and conservation interests might be achievable on certain issues: especially those pertaining to lands outside protected areas categories I-IV.

Whilst the impasse on the use of IUCN Protected Area Management Categories I-IV as 'no go' areas remains, there was clear recognition that embarking on a process of trust building is an essential prerequisite to further debate and consensus-building on this issue. Forming some sort of 'mutual recognition of good' pact could help advance the process. This process of trust-building could involve working together on areas where there is agreement, e.g:

- joint development of 'best practice' case studies on mining and biodiversity;
- 'codifying' a series of biodiversity conservation principles for the industry;
- promoting projects dealing with issues related to protected areas under Categories V and VI, or areas around protected areas; and
- developing the tools for, and promoting, integrated land-use planning at the broader landscape level.

It was considered important that the debate on 'no-go' for mining in Categories I-IV does not overshadow the need to mitigate mining threats to valuable biodiversity outside protected areas, and this is where the landscape or ecosystem management approaches hold considerable promise and are worthy of further investigation.

The narrative and action points presented below are based on the plenary and working groups discussions.

Technical inputs to the workshop included various pieces commissioned by MMSD. These included:

- two papers on mining and protected areas by Adrian Phillips, Vice-Chair for World Heritage of IUCN's World Commission on Protected Areas (WCPA) (presented by Pedro Rosabal of IUCN's Programme on Protected Areas) and another by Dave Richards, Rio Tinto plc;

- a paper on enabling environment for mining and biodiversity issues by Roger Blench, Overseas Development Institute; and,
- a paper on economic and financial mechanisms by Frank Vorhies and Nick Bertrand of IUCN's Business and Biodiversity Initiative.

These papers encapsulated personal views, not those of the authors' employers.

2. The need to build trust between mining and conservation interests

With few exceptions, there is a lack of trust between mining companies and conservation organisations, and yet trust is an essential prerequisite for collaborative action on pertinent issues. Trust is most likely to be effectively built by establishing joint programmes of work on issues where consensus already exists, or where it is beginning to emerge. If successful, this might then lead gradually to furthering dialogue, even agreement, on areas where, currently, there is disagreement. Trust building takes time. Processes that could be established to develop heightened levels of trust could include:

Possible 'next step' actions and opportunities

(a) Collaboration in the development of biodiversity best practice case study material, e.g. on Categories V and VI and on integrated land-use planning outside protected areas.

(b) Join action on some of the activities listed below (parts **1.2** to **1.6.1**))

(c) Use the VTh World Parks Congress (Durban, South Africa, September 2003), and any other relevant fora, as a major opportunity to showcase progress achieved on the implementation of these actions.

3. The need to strengthen the role and level of investment in hard science

As science, and the knowledge it generates, is constantly evolving, so will our understanding of what might be most important for biodiversity conservation. Therefore, there is a need to ensure that the identification of conservation priorities keeps up with hard science (taken to encompass biophysical science, with links to ethnoecology). Thus, it is especially important that governments recognise the importance of maintaining public investments in 'biophysical' hard science and it's links to quality decision-making 'on the ground'. The trend in public funding for such activities has, however, been generally downwards.

This is not to say that science provides all the answers: there are limits to using pure 'hard science' alone in setting conservation priorities. Whilst we can define species richness and uniqueness pretty well, there is still much that remains unknown, therefore, degrees of ignorance should be made explicit in every instance. Furthermore, systematics, including taxonomy, have suffered serious under investment in recent years resulting in a severe shrinkage of these disciplines within academia and research. As a result there are

increasingly fewer specialists, raising concerns over whether there will be sufficient capacity to provide 'hard science' data for future decision-making. Furthermore, out of those taxonomic specialists that do exist, expertise is skewed towards the certain groups, e.g. mammals with far fewer experts in the invertebrate groups despite the critical roles that these play within the ecosystem. Given that so far only 1.7 million species out of a possible 20 – 100 million unknown others have been named, the decline in systematics capacity will limit the development of our understanding of biodiversity and it will also hamper the setting of conservation priorities.

Many protected areas were established when science was much less advanced. This means that these areas do not always correspond with those that scientists may currently believe to be of value. However, this does not mean that these areas should be written off as they were also established to protect other natural and cultural values, not only biological ones, and to maintain the production of ecological goods and services that are essential for the planet and the society. Thus, even if not a 'perfect fit' for biodiversity, in many instances they have made important contributions towards the conservation of other natural values.

Possible 'next step' actions and opportunities

(a) Encourage debate and action on the decline in systematics and under-capacity within ecology by feeding concerns through to governments and through existing processes such as the Global Taxonomy Initiative. Given that neither the private nor public sector alone has sufficient resources for the sort of biodiversity research that is required, there is good opportunity for co-funding partnerships for biodiversity research between industry and governments. For example, there are many opportunities provided by the mining industry to support biodiversity survey and taxonomy in remote areas, e.g. during exploration. The taxonomic surveys supported by Freeport Indonesia around the Lorenz National Park provide a useful model.

(b) Identify a suitable institution that can act as a repository of good biodiversity science. There could be a potential role for IUCN on this, through its Commissions and Networks, together with other key conservation organisations and academic institutions.

(c) Develop a set of mutually agreed biological criteria, that are adapted as and when science and knowledge improves, to be used for assessing and re-assessing areas of high biodiversity value outside protected areas.

(d) Coordinate and promote research on biodiversity in mineralised areas, e.g. metallophytes and ecosystems developed on high metal substrates.

(e) Look towards ensuring that mainstream mining engineering and geology courses also teach cross-disciplinary subjects such as basic ecology and systematics.

4. The need to provide coherent and high resolution information on biodiversity

There are many excellent 'global' biodiversity databases held within different institutions, however, few as yet have been linked so as to provide a fully comprehensive view of all biodiversity information held across the world. The lack of linking also means that accessing this information can be extremely time consuming. Furthermore, as the different databases cover different aspects of biodiversity, e.g. protected areas to endemic species, which are not always spatially coincident, it is often difficult for the mining sector to know which is the best or most appropriate database to use under which circumstances. For the reasons given above, it is often impractical or impossible to use all the databases.

There are also many useful databases that exist in some countries at local or national leves, that hold high resolution information, e.g. on the local distribution of a particular species. However, their existence is often not widely known hence they are rarely linked in to the global or regional databases. Such databases could, however, be extremely useful to the mining (and other) sector when making decisions over a particular site, as they are able to hold much more detailed information than the global ones.

Key databases, such as the World Database of Protected Areas, need regular updating, but there is a lack of resources to enable this to happen. Regular update of information held within these databases is extremely important if correct land use decisions are to be taken, but there are severe resources constraints. Ground-truthing of information held, by biological and ethno-ecological surveys, is also critical, together with stakeholder involvement to check accuracy and/or relevance.

Over the years, the mining industry has collected a considerable store of biodiversity and environment information. The purpose for which it was requested differ, as do the circumstances under which it was collected, so it tends to be highly variable. As a result, it has generally not been placed within the public domain. There are also practical problems associated with its release, such as cost, quality control and ownership and intellectual property issues. However, any attempt to overcome these practical problems could be very beneficial, as it could help promote enhanced sharing of information between mining and the range of stakeholders engaged in biodiversity conservation and sustainable development. This could be another good way of building trust and confidence between the different interests. UNEP-WCMC is currently working on a pilot project to explore ways of making biodiversity data from corporate activities (EIAs and related work) more accessible.

Agreeing to some sort of a 'publication amnesty' – may also encourage mining companies to make such biodiversity information more public, e.g. by putting it on the Web.

Possible 'next step' actions and opportunities

(a) Organise a workshop on 'Information for Conservation', initially targeted specifically at the mining sector. Such a workshop could provide the first step into addressing many of the issues raised regarding biodiversity information, such as data accessibility; linking of global, national and local databases; compatibility and

standardisation; mechanisms for quality control; statistical analysis methodologies etc. Key institutions and initiatives involved in biodiversity information that could be invited to such a workshop could include: UNEP-WCMC, Otukompu, IUCN-SIS, Conservation International, WWF, the Environmental Resources Information Network in Australia, the Prospectors and Developers Association of Canada E3 initiative etc. The workshop should look to exchange learning on biodiversity metrics with the oil and gas industry, where considerable work has been done under the Energy and Biodiversity Initiative, to avoid duplication of effort.

(b) Establish a biodiversity information system which links the various existing global systems, but which has regional bases. At a more global level, such a system should incorporate and link, where possible, information on conservation priority areas (e.g. centres of endemism, centres of plants and birds diversity, hotspots, WWF's global eco-regions etc.). At a more regional level, the database should incorporate information on land uses, geology, species and ecosystem diversity and identify conservation status (protected areas and international designated sites). A possible starting point for such a system would be to enhance databases existing in various key institutions such as the World Protected Areas Database in UNEP-WCMC, and link these together. Linking systems at different levels and within different institutions and decentralising the custodianship of data to regionally based systems is complex and also needs to be fully thought through. It is particularly important that any network of linked information centres should complement, not compete with each other.

(c) There is a need to look further into the potential use of web-based systems for science-based information sharing on biodiversity – and how information held within companies could be made more public? (How does this link with national information clearing house mechanisms established under the CBD?)

5. The need to strengthen capacity in land use planning

Effective land use planning, i.e. underpinned by 'hard' science, impact and cost-benefit analyses for all stakeholders, inclusive and transparent decision-making processes, could make a significant contribution towards helping countries address or avoid serious land use conflicts, and implement more sustainable land use regimes.

In most countries, however, 'effective' planning is very hard to achieve. Different sectoral departments, each with their own objectives and priorities and each with own set of statues, policies and regulations, often feel that they have equal stakes in using the same land for their own purpose. And, many of the sectors uses and activities, and associated policy and regulatory frameworks are incompatible resulting in fragmentation of the decision making over land-use leading to a lack of coordination. This in turn can promote a focus on individual biases and agendas, hence promoting conflict rather than seeking compromises.

Furthermore, land use planning systems rarely have the capacity to link the available environmental data sets, economic, social and ecological impacts, cost-benefit analyses of different land uses, international and national conservation and development targets.

Establishing effective land use planning regimes is, therefore, often a highly sensitive and complex exercise that requires considerable skill, time and resources. Many government departments, especially in developing countries, do not have sufficient resources to finance land use planning departments, let alone engage in improving the existing systems and the associated policy and institutional frameworks. Yet the existence of an inclusive, transparent and well-informed land use planning system could make an important contribution towards preventing conservation and mining conflicts, and achieving suitable solutions if conflicts arise.

Possible 'next step' actions and opportunities

(a) Gather information on how to develop more effective land use planning systems. This is likely to involve exploring how planning can become more inclusive and transparent, how to incorporate sound science and create the enabling policy and legislative frameworks at national and international level. It is especially important to ensure that the distribution of the costs and benefits of different land uses and analysis of different social, economic and environmental impacts arising are reflected within the planning process, and that it takes into account international and national legislation

(b) Strengthen the role of governments at all levels in land use planning. Given the trends in decentralisation, priority should also be given to capacity building at the local level, and not only with government but also other stakeholders.

(c) This could involve, perhaps through the involvement of UNEP, or through professional land use planning networks. Or exploring other initiatives such as UNESCO Man and Biosphere concept.

(d) A working group within ICMM needs to be established to take these discussions forward.

6. The need to establish more consistent and transparent decision-making processes on protected areas

The issue of 'no go' areas for mining – as a way of helping to protect valuable biodiversity and other natural values - continues to be a key focus of debate on mining, biodiversity and protected areas. The conservation community believes that all IUCN Protected Area (PA) Management Categories I-IV, and UNESCO World Heritage Sites warrant 'no-go' to new exploration and mining ventures. This is because protected areas are considered critical instruments for in-situ biodiversity conservation, as explicitly recognised under article 8 of the Convention on Biological Diversity, whilst also serving to protect other important natural and cultural values. So as to ensure that protected areas remain protected recommendation 2.82, was agreed at the second IUCN World Conservation Congress last year in Amman. This recommendation calls on 'IUCN's State members to prohibit by law, all exploration and extraction of mineral resources in protected areas corresponding to IUCN Protected Area Management Categories I-IV'. Whilst responsible mining companies agree, in principle, to the concept of 'no-go', there are concerns over whether 'no-go' areas should always coincide with IUCN PA categories I-IV.

Thus, in the two papers presented on this matter (prepared by Adrian Phillips and David Richards) there was recognition that 'effective' land use planning frameworks, i.e. which apply inclusive, transparent and well-informed decision-making processes, could help identify 'no go' areas for responsible mining operations. However both communities continue to 'agree to disagree' on what these 'no go' areas should be.

The conservation community considers that a proof of 'good faith' by the responsible mining companies would constitute a formal acknowledgement of support for recommendation 2.82 for all new exploration and mining ventures. The basic minimum would be to apply this to World Heritage Sites. The obvious exceptions would be where mining is already taking place. The conservation community believe this to be a reasonable request given that PA categories I-IV cover only 4% of the world's land area.

The source of mining communities' concern over using PA categories I-IV as 'no-go' areas lies mainly in the inconsistent and haphazard application of the categories system between different countries. There is widespread acknowledgement that it is *not* the individual category descriptions, as developed by IUCN, and the principles that they espouse, that are inappropriate. Instead, concern centres around how the IUCN system has been interpreted and applied within countries. Resolving this will require working with governments, as it is governments' responsibility (not IUCN's) to assign categories to their PAs, if not already encapsulated in existing national legislation. Governments can also choose to alter existing categorisations if they wish, following national PA laws and regulations (and in such cases IUCN would play a strong advocacy role if it felt inappropriate decisions on alteration of category were being made).

Whilst governments clearly play a key role in assigning the categories, the mining sector also wants proof of 'good faith' from the conservation community with regard to their active support to achieving rigour, consistency and transparency on how the protected areas categorisation system is applied by the national governments. The mining community would also like public acknowledgement of the increasing number of successfully implemented 'good biodiversity practice' projects.

Other concerns regarding 'no-go' and categories I-IV include the time-bound nature of decision-making on protected areas: decisions on what is valuable biodiversity are influenced by the level and quality of knowledge available, and this usually tends to improve with time. Many protected areas were established when scientific knowledge was less advanced, and when our understanding of indigenous uses of biodiversity was more limited. As a result, many of the PAs assigned during the early-mid 20th century may not necessarily coincide with those areas that are now considered to be of greatest biodiversity value today. This raises some very difficult dilemmas. Clearly there are areas of valuable biodiversity that remain unprotected. There are also species and ecosystems, recently discovered, that are underrepresented in the protected areas system. There is, therefore, little doubt that a Global Representative System of PAs (terrestrial, marine/coastal) has not been achieved. Consequently, conservation groups are calling for an increase in protected areas.

However, there are many financing and management problems relating to protected areas, especially in developing countries, hence it has proved difficult to minimise the threats and prevent the degradation of these areas. As a result there are protected areas that have lost

their original values, and yet still may for instance be designated as a Category II. Furthermore there are ever increasing pressures on land, especially in developing regions, and so putting more land under protection is not always feasible and may result in denying access to critical livelihood resources. Given such trends, there are concerns over whether or not new protected areas will receive adequate levels of protection. There are therefore calls for rationalising the PA system, i.e. reducing restrictions on 'old' PAs, or parts of them, that contain ecosystems or species that already well protected elsewhere and replacing them with 'new' PAs, that encompass previously under-represented or unknown biodiversity. Embarking on such a process will, however, be complicated as many 'old' PAs, whilst not conserving the 'ideal' biodiversity, may still continue to maintain critical ecosystem services, or other important natural or cultural values. It is especially important to consider these other values when judging PAs conservation effectiveness.

There are therefore complex debates over whether or not a degraded protected area continues to merit its original designation, and how to manage the establishment of new PAs (esp. Category I-IVs). There does, therefore, need to be very serious and careful consideration over what should be done over these issues, within the framework of international and national legislation: whether (and under what conditions) should there be concerted attempts to restore such areas, and if so how? Also whether (and under what conditions) might such areas be demoted? This will require a more dynamic approach, supported by thorough and high quality investigations, to review and assess the adequacy of individual protected areas as well as national systems of protected areas, and their categorisation.

Given these dilemmas, there is increasing interest in looking at other tools to conserve biodiversity across the landscape, i.e. outside protected areas on managed lands as well as within protected areas. There are a number of relevant tools emerging: integrated landscape/ecosystem management approaches, bioregional planning, co-management, the UNESCO Man and Biosphere Reserve concepts etc. Adopting such approaches is especially important as the ecological integrity of PAs often depends on biodiversity held outside protected areas, and yet the level of investment in such approaches has, so far, been limited. There is therefore a need to invest more in improving the effectiveness of such approaches, as they can offer a means of achieving an appropriate balance between conservation and use, but they are complex, costly and not easy to apply. There have been some pioneering efforts in Canada and Australia and, despite the heightened constraints faced by the developing country context, the conservation community[1] has been working on these approaches in such regions.

Despite differences of opinion on 'no-go' and PA categories I-IV, it was agreed that there are many opportunities for the conservation and mining communities to work together, especially on issues pertaining to the other Amman recommendations, e.g. on mining activities within and around categories V and VI, EIA, and on land contained within the 96% of the Earth not covered by protected areas under categories I-IV, and also other issues of joint interest, e.g. integrated land-use planning initiatives. Both communities realise that further work will require time and a carefully managed process in order to build the trust and confidence necessary to continue the debate on protected areas and mining.

[1] WWF and IUCN have sources of information on these developments.

Possible 'next step' actions and opportunities

(a) IUCN to explore how to assist in building capacity of governments and protected areas agencies to better apply the IUCN category system, in collaboration with other members of Union and in particularly through the work of the IUCN's World Commission on Protected Areas (WCPA). Without such assistance such the system will continue to be the subject of variations in interpretation causing confusion on how the system is applied. Relevant activities might include:

- Developing additional technical guidance on the application of the IUCN category system, based on previous experience already existing for Europe and for Australia, in order to help achieve more consistency between protected area categories between countries and regions;
- Advising on how a broader range of stakeholder perspectives could be effectively incorporated into PA categorisation decision-making;
- Developing guidance on how to build the latest scientific advancements in biological assessment, and how to conduct social, cultural and economic analyses, for protected area system planning;

(b) Gather information on how to develop more effective land use planning systems. This is likely to involve exploring how planning can become more inclusive and transparent, how to incorporate sound science and create the enabling policy and legislative frameworks at national and international level. It is especially important to ensure that the distribution of the costs and benefits of different land uses and analysis of different social, economic and environmental impacts arising are reflected within the planning process, and that it takes into account international and national legislation

(c) Strengthen the role of governments at all levels in land use planning. Given the trends in decentralisation, priority should also be given to capacity building at the local level, and not only with government but also other stakeholders.

(d) This could involve, perhaps through the involvement of UNEP, or through professional land use planning networks. Or exploring other initiatives such as UNESCO Man and Biosphere concept.

A working group within ICMM needs to be established to take these discussions forward.

(a) Build up a joint initiative to develop further the concepts and practices that can help achieve a better balance between protection and other land uses through the integrated landscape/ecosystem management approaches, possibly in collaboration with the professional land use planning networks (e.g. Green Planners Network).

(b) Investigate further the value and relevance of innovative concepts for managing the trade offs between conservation and mining, such as offsets. Such tools could help formalise mining sector contributions towards conservation, in return for receiving permission to mine where there is high biodiversity.

(c) Work towards building research and capacity building partnerships on these issues with other sectors, notably the oil and gas industry. This could provide much needed support for severely underfunded protected areas departments. Any such initiatives need to ensure that local communities interests are also taken into account.

(d) Explore how to bring small-scale and artisanal miners on board, in the first instance feeding information arising out of the MMSD mining and biodiversity process into CASM.

7. The need to articulate and enhance better practice on biodiversity within the mining sector

Governments of 180 countries have signed up to a set of biodiversity priorities through ratifying the Convention on Biological Diversity, and conservation organisations have spent years developing universal codes of practice, guidelines and principles in all areas of biodiversity conservation planning and management. There has also been progress within individual mining companies on biodiversity conservation in recent years, but there have been no industry-wide attempts to articulate the industry's 'biodiversity' principles. Such principles could help provide clarity to the industry and also help improve understanding amongst external stakeholders about industry positions.

Direct outreach to the smaller companies and juniors will help raise awareness within this group on biodiversity principles and better practice. There is a general perception that the 'juniors' are the worst performers, however, it is important to note that this is not always case. The industry can be split into companies that are either leaders or followers or resistors of innovation, and both big or small/senior or junior companies can be placed within each of these categories.

Measuring company wide impacts on biodiversity has its limitations, as aggregating data collected by various semi-autonomous units, can become complicated. Getting consistency across the various units is hard, and the real meaning is usually expressed from the data collected at site level, not some highly diluted figures that have had to pass through various stages of refinement. Furthermore, acquiring the data from these different units can be very time-consuming. There are therefore trade-offs between centralised and decentralised data collection and analysis. This has significant implications on the relevance of 'worldwide' reporting initiatives, such as the Global Reporting Initiative.

There is a real need to improve the quality of closure, especially with regard to orphaned and abandoned mines and existing mines that have been in operation for long periods of time, often with a history of multiple ownership. Addressing closure has always been constrained by its significant cost implications and is complicated by the relatively short time frame in which the new standards and requirements have been established. One way to address the cost of closure, in the future, is to have up-front bonds, which will provide a guarantee that the costs of clean-up will be covered. Such mechanisms affect profitability, but this is a very direct way of influencing decisions using financial mechanisms to help address environmental impacts. Bonds can, however, be fraught with legal complications.

There are other mechanisms, such as those implemented by some countries, e.g. Canada, where a permit to mine cannot be obtained until the closure plan has received government approval.

There are also various technical issues with regard to closure. Whilst mining companies have sometimes revegetated with 'exotic' or non-indigenous species, there are moves now to promote 'natural' revegetation (or native ecosystem reconstruction) at old mine sites, where this is feasible. There are certain distinct advantages in promoting the use of 'natural' regeneration processes: they often require much less maintenance and are usually more resilient. In arid areas, for example, the use of native species may be the approach of choice (or even stipulated by regulators) because these species are able to withstand harsh environmental conditions more than 'exotics'. It is also possible, in some circumstances, to enhance the speed of recovery. There are instances, however, where local communities have requested that non-native plant species be used in revegetation programmes in order to secure future cash crops (e.g. pine trees for fuelwood or construction timber).

Decisions regarding closure need to be taken at the beginning of the mine cycle, so that necessary measures are incorporated into the mine site land use plan. These decisions and plans need to be revised throughout the mine life, as the closure requirements are likely to change over time.

There are now increasing numbers of post-closure success stories. These include the Billiton mine in the Cape in South Africa where the original landscape was recreated, and certain wild species, such as elephants, were re-introduced. The area now boasts significant tourist potential. Richards Bay Minerals operations near St Lucia in South Africa and the bauxite mining in western Australia (Alcoa) provide other good examples of good closure practice. And, of course, the largest quarry rehabilitation project in the world - the Eden Project in Cornwall, UK - which has resulted in one of the largest and most biodiverse hothouses in the world. It is rapidly becoming one of the most visited tourist destinations in the UK!

Possible 'next step' actions and opportunities

(a) The mining companies, through ICMM, should work together to produce a 'strategic framework', or 'guiding principles', or 'strategy' on the mining and biodiversity conservation (inc. land access issues). Developing such a framework would have to incorporate different stakeholder inputs, it would also have to build on the Convention on Biological Diversity principles and be firmly rooted in 'hard science'.

(b) Another option would be to put together a 'resolution' on mining and biodiversity, which could be articulated in a sort of 'Charter on Mining and Biodiversity Conservation' that could be launched as a major initiative during e.g. the Vth World Parks Congress in 2003. Such a resolution or charter could encompass:

- Articulation of recognition of different contexts within which mining operates, e.g. recognising different types of mining, different ecosystems, different levels of operation all have different impacts etc.

- Articulation of 'desiderata', e.g. nevertheless governments, conservation organisations, companies believe that….. explaining what needs to happen.
- Articulation of actions, e.g. then governments should…, companies should…, conservation organisations should…. explaining what needs to be done.

(c) Alternatively, establish a process, similar to that scoped out by Conservation International's proposed Mining and Biodiversity Initiative, i.e. a 'modified CI' process, which incorporates a wider set of companies, to develop best practice guidelines, training manuals, operational standards and, perhaps, codes of practice for the different stages of the mine cycle. Such a process could also incorporate existing initiatives, such as the PDAC-E3 project on exploration (and mining operations); the discussions held at the Kew Gardens workshop in 2000, on codes of practice for exploration.

(d) Commission multistakeholder reviews of good biodiversity practice carried out by mining companies to help build trust and awareness on responsible mining activity.

(e) Support and invest in research on reclamation and restoration techniques to achieve particular closure objectives. Whilst both mining companies and academics are often engaged in such research there is not enough dissemination between the two groups.

(f) Explore the possibility of secondments between conservation organisations and mining companies.

(g) Focus on improving the quality of the EIA process, and create mechanisms by which the information could be more widely shared.

(h) ICMM should, where possible, and working with appropriate conservation organisations such as IUCN and others try to influence governments to also implement its biodiversity commitments.

Appendix 1: Workshop Objectives and Agenda

This workshop is part of a six-month process during which we aim to identify the critical issues that surround mining and biodiversity and provide suggestions on possible ways forward. It is a follow on to the first workshop held in June 2001, also in London. The minutes of this workshop are to be found at MMSD's biodiversity web page, http://www.iied.org/mmsd/activities/biodiversity.html.

The mining and biodiversity process falls under the wider Mining, Minerals and Sustainable Development (MMSD) project. The outputs of this process will feed into relevant chapters of the MMSD final report. We may also produce separate discussion papers, e.g. out of the mining and protected areas work. The outputs will also contribute towards other relevant activities, e.g. the work of IUCN/World Commission on Protected Areas, Conservation International's proposed Mining and Biodiversity Conservation Global Multistakeholder Initiative etc.

This workshop, much like the first, is bringing together individuals from mining and energy companies, conservation and development NGOs, research institutions, international organisations and government from different regions. With such a mix of participants, a wide range of interests will be present. These workshops do therefore provide an excellent opportunity not only to share and compare experience, but also to identify possible ways forward on issues where views are divergent, and especially on how to build further on areas of consensus.

The overall objective of the workshop is to:

- Identify a suite of recommended 'next step' actions, which could be undertaken at different stages of the mine cycle by different stakeholders: governments, mining companies, NGOs etc.

Specific objectives will include:

- A discussion on biodiversity, how to improve its valuation and assessment?
- To review and discuss the paper on mining and protected areas.
- To review and discuss the papers on financial and market mechanisms and enabling environment.
- To identify what could be done at different stages of the mine cycle.
- Agree 'what next post-MMSD?

Thursday 25th October

9.00 Coffee and registration

9:30 Welcome and Introductions
Richard Sandbrook (Chair) and all participants

10:00 Feedback on progress and workshop objectives
Izabella Koziell

10:15 Biodiversity values and assessment
Biodiversity science, values and assessment. Roger Blench, Overseas Development Institute.
Biodiversity indicators for corporate reporting. Assheton Carter, Conservation International.

11.00 Refreshments

11:15 Mining and protected areas
A conservation perspective. Pedro Rosabal, Protected Areas Programme, IUCN (for Adrian Phillips)
A mining perspective. Dave Richards, Rio Tinto plc
Followed by discussion.

12:30 Lunch

13:30 Introduction to 'Mine Cycle' working group sessions
Izabella Koziell

13:45 Reflections from work on the 'enabling environment' necessary to build synergies between mining and biodiversity conservation
Economic and financial mechanisms. Nick Bertrand, Business and Biodiversity Initiative, IUCN (for Frank Vorhies).
Regulatory frameworks and tools. Roger Blench, Overseas Development Institute.
Land use planning frameworks in Canada. Tony Andrews, Mine Developers and Prospectors Association.
Followed by discussion.

14:45 Exploration
Introductory overview of the issues. Ed O'Keefe for MMSD/IIED
Generic lessons from exploration in ecological sensitive areas in Uganda. Robbie Robinson, Ugandan Wildlife Authority.
Case studies of exploration practice. Jim Robertson, Placer Dome.

15:30 Refreshments

15:45 Working groups' session

16:45 Plenary feedback from working groups

17:30 Close

Friday 26th October

09:30 Mine development and management

Introductory overview of the issues. Ed O'Keefe for MMSD/IIED

Government – industry relationships on mining and environment/biodiversity. Juan Carlos Cuchacovich. Consultant, formerly at Departamento Proteccion de Recursos Naturales Renovables, Chile.

Metallophytes – a unique biological resource. Alan Baker, University of Melbourne, Australia,

10:15 Working group sessions

11:15 Refreshments

11:30 Plenary feedback from working groups

12:30 Post-extraction product chain and mine closure

Introductory overview of the issues. Ed O'Keefe for MMSD/IIED.

Post-mining rehabilitation. Loveday Jenkin, Cambourne School of Mines, Cornwall.

13:00 Lunch

14:00 Working group sessions

15:00 Plenary feedback from working groups

16:00 Refreshments

16:15 What next post-MMSD?

Discussion to include:

1. Format for MMSD written outputs
2. Other processes: proposed MBI, etc.

17:30 Close

Appendix 2: List of Participants

No.	Name	Organisation	Position	*E-mail*
1.	Agnew, Carey	Natural Resources Canada	Policy Innovation	cagnew@NRCan.gc.ca
2.	Andrews, Tony	Prospectors and Developers Association of Canada	Executive Director	aandrews@pdac.ca
3.	Baker, Alan	School of Botany University of Melbourne 3010 Victoria, Australia	Professor. Applied Ecology.	ajmb@unimelb.edu.au
4.	Bennett, Craig	Friends of the Earth	Living World Campaigner	craigb@foe.co.uk
5.	Bertrand, Nicholas	IUCN	Economics Department	nicolas.bertrand@iucn.org
6.	Bibby, Colin	Birdlife International		Colin.Bibby@dial.pipex.com
7.	Blench, Roger	ODI		r.blench@odi.org.uk
8.	Brain-Gabbott, Lucy	IIED-MMSD	Project PA	lucy.brain-gabbott@iied.org
9.	Carter, Assheton	Conservation International		a.carter@conservation.org
10.	Cooke, John	School of Life and Environmental Sciences, George Campbell Building, University of Natal,		Cooke@nu.ac.za
11.	Cuchacovich, Juan Carlos	Formerly at: *Departamento Proteccion de Recursos Naturales Renovables*, Chile	Consultant Former government official	jcuchaco@hotmail.com
12.	Danielson, Luke	MMSD	Project Director	Luke.danielson@iied.org
13.	Dr Robinson, Robbie	Uganda Wildlife Authority	Head, National Parks Uganda	Dr.Robbie@uwa.or.ug

14.	Drake, Gordon	WMC –Australia	Group Manager, Public Policy & Environmental Affairs	Gordon.Drake@wmc.com
15.	Garzon, Pedro Andres	IIED-MMSD	Research assistant	Pedro.garzon@iied.org
16.	Jenkin, Loveday	*Camborne School of Mines, Exeter University*	Professor	L.Jenkin@csm.ex.ac.uk
17.	Johnson, Tim	*UNEP-WCMC*		Tim.Johnson@unep-wcmc.org
18.	Koziell, Izabella	IIED-MMSD	Biodiversity and Livelihoods Group Coordinator	Izabella.koziell@iied.org
19.	McShane, Frank	MMSD	Co-ordinator of stakeholder engagement	Frank.McShane@iied.org
20.	Miller, Jim	FMI		Joan_Cooper@fmi.com
21.	Mitchell, Caroline	BP		MitcheCJ@bp.com
22.	Newton, David	BHP Billiton		David.Newton@bhpbilliton.com
23.	O'Keefe, Ed	IIED-MMSD	Research assistant	Edwardok@aol.com
24.	Reed, Tim	Fauna and Flora International	Corporate Biodiversity Analyst	tim.reed@fauna-flora.org
25.	Richards, David	Rio Tinto plc		david.richards@riotinto.com
26.	Roberts, Neville	Anglovaal Mining (Avmin)	Vice President: Safety, Health & Environment	neviller@avmin.co.za
27.	Robertson, Jim	Placer Dome	Director Environment	jim_robertson@placerdome.com
28.	Rosabal, Pedro	IUCN	Protected Areas Programme	PMR@hq.iucn.org
29.	Sandbrook, Richard	MMSD	Project Coordinator	RSandbrook@aol.com
30.	Tanner, Philip	Anglo-American		Ptanner@cht20.co.uk

31.	Whitbred-Abrutat, Peter	Eden Project, Cornwall	Senior Scientist	PAbrutat@EdenProject.com
32.	Wicks, Clive	For WWF (UK)	Consultant	Clive.Wicks@virgin.net
33.	Williamson, Anne	Phelps Dodge		awilliamson@Phelpsdodge.com
34.	Wood, Craig	Noranda Inc.	Principal Scientist	Wood@ntc.noranda.com
35.	Wood, Libby	IIED-MMSD	Project Manager, MMSD	Elisabeth.wood@iied.org
36.	Zapata, Florencia	The Mountain Institute, Andean Region PERU	Consultant to Director of Andean Programs	florenciaz@mountain.org