KILLARNEY DECLARATION

AND

RECOMMENDATIONS

ON

BIODIVERSITY RESEARCH

Adopted by the EPBRS Meeting

Sustaining livelihoods and biodiversity –
Attaining the 2010 targets in the European Biodiversity Strategy

under the
Irish Presidency of the EU
in Killarney, Co Kerry 21-24 May 2004

Éire 2004 Uachtaránacht an Aontais Eorpaigh
Ireland 2004 Presidency of the European Union

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KILLARNEY DECLARATION

Emphasises:

- **that biodiversity is essential for sustaining human life and well-being**

- **that biodiversity is critical in sustaining livelihoods**

- **the vital role of biodiversity as a provider of natural capital, goods and services underpinning the Lisbon agenda across all sectors**

*Recognises***:**

- **the alarming rate of biodiversity loss in the EU and globally**

- **that urgent and effective action is needed to meet the 2010 target**

*Stresses***:**

- **that knowledge is essential for conservation and sustainable use of biodiversity and that investment in an improved understanding of biodiversity will deliver new and exciting opportunities for development**

- **the crucial role the European Research Area/7th Framework Programme must play in supporting the achievement of the biodiversity targets**

- **the critical importance of research in delivering the EC Biodiversity Strategy and thereby meeting the EU and Member States' international obligations as Parties to the Convention on Biological Diversity**

- **the need for immediate research actions to fill gaps in current knowledge, brought about by targeted biodiversity research funding from EU sources and Member States**

OBJECTIVE AND 2010 TARGETS FOR BIODIVERSITY RESEARCH

Recommendation for Revised Objective 19 for inclusion in the *Message from Malahide*

OBJECTIVE 19: To improve and apply the knowledge base for the conservation and sustainable use of biodiversity.

2010 Targets:

Knowledge outcomes:

- status[1], trends and distribution of all habitats and species of Community Interest and of additional habitats and species of policy relevance by 2010.

- impacts of the most significant pressures[2] on biodiversity for each key sector of the European Community Biodiversity Strategy discriminated, ranked and quantified where possible, and prevention and mitigation options developed and tested by 2010.

- tools for measuring, anticipating and improving the effectiveness of the most important policy instruments for conservation and sustainable use of biodiversity in each of the sectors of the European Community Biodiversity Strategy developed and applied by 2010.

Enabling outcomes:

- adequate financial resources (to achieve knowledge and enabling outcomes) allocated to European and national biodiversity research and the dissemination of its results by 2006.

- effective and inclusive European Research Area for biodiversity established research capacity in key disciplines (e.g. taxonomy) with interdisciplinary and participatory science strengthened by 2008.

- institutional arrangements in place to ensure essential policy-relevant research is done and research outcomes are assimilated by policy-makers by 2010.

- common data standards and quality assurance procedures established and promoted to enable interoperability of key European and national biodiversity databases and inventories by 2008.

Headline Indicator: not applicable.

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[1] Here 'status' is used to refer to the abundance of species, extent of habitats and the favourable conservation status of habitats and species of Community Interest. Composition and function to be included here.

[2] Pressures include sea- and land-use change, habitat fragmentation, connectivity and destruction, climate change, pollution, including eutrophication and nitrogen deposition, harvesting and hunting pressure, natural and anthropogenic catastrophes, non-indigenous and invasive organisms and emergent diseases, globalisation, trade, consumption patterns, business practices and social conflicts, institutional structures and property rights, loss of genetic diversity and key functional groups (e.g. pollinators and bio-turbators), policy conflicts, and new technologies including GMOs and renewable energy.

Justification

There are substantial gaps in knowledge in relation to the conservation and sustainable use of biodiversity. These include gaps in relation to knowledge about the state of biodiversity, drivers of loss and pressures on biodiversity, their impact now and in the future, and the effectiveness or otherwise of policy responses. There are also inadequacies in the interface between policy and research, with not enough research being policy-relevant, and insufficient application of existing knowledge to policy. Addressing these gaps will require substantial financial resources for policy-relevant research, the strengthening of coordination mechanisms and capacity-building in key disciplines such as taxonomy and participatory science, the mobilisation of data, and the strengthening of institutional arrangements for the policy-research interface.

Key opportunities/levers

- International scientific initiatives including: GTI, GBIF, GEOSS, Millennium Ecosystem Assessment and DIVERSITAS.

- Application of FP5 and FP6 research results

- Opportunity for new projects under remaining FP6 calls and FP7

- Member States' research programmes and application of results of these

- Biodiversity research platforms – EPBRS and national research platforms – to identify elements for discussion of science policy options within FP7, and national research programmes working together in the European Research Area.

Key actions/schedule

- The following research priorities were recommended by the EPBRS at its Irish Presidency meeting in Killarney 21st-24th May 2004.

KILLARNEY RECOMMENDATIONS FOR BIODIVERSITY RESEARCH PRIORITIES FOR THE 2010 TARGET

To achieve the objectives of the European Community biodiversity strategy and the target of halting biodiversity loss by 2010, the participants of this meeting place high priority on research to:

Status and trends

1. Further develop an accessible Europe-wide geo-referenced inventory of species and habitat distribution, status and trends, underpinned by significant new taxonomic effort, and support similar research in developing countries. This should include quantification of genetic diversity for species of economic or conservation importance, and improved understanding of traditional knowledge and uses of species and habitats.

2. Develop, test and evaluate indicators, and harmonise habitat and landscape classifications, to deliver policy-relevant information on the status and trends of biodiversity, the drivers of biodiversity change and the success of policies designed to halt the loss of biodiversity by 2010, and progress towards targets of the EC Biodiversity Strategy. Develop indicators of sustainable management of renewable resources, ecosystem integrity and ecosystem goods and services, vulnerability of livelihoods, public awareness and participation, and funding to biodiversity.

Pressures and drivers of change

3. Improve understanding of the major anthropogenic and natural drivers of biodiversity change, and their individual and combined impacts. Important drivers and pressures include:

    i. Sea- and land-use change
    ii. Habitat fragmentation, connectivity and destruction
    iii. Harvesting and hunting pressure
    iv. Climate change
    v. Natural and anthropogenic catastrophes
    vi. Pollution, including eutrophication and nitrogen deposition
    vii. Non-indigenous and invasive organisms and emergent diseases
    viii. Loss of genetic diversity and key functional groups (e.g. pollinators and bio-turbators)
    ix. Globalisation, trade, consumption patterns, business practices and social conflicts
    x. Institutional structures and property rights
    xi. Policy conflicts
    xii. New technologies including GMOs and renewable energy

4. Further develop models at relevant scales, within and across disciplines, to understand and predict the effects of these drivers on biodiversity. Produce and implement decision support tools incorporating these models.

5. Improve understanding of public beliefs, perceptions, attitudes and preferences regarding biodiversity, and how these relate to behaviour and public policy; increase knowledge of the various values of biodiversity (not limited to economic) and improve methods for their evaluation.

6. Improve understanding of the ways humans use biodiversity, and the ways those uses affect biodiversity, ecosystem goods and services and ecological-economic system resilience. Quantify the contribution of biodiversity to livelihoods and further understand how changes in biodiversity and ecosystem functions influence livelihoods, and improve and assess strategies for sustainable livelihoods and lifestyles.

Response and policy evaluation

7. Further develop participatory and conflict management methods and effective and cost-effective policy instruments, implementing sustainable use, conservation and restoration of species and habitats, and improve methods to implement the ecosystem approach and to monitor and evaluate policy.

8. Investigate forms of governance and management of biodiversity use, conservation and restoration in different sectors, taking into account uncertainty, irreversibility, and the complex nature of ecosystems, including research into implementation of the precautionary principle, addressing legal issues including cross-border and multi-level governance and jurisdiction.

Specific priorities for Biodiversity Action Plan on Conservation of Natural Resources

9. Assess and evaluate legislation, policy and sectoral activities, at all scales, that impact the conservation of natural resources, and identify solutions to conflicts.

10. Develop and assess methods of conserving natural resources that achieve sustainable lifestyles and that reduce impact on biodiversity.

11. Develop concepts, tools and methods to achieve favourable conservation status of habitats and species and establish baselines and targets.

12. Understand how species interact and contribute to ecosystem function, structure and services, and discriminate anthropogenic and natural dynamics in ecosystems.

13. Develop concepts, tools and methods to enable species recovery and to restore and manage the various functions of degraded ecosystems with reference to their resilience.

Specific priorities for Biodiversity Action Plan on Agriculture

14. Assess the performance of the reformed CAP in achieving the target of halting biodiversity loss by developing a harmonized framework for evaluation, and urgently support the development of monitoring systems using agreed indicators.

15. Define harmonized farming and landscape classification systems for the identification of priority biodiversity objectives, establish reference condition and targets and develop appropriate policy instruments for specific farm contexts and habitats.

16. Improve the design, implementation, monitoring and evaluation of agri-environmental instruments at the scales at which they most effectively deliver on the 2010 biodiversity targets.

17. Develop ecologically-based agricultural and food supply systems that enhance biodiversity and utilize its benefits, starting with research for conservation programmes for the most vulnerable and potentially useful species.

18. Analyse land managers' attitudes, motives and behaviour in order to promote and enhance their role as conservers of biodiversity in different farming contexts.

Specific priorities for Biodiversity Action Plan on Fisheries

19. Develop the ecosystem-based approach to the management of fisheries and aquaculture supported by appropriate sociological and socio-economic research.

20. Improve the understanding of the population structure of commercial species, using genetic and traditional approaches, to optimise stock management.

21. Improve understanding of the ecosystem effects of fishing activities and how they may be reduced in particular through fishing gear developments including selectivity.

22. Pursue further research into the ecological impacts of aquaculture to facilitate informed and sustainable development and management.

23. Investigate new and alternative approaches to ensure the future economic and environmental sustainability of the aquaculture sector.

Specific priorities for Biodiversity Action Plan on Economic and Development Cooperation

24. Identify and quantify the causes of biodiversity change in developing countries and the impact of this change on livelihoods.

25. Develop and evaluate economic, social, institutional, political, policy and environmental instruments in developing countries to alleviate the impacts of biodiversity change on livelihoods and to develop sustainable use and management of renewable resources.

26. Develop and evaluate long-term biodiversity monitoring programmes and indicators that contribute to the assessment of the 2010 WSSD target in developing countries.

While uncertainty or gaps in knowledge are not excuses for inaction, targeted biodiversity research stimulates and guides action towards meeting the 2010 target.

To develop the necessary high quality and policy relevant research on the above priority areas, and to ensure that the necessary information is available to decision-makers, particular attention should be paid to:

- focusing research priorities on the political agenda, addressing societal concerns and values;
- developing and testing methods which successfully engage public participation in research and monitoring;
- further developing participatory interfaces between science and policy, including scientists, policy makers and stakeholders;
- building capacity in biodiversity research both within the European Union and in developing countries, in interdisciplinary research bringing together natural and social science and traditional and local knowledge;
- enhancing communication and dissemination of biodiversity research results and increasing awareness of scientists on policy and governance issues;
- expanding focus from single species research and management approaches to more holistic approaches; focussing on life-support systems, conservation and restoration; and bridging the gap between different scales;
- encouraging better integration of research and management, recognising the ability to learn through systematic experimentation in resource management;
- studying historical interactions between societies and nature, how they evolved to reach the present time, and what can be learned from this for the future;
- maximizing the value and accessibility of existing data including archives and the interoperability of existing data bases;
- encouraging the development of national and regional networks that can then be linked to form European networks, paying particular attention to newer and less well established research groups, and link these networks to international ones.