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CAN ENVIRONMENTAL SCIENCE SUPPORT POLICY?
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Introduction

- Speak as practitioner from my days at SNH and now advising governments, state agencies and NGOs in environmental sector especially on integrity of environmental systems, use of protected areas as a tool for conservation and development, governance, stakeholder engagement and capacity building, government policy, and executive organisation
- Recent activities in Bulgaria, Czech Republic, Denmark, Iceland and Slovakia
- Knowledge and information well-known to you not always known or available or usable by practitioners
- Identify 3 issues where practitioners seek input from research and knowledge community, and consider implications.

Issue 1: environmental tolerance to intervention and exploitation

- Great deal of knowledge about capacity of environmental systems to withstand intervention and to predict what happens when crosses threshold but still need for practical tools, 2 examples:
- **Carrying capacity** of systems where human intervention is high but thresholds not clear: **upland grazing** across Europe habitats of EU significance H&S Dir in relation to new roles of CAP: models, test sensitivity from empirical research, translate results to policy and to financial support and management prescriptions to user through codes of practice
- Need to know when **threshold** likely to be crossed, eg **fishing** when spawning biomass insufficient to reproduce stock and when levels of exploitation have to be reduced or halted

Issue 2: Integrated systems levels approaches

- Problem that many issues still considered in **isolation from component parts** and therefore vital connections not made. 3 examples:
- On **river systems** still amazing engineering solutions to resolve environmental problems eg Danube nitrate stripping through non natural approaches, when **geo common sense** provides simpler, cheaper and more effective solution
- On **energy** through RSE enquiry clear need for linking technological with economics with issues of societal choice and environmental objectives
- **Ecosystem approach** under the CBD calls for integrated approaches and tools for implementation not currently in existence, clear when we gave seminars to senior officials in Whitehall

Issue 3: defining options for public choice

- Public confused and media polarises and fuels prejudices eg Frankenstein foods and nuclear energy
- Many methodologies, eg developed by environmental economists to quantify options and by other social scientists to ascertain opinion in reasonably

objective manner but applied in research projects and not sufficiently or routinely in public choice exercises

- Polarisation as in Iceland between protecting the Highlands and allowing hydro-electric power development to fuel aluminium economy, or skiing to kick start local regeneration in Bulgaria and devalue environmental quality

Implications

Institutional alignment

- √ need for interdisciplinary approaches within institutions and therefore across departmental and traditional disciplinary boundaries, cf SWIMMER in Liverpool
- √ Careful that new structures such as College and Schools do not create new boundaries and barriers: develop virtual groups within and between structures and provide incentives and rewards
- √ Development of virtual centres of excellence between universities
- √ Develop new alignments with government research institutes and with government/research council funding, eg Edinburgh Bioscience Research Centre

Knowledge transfer

- √ develop material in form intelligible to wide range of customers beyond readers of internationally peer-reviewed journals and accessible through the web
- √ identify training/consultancy opportunities for KT
- √ collaborate with other providers in capacity building initiatives

Research funding

- √ move from traditional RAE assessment to one recognising also applied contribution
- √ greater use of universities by government and agencies for applied work rather than private consultancies but means you being market and customer orientated and pragmatic in applying knowledge to real world situations.