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THE SCIENCE THAT STAKEHOLDERS WANT: INSIGHTS FROM SCOTTISH RIVER BASIN MANAGEMENT PLANNING

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INTRODUCTION: River Basin Management Planning involves negotiated relationships between holders of different knowledge. There are multiple and contested understandings of diffuse pollution from agriculture – these differences will be amplified by climate change.

What are Stakeholders saying?
(regulators; advisors; industry; NGOs; Statutory Agencies)

- What causes the problem?
- What can fix the problem?
- How long will it take?
- Where should we focus our efforts?

- Is there *really* a problem here?
- Why is this a problem (for us)?
- Isn't this natural?
- What should be the objectives?

- What are the most appropriate programme of measures for multiple pressures?
- What are their interactions?
- What are the (un)intended consequences – spatially, socially, ecologically?

- Who is responsible?
- Who is going to pay to fix it?
- How are the costs and benefits distributed?

Analysis:
'Missing Science': Existing Conditions
• Classification and status boundaries still being finalised
• Single point, single issue data
• Systematic not systemic methodology
• Separation of regulatory and non-regulatory measures
• Focus on bio-physical data
• Lack of tools to understand institutional design and human behaviour

Analysis:
Climate change increases challenge for scientists
• Adaptation: Increased uncertainty around what will happen; what measures will work;who will be impacted
• Mitigation: Increased attention to carbon cost of measures and intergenerational equity

Discussion:
• Knowledge is a resource and is used strategically in these processes • Relatively little 'science' discussed – debate data but little learning about system processes • Difficulties integrating local knowledge claims with formal WFD compliant reporting • Different visions of resource use and rural livelihoods at heart of debates • Start with a focus on human- environment interactions • Support with applications of integrated bio-physical science

CONCLUSIONS: Stakeholders must understand system processes (integration of issues, space and time); Processes should engage with (a) multiple understandings; (b) socio-economic conflicts; (c) uncertainty and (d) adaptive management; Cultural and organisational change by **all** will be required.

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