



KNOWLEDGE-EXCHANGE ACTIVITY REPORT:

“PUBLIC PARTICIPATION IN CATCHMENT MANAGEMENT – EXPERIENCES FROM LOWESWATER, CUMBRIA”

Funded by NERCs Water Security Knowledge Exchange Programme

This report presents findings from a two and a half month knowledge-exchange activity funded by NERC under its Water Security Knowledge Exchange Programme. This activity involved researchers based at Lancaster University and CEH Lancaster who had been experimenting with a new form of participatory catchment management in a small catchment in Loweswater, Cumbria, (www.lancaster.ac.uk/fass/projects/loweswater) and the 25 EA/Defra pilot catchment initiatives (<http://www.environment-agency.gov.uk/research/planning/131506.aspx>). It consisted of three parts: 1) gathering information about the different pilot catchment initiatives, 2) producing recommendations from the Loweswater project and 3) holding a workshop with representatives from the catchment initiatives at which the recommendations could be discussed.

1) Gathering information about the different pilot catchment initiatives

Questionnaires were sent to leading people in all the 25 pilot catchments with the aim of gaining a better understanding of the bio-physical and socio-economic characteristics of the catchments and the challenges that were expected to lie ahead in terms of engaging the public and other interested parties in the initiatives. Of these questionnaires, 7 were returned. Two phone interviews were also conducted, and several pilots shared posters with us which they had produced about their catchments. Findings from this information gathering phase, relating to 4 of the 25 pilots, is summarized in table form in Appendix 1. Another useful source of information was a meeting attended by Dr. Judith Tsouvalis that had been organized by the Tidal Thames pilot catchment initiative in London with the consultancy company ‘Dialogue by Design’. This proved insightful into the challenges faced by this particular pilot, and into the process of the pilot catchment initiative as a whole. Some of the questions posed at this workshop about the Defra/EA initiative also seemed to be an issue for other pilots as became apparent at the workshop (see discussion below). Based on the small sample of replies received to our questionnaire (7), it is safe to say that there is no such thing as a ‘standard’ pilot catchment. Rather, the individual catchments differ considerably in terms of their size, land-cover and land-ownership patterns, the pollution issues faced, and the challenges to participation which are envisaged. Apart from the information presented in Appendix 1, further results from this information gathering exercise and the workshop to discuss recommendations are provided under 3) below.

2) *Recommendations from Loweswater*

A key aim of the NERC knowledge exchange activity was to consider whether any lessons had been learnt about participatory catchment management in Loweswater that could be passed on to the pilot catchment initiatives. For this purpose, the Lancaster team produced a recommendations document (see [APPENDIX 2](#)), which formed the basis of the discussions held at the workshop organized for pilot catchment representatives in Lancaster in May 2012. This document is made up of two parts: the first part provides general recommendations for participatory working, while the second part contains advice for agencies and regulators.

3) *Workshop*

The Pilot Catchments – relevance of recommendations

What we can take from the questionnaire replies and from discussions held at the workshop is that depending on the kind of people and organizations involved in leading the pilot, knowledge of the catchment and people's expectations in terms of involving different publics and organizations in their endeavours, varied widely. Many of the pilots we interacted with, including the Eden and the Nene, had within their partnerships highly creative and pivotal people. These individuals are gifted in connecting with others, interested and knowledgeable about the issues prevalent in their catchments, and are interested in finding out more about forging new connections and discovering new aspects of their catchments. For others, it seemed that identifying such people could prove vital, not only in terms of achieving their aims and objectives, but also in terms of harnessing the passions of people in the catchment who could help them achieve these. For example, the Leam pilot initiative at a workshop in December 2011 put down 'changing farmers mindset and culture' and getting the 'CLA/NFU' as well as 'agronomists and advisors at the local level' involved as one possible barrier to achieving its aims (minutes of a workshop held on the 14.12.2011).

- In Loweswater, great benefit in forming the Loweswater Care Project (LCP) was derived from working closely with members of a pre-existing farmers' action group: the Loweswater Improvement Project. Even though we wanted to broaden out issues and concerns about the lake to the wider Loweswater community and forge new connections between local people, farmers, agency representatives, and scientists, getting key people from the farming community on board early on in the process of forming the LCP proved pivotal in the long-run for its success. From this we have learnt that it is of great benefit to **make use of existing potential: find those key people and harness the energy of groups already active in areas that are relevant to the aims and objectives of your pilot catchment initiative!**

While some catchments are largely rural in character, others, such as the Irwell catchment and the Thames Tidal contain urban/urban fringe areas. Land cover necessarily impacts on the kinds of issues that will be priority areas requiring attention within specific catchments, which in turn will influence what kind of groups and publics will need to be involved in the process of addressing them.

For example, as pinpointed above in relation to the Leam pilot, in rural areas getting farmers on board will be important in tackling diffuse pollution. In the Leam, the objectives of the pilot will have to be made relevant to farmers, so that they can not only see the benefits of getting involved, but will also be able to contribute their own ideas as to what might be done to achieve the objectives identified.

In other pilots, depending on land cover and ownership patterns alongside land use history, a different kind of public will need to be mobilized. For example, in the Irwell pilot, 'anti-social behaviour, crime, litter and flytipping, and a lack of environmental maintenance of green spaces' (Irwell questionnaire reply) have been identified as problem areas, while the Eden partnership has put down 'biodiversity' and 'climate change' issues as priority areas requiring attention. In industrial areas, where the concern is with contaminated land, other actors will need to be involved to bring about change. This initial phase of the pilot catchment initiative is of course primarily about the process of partnership building; however, we would recommend that:

- Thought needs to be given now to the longevity involved in tackling many of the issues identified by the pilots relating to the improvement of water quality in the catchment. It is the long-term perspective that should be at the back of the mind of the current efforts of partnership building in order to ensure that the most fruitful collaborations will ensue. Again: **build on pre-existing efforts and enthusiasm and show people how what you are trying to do is relevant to their daily lives and concerns.** Ways of bringing people into the process of participation depends to some extent on the priorities of the catchment initiative. You **need to think creatively about how best to reach people and awaken their interest in being involved.** You might choose to resort to the commonly used approaches of inviting people to meetings or producing information leaflets, but perhaps it might be more relevant for certain groups if you employ novel online technologies in your efforts to reach your target audience.

Issues of relevance to Defra and the Environment Agency

- 1) First we would like to reiterate the point made above about finding key people in partnerships and communities. Identifying, involving and making the most of charismatic people that have what it takes to help achieve the objectives of a pilot catchment initiative is a vital part of partnership building and should be facilitated, supported and rewarded. At the same time, effort should go into trying to foster a sense of being able to be creative. This will encourage others to express their ideas and can lead to a cascading sense of lots of people doing what they are good at in terms of bringing people, places, and issues together. In Loweswater, we were fortunate to have long-term funding available to build up a bottom-up participatory action group that involved representatives from different organizations, local people, farmers, scientists and others. From this we learnt that finding things out together, debating data, disagreeing about issues, implementing actions, and more importantly, getting to know and trust each-other requires **long-term engagement and commitment. We recommend that Defra/EA spend time now looking ahead and thinking about the resources they are able to commit to enable the partnerships that are now formed to work and grow together in the future; this long-term view will ensure that achievements can be made and sustained.**

- 2) Some institutions, such as the EA, are commonly perceived as regulators. If leading a pilot (10 pilots are currently headed by the EA), such agencies need to be aware of this perception and think very carefully about how they can build up trust with the people/organisations they intend to collaborate with so as to ensure that they are not seen as exercising a 'policing' function. If this perception exists, it could undermine the formation of successful partnership working. Dissipating these fears, again, requires long-term engagement and commitment.
- 3) Often, during the initial phase of working with and getting to know each-other there might be underlying blame as to who is perceived as responsible for 'the problem'. On closer inspection, it often turns out that things are a lot more complex than initially thought. The challenge is to get beyond a culture of blame in participatory endeavours and reach that point where people understand why others do the things they do in certain ways perhaps exploring options and ways for doing them differently (see points 1 and 2 in the recommendations document below).
- 4) A number of pilots felt overwhelmed with information, initiatives, and meetings. Streamlining might solve this problem.
- 5) Questions were raised at the meeting attended in London and at the workshop in Lancaster about the objectives of this 1 year pilot catchment phase and there was ambiguity about what, at the end of it, would count as success. Aims and objectives should be more clearly communicated to the pilots, while at the same time leaving enough space for them to grow and develop in their own fashion.
- 6) A serious point made by one pilot about the way that the pilot catchment initiative had been initiated is worth picking up here. The point made was that the process had been a 'dash for cash' that had encouraged organizations to apply for funding who had very little to do with catchment management. It was agreed at the workshop that this *might* be a positive thing, but it was also thought that it could hinder reaching agreement on the catchment management action plan when the time comes. We would add here that cynicism about the process of how these partnerships have been forged could also hinder the formation of trust; more importantly though, it might force partnerships 'from above' whilst, based on the Loweswater project, we would emphasise again that the key to our success was forming partnerships from the ground up.
- 7) There was common agreement at the workshop that the organizational cultures of Defra/EA sometimes hindered productive engagement with community groups and members of the public. Particularly, the fact that people within these institutions are often transferred to other divisions and departments was seen as resulting in a huge loss of knowledge, experience and trust on the ground. In short, it was seen as a hindrance to successful public engagement. Our experience at Loweswater strongly supports this. Often, the people who had knowledge about certain issues and were recommended to us by others either from local people or others within an agency were no longer there. Individuals from the Environment Agency who came and spoke at Loweswater meetings about certain policies often had general knowledge, but no local knowledge, of Loweswater. This did not foster trust in either the agency or the data presented. It all seemed too remote and impersonal. Agencies need to value the knowledge their employees build up over time and the relationships they forge with people on the ground. This is a huge, undervalued and underutilized asset. We suggest

that changes in the organizational cultures of government agencies are necessary if the participatory policies that are now emerging from government are to be implemented successfully. This point is elaborated in some detail in the recommendations document attached, under 'Recommendations for the Agencies'.

Catchment Profile of the 5 selected catchments

NAME	SIZE	CHARACTERISTICS / NEEDS	PARTNERSHIPS	CONFLICT/CHALLENGE
<p>Irwell (Questionnaire)</p> <ul style="list-style-type: none"> Includes 78 water bodies (lakes, streams, reservoirs, and ground-water) 	<p>770 km²</p>	<ul style="list-style-type: none"> Mixed land-type Largely rural at the source; later flows through urban areas (eg Bolton, Salford, Manchester) Landownership: Urban/urban fringe: Local Authority / upland areas: MOD and UU own large areas, plus private ownership <u>Designations</u>: SPAs / SACs / SSSIs <p><u>LIKE HELP ON:</u></p> <ul style="list-style-type: none"> Getting consensus How issues impact on different sectors Need robust evidence Lack of time/resources to commit 	<p><u>Leader</u>: EA</p> <ul style="list-style-type: none"> Pilot steering groups members are public/priv. sector org., third sector org., community interest groups <u>Aim to</u>: establish task & finish groups that will bring together specialists, interest groups, land-owners, local community reps. <u>Network</u> with the EA-led 10 pilots plus: Douglas, Irwell River NIA group, Greater Manchester Local Nature Partnership, Moston Brook Project 	<ul style="list-style-type: none"> Point-source pollution (sewage discharge) Water-level mgmt. Urbanisation Flood protection Contaminated urban land Drainage (urban) Invasive non-native sp. Litter and fly tipping Anti-social behaviour / crime Poor recreational access Lack of habitat cont. Incr. dev. Along rivers Poor upland management practices.
<p>Ribble Life Project (Questionnaire)</p>	<p>1385 km²</p>	<ul style="list-style-type: none"> Mixed land-type Some large landowners (eg. water company); middle & upper areas: farmers; lower areas: industry Designations: yes (not specified) <p><u>LIKE HELP ON:</u></p> <ul style="list-style-type: none"> Getting consensus Techniques for successful collaboration Methods for prioritisation 	<p><u>Leader</u>: EA; co-host: Ribble RT</p> <ul style="list-style-type: none"> Rivers trust Community groups <u>Aim to</u>: involve others (UU, LWT, industry/business reps.; a diverse a group as possible <u>Network</u> with the EA-led 10 pilots and the NW-ones (Irwell, Douglas, Eden) 	<ul style="list-style-type: none"> Diffuse pollution from agriculture/urban areas Pollution impacts on bathing waters Phosphate problems <u>Conflicts of interest</u>: canoeists, anglers, farmers – differences in priorities <u>Challenges</u>: Generating interest, especially in deprived urban areas Collaboration requires funding / a common goal

Catchment Profile of the 5 selected catchments

NAME	SIZE	CHARACTERISTICS / NEEDS	PARTNERSHIPS	CONFLICT/CHALLENGE
Douglas (Phone interview)	Unknown	<ul style="list-style-type: none"> • Mixed land-type • Rural areas • Urban areas • Parts of the Pennines in the NW • Moors / Reservoirs <p><u>Designations:</u></p> <ul style="list-style-type: none"> • SSSI 	<p><u>Leader:</u> Groundwork Lancashire and West Wigan</p> <p><u>Network</u> with EA colleagues, still deciding which other major initiatives they need to get involved with; want to get involved with NW Environment Link, later on with organisations such as FC, NE, UU, and local communities</p>	<ul style="list-style-type: none"> • Sewage discharge (incl. domestic) • Surface effluent • Antiquated structures • Invasive species • Sporadic issues with fish populations <p><u>Challenges:</u> Language, ‘humanising’ what we are trying to do, tap into peoples’ concerns, involve schools, launch some campaigns, awareness raising.</p>
Eden (Poster)	2500 km ²	<ul style="list-style-type: none"> • Rural Catchment <p><u>Designations</u></p> <ul style="list-style-type: none"> • SSSI • SAC 	<p><u>Leader:</u> Eden Rivers Trust with the South Solway Partnership (Engl. Component of the Solway Tweed RBMP). This includes public, private and third sector org.</p> <p><u>Network</u> – ERT has extensive network of contacts. Several new private sector stakeholders have expressed an interest to get involved.</p>	<ul style="list-style-type: none"> • Diffuse pollution • Habitat loss/ Fragmentation • Bio-Security • Adopting to Climate Change <p><u>Challenges:</u> Inspiring people suffering from ‘initiative overload’ of WFD initiative; convincing sceptical audiences that resources/ support will be available; ensure that the ERT is known as an independent body, not as the Defra police! Change needed in the Defra culture – pilots are an opportunity not a threat!</p>



APPENDIX 2



MEETING THE CHALLENGES OF PUBLIC ENGAGEMENT: RECOMMENDATIONS FROM THE LOWESWATER CARE PROJECT, CUMBRIA, UK

NERC Water Security Knowledge Exchange Programme

‘Understanding and Acting in Loweswater: a Community Approach to Catchment Management’ was a project funded under the Rural Economy and Land-Use (RELU) programme. It was conducted between 2007-2010 by an interdisciplinary team of three social scientists from Lancaster University, three scientists from the Centre for Ecology and Hydrology (CEH), Lancaster, and a community researcher, a farmer based in Loweswater, Cumbria. The project’s main objective was to experiment with a *new participatory mechanism* that involved a diverse range of stakeholders, including researchers, local residents, farmers, local businesses and statutory and voluntary agencies. The idea of the participatory mechanism was for these groups to work together rather than in isolation, which, it was hoped, would produce a better understanding of the ecological, social and economic *interactions* in Loweswater with reference to a specific environmental problem that manifested itself in the local lake: potentially toxic algal blooms formed by cyanobacteria (blue-green algae). For further information and on-line resources see: www.lancaster.ac.uk/fass/projects/loweswater). The Loweswater project thus i) innovated in the way people participated; ii) made no assumptions that ‘problems’ can be entirely known, understood, or agreed upon; iii) was committed to understanding social/ecological/economic *interactions* and *acted* on the basis of this holistic understanding.

This document draws out key lessons learnt about participatory catchment management in Loweswater with the objective of informing the Defra/EA pilot catchments. These catchments are varied and diverse in their bio-physical, economic, and socio-cultural make-up. However, considering them comparatively we can see many commonalities, not least in relation to the challenges they face. The duration of the initial pilot catchment phase is one year. However, many of the recommendations made below require work, commitment and attention *beyond* December 2012 if they are to bear fruit. The Defra/EA pilots experiment with a ‘catchment based approach for a healthier water environment’ and explore ‘better ways of engaging with people and organisations at a catchment level in ways that can make a difference to the health of all our waters and habitats’ (EA website: <http://www.environment-agency.gov.uk/research/planning/131506.aspx>; accessed 1/2/2012). This document hopes to support their endeavours. It forms part of a knowledge-exchange activity supported by the NERC ‘Water Security Knowledge Exchange Programme’ which aims to make the most of existing experience of participatory catchment management; we thank them for their support.



The Loweswater Care Project – transferable insights

A) GENERAL RECOMMENDATIONS FOR PARTICIPATORY WORKING AT A GLANCE:

RECOMMENDATION	How to achieve this – suggestions:
<p>1) Do not assume a ‘simple issue’</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“When discussion centred on the interaction between people and the environment it was particularly interesting. The two are entirely interdependent”.</i> District Councillor and Loweswater Resident</p> </div>	<ul style="list-style-type: none"> • Find out the range of issues people are concerned about in the catchment. • These do not simply have to do with water quality • Explore related social, economic, ecological issues as a first step. • Make a full list of concerns expressed
<p>2) Identify the CONTEXT of the issues and the RELATIONS around it</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“Farmers are by no means the only group who need to look at what they are doing.”</i> Natural England LCP participant.</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“One major benefit that emerged from this project is the improved dialogue and relationship between farmers and agencies such as the EA, Defra and the NT”.</i> Loweswater Farmer</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“We would not wish anyone to feel we are using this project to gather intelligence on non compliant sites”.</i> Environment Agency LCP participant</p> </div>	<ul style="list-style-type: none"> • For whom are they issues? • Who are the key players involved in the issue? • How are the relationships between different players? (e.g. good, strained, prejudiced) • How have the issues been tackled in the past? • Are there taboos /controversial issues?
<p>3) Make use of EXISTING POTENTIAL</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“I am keen to use my specialist knowledge to improve lake conditions and it is clear to me that this can only be achieved in a social context that includes different kinds of experts and stakeholders, and most importantly, the community living and working in the catchment”.</i> CEH Limnologist working on Loweswater</p> </div>	<ul style="list-style-type: none"> • Identify groups or individuals already active around the issues identified • Involve ‘local champions’ and existing social- and grass-roots organisations, eg. W.I., schools, local authorities, parish councils, local societies • Build on the momentum and interests present, e.g. in Loweswater a local farmer-led initiative (see: http://www.lancs.ac.uk/fass/projects/loweswater/improvement.htm)

A) GENERAL RECOMMENDATIONS FOR PARTICIPATORY WORKING AT A GLANCE
(cont):

<p>4) Work with PEOPLE-AND-PLACE-RELEVANT insights</p> <div data-bbox="113 535 675 730" style="border: 1px solid black; padding: 5px;"> <p><i>“... these leaves hanging in [at the lake outlet] contribute to it. I think if that was all cleaned out round about like it used to be...”. Local resident.</i></p> </div>	<ul style="list-style-type: none"> • Be open to different types of knowledge and experience and draw them into the participatory process • Draw out and value lay knowledge and concerns equally alongside scientific understandings • Connect to people’s concerns and the things they care about or perceive as relevant
<p>5) Adopt A CRITICAL STANCE TO ‘FACT-MAKING’</p> <div data-bbox="108 947 681 1142" style="border: 1px solid black; padding: 5px;"> <p><i>“It is very interesting to hear everyone’s thinking, whether it be ‘good’ or bad. To cover all the whys and wherefores has covered a lot of ground”. Local resident</i></p> </div>	<ul style="list-style-type: none"> • Let the problem definition emerge from all participants • Question and debate ALL knowledge (including scientific knowledge) • Highlight uncertainties in knowledge and use them to open up new questions • Encourage the forging of new connections • Work with complexity
<p>6) Allocate TIME and RESOURCES for participatory catchment management</p> <div data-bbox="108 1364 681 1608" style="border: 1px solid black; padding: 5px;"> <p><i>“The format of the meetings is very good. Frequency appropriate. Good secretariat. Agendas and papers on time. Well structured meetings: Talk, buffet, talk, finish . Useful minutes”. Loweswater Resident</i></p> </div> <div data-bbox="108 1626 681 1821" style="border: 1px solid black; padding: 5px;"> <p><i>“The frequency of meetings is about right. The import of lecturers has been interesting. The provision of food is a great attraction”. Loweswater Resident.</i></p> </div>	<ul style="list-style-type: none"> • Meet in locally accessible venues • Momentum, rhythm, feedback, and continuity are important for planning all interactions • Regularity of meetings will depend on what you are trying to achieve; the LCP met on a bi-monthly basis (see below) • Meet in small groups (for large scale projects–try and break participatory efforts down to smaller scales– this achieves more on the ground) • Allocate enough time • Make occasions for meetings enjoyable – ideally (build in time to chat; provide refreshments)

A) GENERAL RECOMMENDATIONS FOR PARTICIPATORY WORKING AT A GLANCE (cont):

7) Encourage fresh ideas, involvement, spin-offs, and feedback

- Use **participants' ideas** to create spin-off activities of their own
- Help **participants get things off the ground** themselves
- Create a sense of **proliferating activities**
- **Share** control and responsibility
- Keep **feeding back** results of these activities to all participants

8) Harvest the low-hanging fruit! Create simple bottom-up actions fast!

- For example, many water-quality related issues link to increased phosphorus in soil and water. **Work together** on how to achieve **fact finding** locally on septic tanks, sewage water, silage units/clamps, slurry tanks, farm yard run-off, fertiliser application, industrial sources etc. that might be the causes of such increases. Then:
- Work out how to **create simple, low-cost monitoring systems** of the above, at small, disaggregated scales.
- Work out **low-cost ways of preventing the flow of N and P** from these structures and processes
- Break down into **small, local, parish-sized, achievable projects and budgets.**
- Work out a **simple motivation and reward system** for your catchment that will incentivise the above activities and enhance social/cultural capital



New septic tank at Loweswater



New reed bed at Loweswater

B) RECOMMENDATIONS FOR AGENCIES AT A GLANCE:

RECOMMENDATION	How to achieve this – suggestions:
<p>1) Improve COMMUNICATION <i>between</i> organisations</p>	<ul style="list-style-type: none"> • Set up joint working groups • Use the opportunity provided by joining a participatory effort (such as the LCP or a pilot catchment partnership) to create long-term channels of communication with other organisations • Work together on issues impacting on shared remits/policy aims • Implement data-sharing strategies
<p>2) Organisational remits, legal frameworks and policy objectives need to be SCALE-SENSITIVE</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“I think the way the LCP has brought scientists, locals, lay knowledge and historical knowledge together with Agency staff could have a very positive effect on “Policy Making” of the future if it were rolled out at a “Higher” level”.</i> Loveswater Farmer</p> </div>	<ul style="list-style-type: none"> • Re-organise agencies: make them flexible to enable them to respond to and support locally-rooted understandings and desires for action • Feed findings up the scale
<p>3) Commit to WORKING WITH PEOPLE-IN-PLACE</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“In future, it would be positive for the LCP to continue working together with agencies to look at problems as they arise instead of waiting for legislation”.</i> Loveswater farmer</p> </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>“The Lake District NPA should become more involved; perhaps lead the group to formulate a policy which might help to solve some of the problems and then to present this to Government”.</i> Loveswater Resident</p> </div>	<ul style="list-style-type: none"> • Allocate resources for working with local communities at their scale and in support of their concerns; this requires staff, money and resources.
<p>4) Form FLEXIBLE, RESPONSIVE PARTNERSHIPS</p>	<ul style="list-style-type: none"> • Share decision making power and re-negotiate roles and responsibilities to empower local/lay participants
<p>5) Understand the SOCIAL AND BIOPHYSICAL transformations wrought by policy changes</p>	<ul style="list-style-type: none"> • Be sensitive to the side-effects of policy changes on places and people • Work on policy clashes/overlaps/in-consistencies

C) RECOMMENDATIONS FOR AGENCIES AT A GLANCE (CONT.):

6) Value the local knowledge and EXPERTISE OF AGENCY STAFF	<ul style="list-style-type: none">• Don't be a 'faceless' organisation!• Reduce high staff turnover and circulation of staff within agencies• Do not put junior staff with little 'clout' in post as community workers
7) One stop-shop	<ul style="list-style-type: none">• Enable participatory groups to have access to relevant contacts in your organisation• Create an open-access 'portal', or standard route, for local group-to-institution communication and make it a long-term commitment

For the basis of these recommendations, see overleaf!

BACKGROUND INFORMATION TO THE PARTICIPATORY WORKING RECOMMENDATIONS

Context and Relations

The idea of the 'context and relations' of an issue may seem like 'background', but we suggest here that understanding them is crucial to making participation feel properly grounded. For Loweswater, for example, we needed to know:

Q: Over what period had water quality in Loweswater declined?

A: We found that this had been a problem for the last 150 years!

Q: What was the available evidence of this?

A: Since the 1960s, blooms of blue-green algae caused by higher concentrations of phosphorus and oxygen depletion at depth in the lake had become ever more frequent. Long term lakes monitoring data from CEH and EA provided the evidence.

Q: What historical conditions could help put this issue in perspective?

A: Historical evidence on land use, sediments and fish populations in Loweswater demonstrated the dynamic and changing nature of the catchment. It emphasized that the landscape was the product of human intervention over many centuries and could not be seen as 'stable' or 'natural'.

Q: What did current evidence suggest?

A: Current evidence pointed towards farming practices as well as domestic sources such as poorly maintained and managed septic tanks as sources of increased phosphorus inputs to the lake.

Q: How had declining water quality been tackled to date?

A: Prior to 2007, the problem of diffuse pollution had been tackled through scientific monitoring of lake and stream water quality in the catchment (CEH and Environment Agency); EA 'enforcement letters' to holdings considered in breach of farm/domestic waste management regulations; the foundation by farmers of the 'Loweswater Improvement Group' (LIP), a farmers' action group that obtained funding to: identify sources of phosphorus pollution in the catchment; re-route water in yards; install a reed bed system; replace several septic tanks for domestic waste waters (funded partly through LEADER+).

Q: What were the social relations around this problem?

A: Farmers were commonly blamed for the deterioration of lake water quality, which led to poor relations between farmers and agencies such as the National Trust (owners of the lake) and the EA (charged with implementing the EU Water Framework Directive).

Q: Who was already involved and how could involvement in the issue be built up?

A: Many of the institutional stakeholders were already involved even before the planning stage of the current project. They formed part of the LCP from the beginning. Local residents, farmers and local business had, of course, in some way been 'involved' in witnessing the changes in lake water quality. We networked with all local actors including the NT, NE, LDNPA, EA, the National Farmers Union, UU, (all participated in LCP meetings).

We also established links with the Shropshire Hills AONB Partnership and the Coniston and Crake Partnership, DEFRA, the North-West Regional Development Agency, Cumbrian Farmers Network, the Commission for Rural Communities, the Northern Rural Network, The Macaulay Land Use Research Institute, the Coniston and Crake Partnership, the East Riding of Yorkshire Council, Woodland Trust, ACTION with Communities in Cumbria, Eden Rivers Trust, Entec UK, and others. We welcomed any participants who cared about Loweswater or who wanted to learn more about our ways of working together in the LCP.

Making use of existing potential

From its inception, the project recognised the importance of gradually developing momentum and interests in catchment management rather than attempting to intervene too quickly or to 'over-structure' initiatives. It made a special effort to build upon existing initiatives. For example, Loweswater farmers had already formed the Loweswater Improvement Project in 2002, and the new LCP took care to build upon this. The LCP expanded the pragmatic remit of the farmers to consider a wider set of questions and relations. This led to the recognition of algae as a more complex issue than it first appeared and consequently also led to more challenging questions - such as, the role played by past and current policies in alleviating/exacerbating the problem; the future of farming in the valley; the importance of tourism for the well-being of the community; the potential of agencies to support the aims and objectives of a group such as the LCP.

Working with people- and place-relevant insights

There was wide-spread agreement in Loweswater that the trout population of the lake had declined over time. The cause of this was thought to be the algae. This was much regretted locally as 100 years ago, recreational angling for brown trout at Loweswater was considered the best game fishing in the North of England. We decided to follow this lead. Carrying out some local research, it was discovered that this had only been achieved by the extensive stocking of brown trout. Probing further, LCP participants brought in the knowledge of local fishermen. They examined fish returns and looked at other data. It was found that, not only had Loweswater been stocked with brown trout, but native perch and pike had also been subject to major removal programmes as recently as the 1970s. Subsequently, further stocking with brown trout had been undertaken, resulting in a temporary improvement in trout fishing by the mid 1980s (hence local memory of Loweswater as a great trout fishing lake had been partially maintained). Since then, National Trust and Environment Agency data have indicated that brown trout and salmonid populations have once again declined in the catchment. As a result of these investigations it is now accepted that the lake is naturally dominated by perch with pike also present. So the story that 'this used to be a good lake for brown trout fishing but the algae have put a stop to that!' is no longer a strong narrative when we think about Loweswater's algal problems.

Following this lead and building up evidence of fish stocks in Loweswater through local insights and records, the LCP also decided to look more scientifically at the same issue. Three echo-sound surveys were undertaken over the course of the project and it was additionally discovered that excessive numbers of phantom midge (*Chaoborus*) populate the lake. This presented a further theory for the LCP to consider! Could a serious imbalance in the food-chain of the lake exist? Understanding of this imbalance and the role played by the algae in it is as yet uncertain.

Another commonly shared perception in Loweswater was that an overgrowth in vegetation hindered the flow of the water out of the lake. Although scientifically considered a minor influence on the increase of the algae, this was a concern taken seriously by the LCP. Following an LCP meeting about water flow in the catchment, it was considered to be an issue of sufficient local concern to the farmers in the catchment (often blamed for the pollution of the lake) and the National Trust (the owners of the lake) to meet and discuss strategies for improving water quality in Loweswater. At this meeting on the lake shore they also jointly cleared vegetation around the outflow of the lake. This collaboration and practical action was seen as a major 'breakthrough' in local relations. It also attracted the attention of the Environment Agency, which offered assistance to implement a local plan for vegetation clearance once devised at local level.

All of the above examples highlight the importance and the benefits to be gained from working with people- and place-relevant insights.

Adopting a critical stance to fact-making

The LCP was inspired by critiques of the way that lay and local knowledge tends to be downplayed, or not taken as seriously as scientific forms of knowledge, in participatory processes. From its inception, the LCP agreed that in LCP meetings, **local people working together with scientists and agencies** would create new facts and knowledge about 'the problem' in a very critical and open way. This meant that:

- Understandings of nature were not taken to be self evident;
- All knowledge and expertise needed to be debated, including scientific expertise;
- Uncertainties in knowledge needed highlighting and accepting;
- New connections were valued as creative input.

The LCP took the view that public participation **cannot work** if it relies **only** on scientific authority and fact-making. Everyone who gets involved has to be endowed with credibility and the responsibility to make facts.

A critical and open philosophy towards knowledge-making and 'fact' finding in participatory environmental problem solving, as shown in the examples above, allows people to connect the issue(s) at hand to the things they care about most or the things they think are relevant to scientific evidence. This increases understanding of how different groups of practitioners (such as farmers, agency employees, researchers and scientists) deal with issues that they face in their daily lives and practices, which fosters trust and openness as well as collective learning. Taking an inclusive and critical approach to knowledge and experience, and making this part of the problem solving process, supports people- and place-relevant insights, actions, and solutions. It also debunks the assumption that science always has a full understanding of the problem as well as the answers.

Through the LCP working in this way, all participants gained a deep understanding of the complex processes that come together in Loweswater and that express themselves as an 'algae problem'. Appreciation of this complexity led to the insight that most human activities take place under circumstances where their outcomes and effects are uncertain and often unpredictable. This in turn decreased the tendency to assign blame to one particular group (the farmers) as the cause of this problem.

Consciously upholding the rationale outlined above in the LCP helped to:

- Level-out hierarchies and boundaries among institutions, researchers, scientists and members of the local community that participated in the LCP;
- Allowed for critical engagement by all actors with research and community questions and agendas;
- Encouraged the blending of previously distinct areas of research and action;
- Supported 'outside-the-box' thinking and action on environment-society relationships in the catchment.

Allocating time and resources for participatory catchment management

Setting-up and running the LCP was time and resource intensive:

- 15 LCP meetings were held over a 2 ½ year period
- Meetings were advertised in the local parish magazine, via e-mail, and by invitation letter
- Meetings lasted on average 3 hours and included a shared buffet
- Numbers of people attending ranged from between 25-35 and typically included 3-6 natural/social scientists from Lancaster/CEH, 2-5 agency representatives (NE, NT, EA, LDNPA and others), 2-6 farmers, local residents and other interested people
- Participants were *not* pre-selected
- Participants determined the aims and objectives of the LCP
- A mission statement created connected concerns about the lake to other economic and social issues
- Participants carried out small research projects of their own; they were funded by a budget of £35k allocated for this purpose within the larger RELU grant
- All research efforts and results were brought into the LCP for questioning and debate
- Experts of many different kinds were invited to discuss topics of concern, e.g. the Environment Agency on the EU Water Framework Directive; 10 agency representatives on how institutions might support a group like the LCP; land, fish and algal ecologists from CEH about their research findings; the Lake District National Park Authority; and numerous other talks on local and scientific issues.

Participatory catchment management research and management requires time, continuity, effort, resources and commitment. Prepare for this: work out how such commitments can be made, by whom, where, when and how!

BACKGROUND INFORMATION TO THE AGENCY RECOMMENDATIONS

The transferability of lessons learnt at Loweswater was explored with agencies at an end of project conference in Penrith in December 2010 and during a short-term follow-on study in 2011. Both the Penrith conference and the follow-on study confirmed that institutions support the principle of integrated management of land and water. Agencies were beginning to change their policies to reflect this new, more integrated, approach and expressed commitment towards working with local communities. However, there are still some significant challenges and hurdles to be overcome. We discuss these below.

Weak Spatial Fit

It became clear that putting a policy of integrated catchment management into practice is problematic for institutions. Each institution has different geographical boundaries and implements policy at different spatial scales. This creates a fundamental institutional problem of weak 'spatial fit' inhibiting the implementation of integrated catchment management policy at the local level. Institutions need to work out how to scale down their policies in order to make a difference on the ground and get local people involved in implementing them. An advantage of working at a small scale like Loweswater is the ability to engage directly with those making decisions about land management. The decisions made as a result of our work in Loweswater included beek clearing, entry into agri-environment schemes, changes to fertiliser applications, improvements in slurry tanks and yard water arrangements, new septic tanks and closer management of septic tanks. It is these decisions, and the awareness of the community of their impacts, that will ultimately improve catchment land and water quality in rural catchments.

Inflexibility

Agencies are accustomed to dealing with well-defined problems where actions, responsibilities and intended outcomes are clearly identified. They often struggle to accommodate bottom-up initiatives within their own agendas because they are limited by the remits of their organizations and their associated legal frameworks and policy objectives. The LCP represented a very new and different way of working to many agencies and some were unsure about how their organisation could contribute to its aims and objectives. This points to the need for institutions to re-think their own ways of working. Agencies need to be made more flexible and will need to be re-organized to be made more responsive to locally-rooted understandings and desires for action. This may require shifts in decision making power and a re-negotiation of roles and responsibilities. The question of who bears the costs in potentially new arrangements of governance is a further issue as flexibility costs money!

Effective Partnerships

LCP agency participants highly valued the way in which the LCP had brought together agencies and the local community, which they believed had opened the way for potential partnerships in the future. However, agencies tended to find it very difficult to initiate partnerships for action unless the LCP came forward with specific aims and objectives. This sometimes led to a stalemate. Agencies were waiting for the LCP to take the initiative, whilst LCP participants were unsure as to whom to form partnerships with and how to go about this. Agencies need to be more proactive in offering possible ways forward; successful, active involvement of communities depends on whether or not regulatory agencies and institutions can both recognise and support bottom up collaborative work.

Policy 'black-outs'

In some cases water quality problems at Loweswater were not perceived to be particularly serious relative to conditions in other water bodies across the region. The Water Framework Directive is a potentially very useful framework for improving water quality, but its planning focus on very large geographical areas and the amalgamation of water bodies for assessment purposes has meant that particular conditions and water quality problems in small lakes, such as Loweswater, are obscured and effectively 'lost' in the process. Furthermore, since institutions have limited financial, human and technical resources, they inevitably target them at priority areas. These issues raises the question as to how agencies can better respond where the situation is deemed serious locally but has not yet reached priority status at larger scales.

THIS DOCUMENT

This document forms part of a knowledge-exchange activity supported by the NERC 'Water Security Knowledge Exchange Programme' which aims to make the most of existing experience of participatory catchment management; we thank NERC for their support. The document is intended to stimulate feedback and debate. Please direct any comments or questions to: Dr. Claire Waterton, Centre for the Study of Environmental Change (CSEC), Department of Sociology, University of Lancaster, Bowland North, Lancaster LA1 4YT. E-mail: c.waterton@lancaster.ac.uk

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<http://www.lancs.ac.uk/fass/projects/loweswater>