Introduction

Against the backdrop of climate change, there has never been a greater need for policies, decisions and actions at a national and local level to be better integrated, guided by evidence towards outcomes of net positive benefit for sustainability, biodiversity and our future quality of life.

Biodiversity information has yet to become ingrained in the everyday ethos of many of those organisations for which it is or should be part of their duty of care. Biodiversity still ranks low in the pecking order of competing priorities. The present situation, with its uncertainties and inconsistencies, frequently leaves much to be desired. Limited awareness, weak regulation and failures to adhere to obligations and good practice guidelines result in far-reaching decisions being misdirected or inadequately informed. Data of the necessary quality and coverage are not made use of, are not made available or don't exist.

Within the array of networks that provide access to biodiversity information across England, Scotland, Wales and Northern Ireland, there are many strengths and examples of excellent practice to draw on but. There are also weaknesses to tackle and opportunities to be grasped, whilst post-recession cutbacks pose a significant imminent threat to important chains of information supply.

Looking forward to 2015 and beyond, how can we ensure that

- biodiversity information networks and their supporting infrastructures are equipped to meet present and future information needs, and
- essential information is available and put to effective use?

Preparing for change

The over-riding issues to be addressed with regard to biodiversity information supply, fall under two headings: **need** and **uncertainty**. In addressing them, there is a sequence of questions to answer.

- What are our information priorities for particular purposes and overall?
- Under each of these categories, what information is needed - and in what form - to satisfy ongoing information requirements?
- On what chain of processes and participants does its availability depend?
- What is necessary to guarantee the security of supply in the short and longer term?
- What steps are necessary to maintain and improve information quality, coverage, access and analysis?
- What obstacles and gaps need to be overcome?
- What are the most effective ways of addressing the above?
- What incidental opportunities or benefits may be realised?

Whilst these questions apply to information users of different sorts they are directly relevant to those organisations and individuals involved with managing and providing access to data or with recording activities and their coordination or support.

At present, depending on the degree of compulsion, there are often gaps between what information is ***required*** and what, scientifically or statistically, is actually ***necessary***. The degree to which primary legislation is open to interpretation is a major cause of the resulting uncertainty gaps. In the absence of any legislative remedy, how might these be minimised and overcome?

Access to the information vital to shaping and monitoring future strategies, plans or decisions should be regarded as prerequisite, mandatory or not. Without, it is questionable whether they can be properly framed and directed, achieve required outcomes or make effective use of allocated resources. Procedural and contractual requirements, coupled with codes of practice and agreed standards provide a better means of producing standardised approaches, tailored to individual circumstances, than legislative change. A review of how this might be implemented across the biodiversity information community, from recording through to the revelation of derived information is likely to be the best way of achieving this, not least because it will form an integral part of a review of information, communication, support and other needs within different sectors, and of how these might be addressed.

Various organisations or their representative bodies have already identified standards-led operating procedures, hallmarks of quality and information needs. Helping to tie these and other initiatives together on a community or industry-wide basis would give them added weight and highlight the steps to be taken to achieve their objectives.

Beyond assessing uncertainties, quantifying information priorities and resource needs and identifying the means to address each of these a review would also offer wider benefits. This would include the identification of and sharing information about common obstacles or bottlenecks, gaps in funding or other support, training needs, ideas developing and disseminating data tools that could be quickly tailored to specific needs, helping to highlight how different sectors might support and gain from each other and where resources could be targeted to best effect.

A considerable range of biodiversity data is collected for different purposes, including records of nature reserve management, biodiversity action plan records and research but these are split between different information systems - when they are shared at all - so that it is difficult to harness their combined potential. Electronic data passports and charging systems for commercial users to streamline access to data and provide funds to support and develop voluntary recording activities; development of standard, user-oriented presentation formats by record centres; provision of support for sample-based approaches to mapping distribution and change to maximise recorder effort; identification of how the national curriculum might better benefit from and contribute to biodiversity knowledge. These are just a few of the important issues and opportunities that could be addressed.

The producers, managers and users of biodiversity data will already have ideas about improvements they would like to see linked to their own goals, priorities, and frustrations. The question is how to bring these together in an effective manner.

Phase I - First steps

Any review should incorporate the opinions, experiences and - sometimes conflicting - objectives across the full spectrum of biodiversity information supply. The most effective means of capturing the views of different sectors will be to pose the right questions to those able to answer. This will involve two steps.

Step 1 - Preliminary survey

A preliminary approach to key representative individuals and organisations will

- encourage involvement with shaping, promoting and steering the entire process towards improvement;
- ensure that the full survey is informed by and can incorporate previous assessments wherever feasible;
- highlight key issues of particular concern;
- help to frame survey question sets for each sector.

Some representative bodies may also see advantages in coordinating evaluations for their sector, contributing to Step 2 or its follow ups.

Step 2 - Full survey

This will comprise two parts:

(a) a formalised consultation of the views of a suitable sample of organisations and individuals across all sectors, covering the opportunities and obstacles they perceive in relation to
   - their specific and generic goals and needs;
   - their relationships with data partners and other collaborators;
   - the wider flow of information.

(b) an open survey to stimulate opinion and discussion by as wide a range of commentators as possible.

Together they will provide a 360˚ perspective on wider biodiversity information supply needs and help to promote involvement with subsequent initiatives.

The chief product of Phase I will be a concise *Towards Joining the Dots* report. This will

- summarise survey responses and their implications;
- raise the profile of biodiversity information use/supply;
- provide an insight to the state of biological recording and biodiversity information provision and use; and in particular;
- highlight and prioritise those needs, gaps, opportunities, obstacles, bottlenecks, weaknesses and threats that most need to be addressed, particularly in relation to future environmental challenges.

A first draft of this report will be open to comment by all interested parties.

The finalised Phase I report will summarise and comment on opinions under geographical, taxonomic, habitat and support headings; in relation to recorder, data manager and information user views; and perceived information and communication needs. It will distinguish between issues that may be addressed immediately or in the short to mid-term; necessitate more detailed examination; depend on the development and implementation of new tools, protocols or agreements or are in some way resource constrained.

Phase II - Joining the dots

Although valuable in itself, the Phase I report will provide the evidence base and promotional platform for the launch of a series of independent but interlinked, collaborative initiatives. Beneath the banner of *Joining the Dots*, each project will be part of a larger, mutually supportive whole.

Some schemes will address highlighted quick wins. Others will be initially or entirely research-oriented, gathering the information necessary to fully quantify needs and determine suitable courses of action, building on the gap identification achieved in Phase I. Opportunities for academic research projects will be identified wherever possible.

Specific projects, under the aegis of an overall steering group, may be developed by individual organisations, hosted on behalf of several partners or require collaboration on different aspects from a wide range of participants. Some may be undertaken within existing resources, on a voluntary or pro bono basis: providing match funding contributions for others requiring grant aid.

The proposed audit will highlight key opportunities for environmental funding bodies to support initiatives that will make a lasting difference, for which the need and benefits can be clearly evidenced. The interconnected nature of these projects will add to their value beyond ensuring that each is suitably engineered, not least in preparing the way for dependent schemes or the wider implementation of successful pilots and customisable tools.

This turnkey approach would offer an effective way to secure the minimal but vital cross-spectrum input required initially and for encouraging and supporting the subsequent greater involvement for some, either with its integral development projects or steering the process overall.

Beyond Joining the Dots

Phase II will enable the discussion and development of a more integrated, flexible, scalable, forward-looking approach, culminating in a first UK biodiversity information strategy (UK BIS)

This UK BIS would implement the data exchange agreements, support processes, funding arrangements, tools etc needed to tackle current and future uncertainties and to meet identified needs. Its form will depend largely on the input of each sector but it would offer the opportunity for ongoing feedback and review of priorities, needs and their realisation, as well as providing the necessary evidence at local and national levels to guide and assess environmental policies or programmes, and the actions and outcomes that flow from them.

Joining the Dots is the working title for the collaborative approach suggested by the National Federation for Biological Recording as a means for promoting and supporting biological recording and biodiversity information supply across the UK.

For further information and news updates visit

www.nfbr.org.uk/joiningthedots

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