



- Along with other roles, we see the need for clear dataflows, perhaps with flagged unverified and verified data together in a central place - though not everyone agrees
- It would help if we received records in a consistent format, but we don't want to put recorders off! iRecord is good as all the data are in one place, plus you can store photos with records
- We need funds to train recorders - a little money could go far, and we often use our own cash currently. We also need long term sustainable funding!

- I need to ask recorders questions about their records - I am happy to accommodate whatever is their preferred mechanism for this eg. email, through iRecord etc
- I do have a lot of records to get through so it would be very helpful if recorders could include photos with their records to speed up verification
- Lots of us use iRecord so we can see which records are waiting for our attention - it would be great if all records were in a central database!
- We need more tools that automate the verification process - especially to filter records based on an initial level of confidence
- We need more verifiers! More help is needed with the increasing number of records that need verifying, especially for more obscure species groups. I am happy to teach id skills.....



VERIFIERS

- I don't mind spending my own money as long as I feel I am playing a part and my contribution is valued. I just want to go out and record!
- Sometimes I need to collect specimens and access taxon experts to verify
- But please could someone clearly identify which data should be sent where? How about just one secure place for all the data to go, where everyone can drop in and collect the data they need.....?

- We need access to IT skills and support for data management - then we would have more time for verification
- Can we move to a more 'open data' position - while still collaborating with partners and suppliers of data?



RECORDING SCHEME OPERATORS

- I am happy with my note book and pencil in the field - I have a system and it works!BUT
- Many of us love to use recording Apps and would be lost without technology!
- We are all different so to an extent we should all be allowed to record how we want to - otherwise we won't do it!



RECORDERS

- We encourage recorders to lodge their specimens with us to look after....EXCEPT we have little funding for expansion of collections. It would help if they were recognised as 'big data' then we could secure more funding
- We are here if verifiers need a specimen for id purposes, and we know where specimens are - including in personal collections!

- If only we could digitise specimens held in collections across the country and link with GBIF and NBN, then anyone could access them online!
- We love people to come and view our collections, it's an opportunity to increase awareness of the natural world - and we could offer more taxonomic skills training



COLLECTION CURATORS

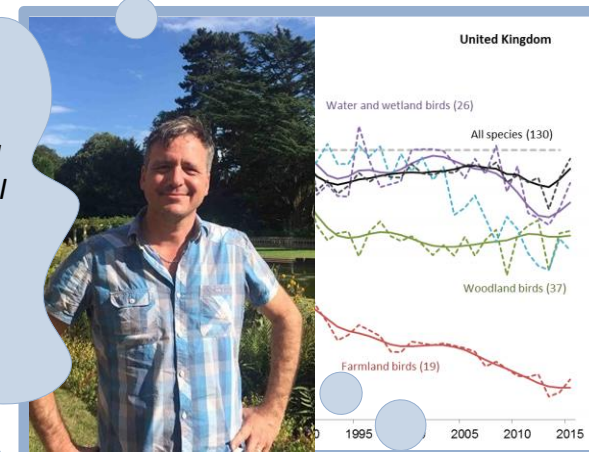


RECORDING GROUP OPERATORS

- We need long term sustainable funding!and to increase recording activityand taxonomic skills!
- We'll happily receive records via any channel - we don't want to deter recording!! BUT we would prefer recorders to enter data into iRecord, or a centralised system.....lack of standard policies and processes slows down the flow of data and duplicates data handling
- Like recorders, we struggle to determine the best route for dissemination of records to the appropriate organisations - dataflows need to be clearer

- Sending our records to the national database can be challenging as we need to reformat them from our local databases which slows the process downBUT, once there it's great, we can use the data for our website, Atlas production etc
- We are happy to share our data with LERCs, to add value and create data products, but we would like to move to an open data ethos so data are more widely available
- BUT.....maybe some sectors who need access could fund those who collect and verify?
- We would like to spend more time educating and less time processing data and chasing missing information!

DATA DEVELOPERS

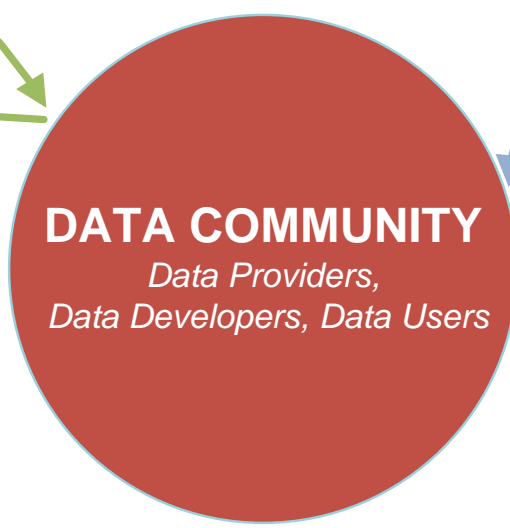


- To maximise use of data, having a standard format to present the data makes life a lot easier.....BUT if I need to I am happy to collate data from a variety of formats to bring them together
- We need access to tools such as GIS software.

- We all need access to raw data of known quality, this isn't just biological recording data, but also socioeconomic data and other datasets so we can bring data together
- For me open data makes my life so much easier as I have a huge pool of possible datasets to rapidly access and explore.

- I should be showcasing and promoting case studies of how I use data to encourage others to do the same, while providing confidence to data providers that I'm responsible in my use of data
- My vision is to have reliable, easily accessible, high quality data with confidence of full coverage of the local area – legacy databases would have to be amalgamated into a secure, stable national database, but this would eliminate the need to gather data from various sources
- We need an agreed model for data flow that everyone uses and funding aligned with it

- LERCs play an important role - offering interpretation services, finding local data which may not have been shared centrally yet, supporting recorders and engaging with the local community.....
- We need a culture of open data to be adopted but the current funding models don't allow this - alternative funding streams are needed to ensure continuation of data sharing and other vital services!



DATA USERS



- We really appreciate all the effort that goes into collecting, checking, curating and sharing biological records
- We recognise the need for the taxonomic skill deficit to be addressed, not only to ensure data can be collected and verified but also to ensure that we have individuals with the skills to interpret data
- We use data to support planning applications – a more consistent screening process is needed, with better alignment of charging rates

DATA PROVIDERS



- A key part of our role is to collate data and make them available, so we need clear policies and agreements to prevent data misuse and ensure protection of sensitive species
- There is a need to be able to digitise and share historic data, including museum specimens and paper records

- Data quality is very important to us so we need clear data management systems and processes and streamlined dataflows especially between us and verifiers
- We need more people trained in taxa identification!! But also verification processes that make use of technology would help empower the small numbers of hard working verifiers that do exist.
- Efficient, clear, and, ideally, live data flows would make our job easier - it is challenging to know whether we should share records to a national database, or whether they have already been provided by another data provider

- There is a lot of duplication of effort because pathways are not clear! We spend considerable time reformatting data that we receive into a standard format that can be shared – everyone likes to do things differently but it would save a lot of time if we didn't have to do this
- What would really help is to find better ways to mobilise data using online recording..... to help data flow into a central data warehouse, where users could access and download their data holdings and see the quality of a record from a simple flag. This central database could service data requests too
- For all this to work we need a stable, centrally funded model for recording schemes so that collection, verification and management of data are paid for by those who use the data.

QUALITY ASSURED DATA

UNVERIFIED RECORDS;
VERIFICATION SERVICES

DATA PRODUCTS

RAW DATA;
DATA PRODUCTS

DATA OF KNOWN QUALITY

INFORMED DECISIONS

SERVICE PROVIDERS



- My biggest concern is how to continue to keep my business running in an open data world? For many, funding is so uncertain year to year
- We need simplified data flows, and it would be a huge time saver for us if there was a process to extract data from consultants reports into our database
- With more resources and a coordinated approach we could be delivering a consistent service across Scotland so no one is left out!
- Like others, we want increased verification capacity, consistent recording technologies and standard data formats!

- Perhaps having one central database which we can all contribute to, and access data from, of a known quality, would save a lot of time and resources.....BUT
- I would potentially be giving up control of our in-house local database and putting this in the hands of someone else

SERVICES

DATA & SERVICE REQUESTS



- We need a shared vision and shared ownership of the future with clear roles and responsibilities so we are not competing for the same space any more.
- It's a joy to be a central hub for the community, for training courses and other events and we can support to NSS, amongst others, in data mobilisation, gap analysis, data validation, publishing newsletters, developing websites and hosting meetings.....SO
- If aspects of our roles are to change, supporting recorders and NSS would be something I really think service providers need to retain
- Assuming a sustainable source of income for all, could there be an automated online system through which data users can request and subsequently access data for an appropriate fee – to free up time for innovation and moving service provision businesses into new spaces?

- Consistent use of biodiversity records needs to be an integral part of screening planning applications - we need Scottish Government legislation to intervene
- Notwithstanding budget cuts, a simple online system for rapid screening of applications would be a good start!
- We all need specialist IT support - increased sharing of skills and tools has been a real success for some – perhaps we could create a more formal 'shared services' model?

- We really value all of the effort that goes into the process of making data available for us to access and use
- Access to training courses and documentation to accompany new tools as they are developed is vital for me to grasp new systems and processes
- Clear roles and responsibilities for our infrastructure are needed and we must have more sustainable funding models - so I am happy to support change that delivers these

SERVICES



SERVICE USERS

- I hope that as a funder I am going to be able to help us all realise a new shared vision, with clearer roles for all
- We need the funding process (those who are funded, and the funding conditions) to be simpler and more straightforward
- There need to be clear partnership agreements with KPIs – more time should be spent using funds than reporting on it!
- In return for funding I do expect project partners to make their data open in a standard format – and a new infrastructure model with buy-in from all should help
- I need to get maximum bang for my buck when I invest and I would like to see Service Providers embracing new technology and ways of working to reduce their reliance on income from National Government

RESOURCES

OUTCOMES & OUTPUTS

NEEDS

- I really like the idea of an efficient screening process for all planning applications
- Access to data from a central repository would make life a lot easier ensuring a consistent level of service across the country

- Could there be a regional/national IT node where data are held, verified and managed centrally, with local nodes (our service providers) that interact with recorders providing training, highlighting opportunities in surveys and providing group support?
- This would be a really efficient system - an aspiration we all want but cannot achieve with our current infrastructure
- We need to encourage, improve and facilitate networking and the transfer of knowledge and skills

- It's great that there are small grants available for local recorders from different funding sources and I would like to see more of this
- We should tell more success stories and celebrate our achievements
- We need to have automated verification tools and invest in shared tools and process to increase data flow
- We need to support the development and improvement of tools and databases - I would love to see all NSS's engage with new systems and process to mobilise their data eg iRecord and Indicia
- We need the planning process to enforce use of best available biological data and to invest in the recording infrastructure



FUNDERS