Outputs from the SBIF Review Workshop on Service Provision

17-18 October 2017

Re-imagining our service model for maximum value and fundability

Workshop sponsored by: rspb SCOTTISH NATURAL HERITAGE

Key messages from Workshop 2

1. Our services should be provided regionally rather than locally (to allow both economies of scale and local value) so our infrastructure is 'Central-National-Regional' overall
2. Fewer but more bespoke services delivered through regional expertise (especially for the Record & Collect, Analyse and Use stages of the NBN Data Flow Pathway); more shared services and common infrastructure for Quality Assure, Curate and Aggregate stages delivered through national and central expertise
3. Every service needs an online presence as it is essential that services are easily discoverable; most services are '1 Provider to Many Users' (a few internal ones are 1:1).
4. An automated planning screening service is of value at a national level, while enhanced interpretation services would be higher value at a regional level
5. Need to decide how to support local/internal business dataset curation on a centralised platform for Recording Groups and Regional Hubs – perhaps through 'Recorder 6 functionality' being part of the central platform suite or a sophisticated adhoc record portal?
6. It is hard to take business decisions on service provision while being considerate to all and wanting to ease any future transition to a new normal; if limited resources require greater economies of scale there would be greater risk in a more radical transformation

Our Proposed Service Provision Model

Central Services

Financial management and procurement
Legal, HR, IT and admin support
Accreditation, standards and innovation
UK Species Inventory management and development
Technical platform and central data warehouse
Technical support and training for developers/data managers
Data management of a central data warehouse
Scheme record submission portals and curation and analysis tools
Adhoc record submission and curation portal
Commercial and academic record submission and curation portal
Invasive species submission and curation portal
Automated validation and verification
Viewing, presentation and visualisation tools
Reporting tools for sites, postcodes, species and habitats
Habitat survey submission and curation portal
Social media harvesting
Aggregation of, and access to, non-commercial/non-academic data
Aggregation of, and access to, commercial/academic data
County/Vice-County Recorder liaison and contact management
Scheme Recorder engagement and mentoring
Scheme Recorder liaison and contact management
Major event management

National Services

Automated planning screening
Data driven local and national species lists
Gap analysis for species and habitat monitoring
Composite habitat map data curation (HabMoS)
Bespoke analysis/reporting tools for national government
Archiving of individual/personal specimens and collections
Management of voucher collections/loan of reference material
Ecological training to support delivery of biodiversity duty
Apprenticeship schemes
Locally important site designation and registration
Specialist taxonomic training
Fast-tracking/backlog management for verification/digitisation

Regional Services

Enhanced data search/bespoke reports including sensitive records
Expert planning screening including interpretation/advice
Local Recorder engagement and mentoring
Local Recorder liaison and contact management
Loan of/access to field or lab equipment etc
Entry level engagement and small events for the general public
Entry level taxonomic training and mentoring

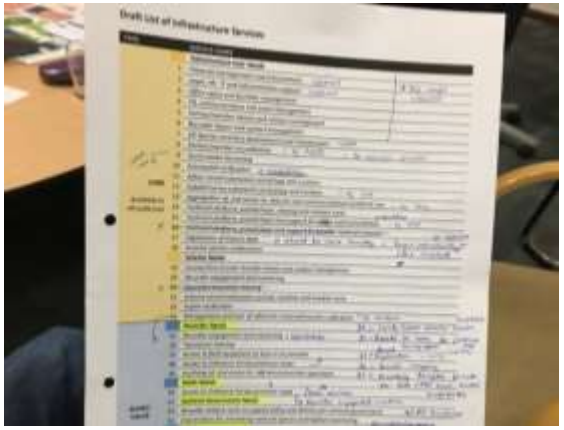
Regional | National | Central | X-Cutting

Cross Cutting Services

Office space and facilities management
Access to premium OS data (raster and vector)
Expert mapping and GIS including visualisation/presentation
Innovation

Workshop participants

Left to right: Ellen Wilson, Glenn Roberts, Kathy Dale, Zeshan Akhter, Ro Scott, Jo Judge, Liz Edwards, Christine Johnston, Louisa Maddison, Rachel Stroud, Ella Vogel, Tom Hunt, Gill Dowse, Claire Lacey, Katie Cruickshanks, Colin Edwards, Jonathan Willet, Richard Smith, Colin Campbell, Natalie Harmsworth, Martin Harvey, Marina Curran-Colthart, David Lampard, Lindsay Bamforth and Colin McLeod. [Battleby Conference Centre, 17 October 2017]


Draft list of infrastructure services

Workshop Objectives

- To inform attendees about the SBIF Review and progress towards a sustainable biological recording infrastructure
- To harness the expertise of participants in furthering the business case for change
- To develop a vision for a future service model by:
  - Agreeing service design principles and identifying user needs and expectations
  - Proposing services and service clusters that maximise synergy and value while minimising effort and cost
  - Recommending a holistic service model to take forward to future workshops

Workshop sessions

1. Icebreaker question
2. SBIF Review so far…
3. Review of the case for change
4. Review of service design principles
5. Developing a service catalogue
6. Understanding service brilliance
7. Service innovation
   - *Provider:User ratio*
   - *Service Clustering*
   - *Matching provider expertise to service task*
   - *Service delivery location*
8. Business changes needed
9. Workshop feedback

Icebreaker

SESSION 1

1a) Icebreaker question: Given the workshop objectives, what is the biggest benefit for you in identifying an improved service model?

LERCs, NBN

Clarity of roles in terms of providing services

Sustainability

Easily accessible data

Greater use of data

Reduced duplication in supply of services

Standardisation of services and compatibility between organisations

Services equally accessible everywhere

1b) Icebreaker question: Given the workshop objectives, what is the biggest benefit for you in identifying an improved service model?

Museums, Groups, Schemes, SBIF Advisory Group:

Complete coverage. Complete suite of services – to support volunteers especially

Bridging the gap between population centres and more sparsely populated areas

Ensuring enabling decision makers to use the available information – not decision based on ignorance

More even spread of services across country

Optimised service that are aligned to what we all need

Help recording schemes to develop verification and mentoring services: build capacity, make sustainable

Better support for volunteer recorders, as well as other users

Moving away from total dependence on volunteers

1c) Icebreaker question: Given the workshop objectives, what is the biggest benefit for you in identifying an improved service model?

Local Government, Commercial

Consistent product provided to all areas / LA

Incentivising data from universities and consultants into NBN

Make it easier to support data input

Pressure / standards for Las to use / recognise need for data

Sustainable and long term project

Improved mental heath

Data management support / mobilisation

University involvement

1d) Icebreaker question: Given the workshop objectives, what is the biggest benefit for you in identifying an improved service model

NGOs and National Government

Easier access and permissions to use data on NBN Atlas

Engaging a wider spectrum of users to work with evidence and information

Rapid availability of data / evidence through process from collection to end user

Giving conservation staff comprehensive, timely and trusted data to inform their work

Filling in the gaps in service coverage

Being able to empower/enable the public/civil society to take their own conservation actions using the systems, data and other services provided by us

Providing consistency in service provision to see all available data used across the country i.e equal access to data

Improved validation: a 'service; so that confidence can be placed on records faster than at present

Complete records shared including attribute data available. E.g. if someone records say a badger set or a road casualty it shouldn't be reduced to just species/location/data on NBN Atlas (which is only of use for distribution mapping)

More data mobilised (e.g. planning data, windfarms) and faster data flows

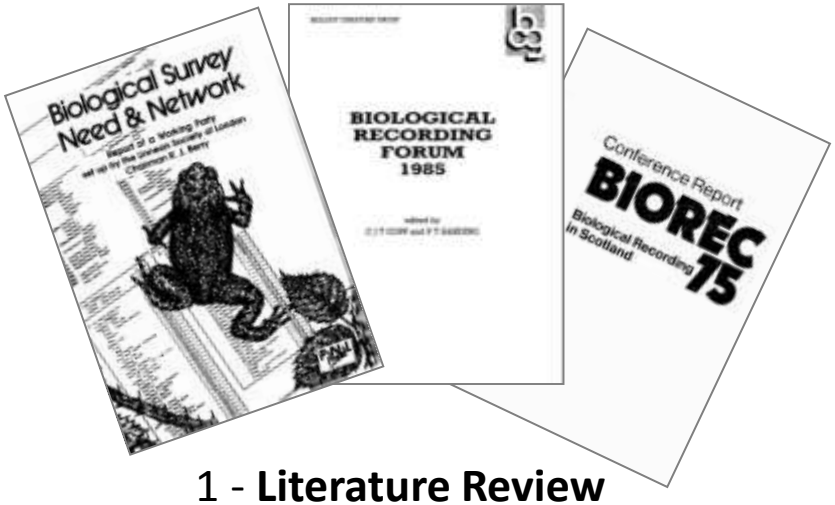
Capture level data required, especially for planning case work and species monitoring. (Capture level may be 8 or 10 fig grid references; NBN Atlas only supports 6 fig; many records only published at 1km or 10km resolution)

Increase confidence to available data and services/tools. Especially in 'uncovered areas' and to users who stay away from NBN

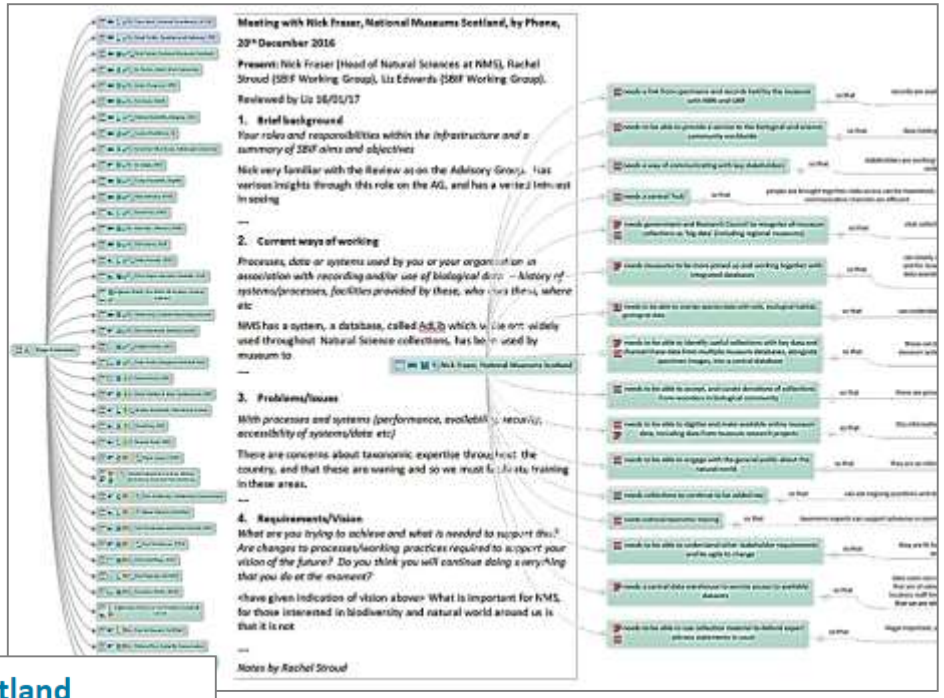
SBIF Review so far…

SESSION 2

2a) Findings of the SBIF Review so far



1 - **Literature Review**



2 - **Interviews**

SBIF Review of the Biological Recording Infrastructure in Scotland

Welcome to the SBIF Review Questionnaire

Dear Questionnaire Participant

Many people are involved in the collection or use of biological records - together we are a vital network with a shared desire to understand, enjoy and protect the biodiversity around us. We are needed more than ever as pressures on the environment are growing and biological records are essential for monitoring species and habitat change, informing planning and conservation decision making and bringing people closer to the natural world. Yet the complexity of our biological recording communities and infrastructure for collecting and sharing biological records, along with the difficulties of securing long term funding, may mean that we are less effective collectively than we could be.

3 - **Questionnaire**

For full details of the findings of the SBIF Review questionnaire, Interviews and literature review, please visit the SBIF Review web pages:

https://nbn.org.uk/about-us/where-we-are/in-scotland/review/

Findings of the Interviews

Findings of the Interviews

- *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 PROVIDERS

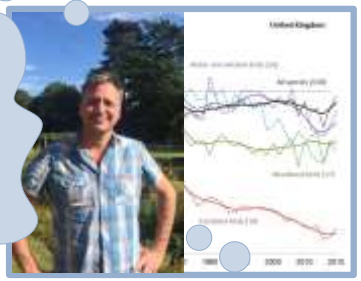
- *Data quality is very important to us so we need clear data management systems and processes and streamlined dataflows especially between us and verifiers*
- *We need more people trained in taxa identification!! But also verification processes that make use of technology would help empower the small 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*

QUALITY ASSURED DATA

UNVERIFIED RECORDS; VERIFICATION SERVICES

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.*



DATA PRODUCTS

RAW DATA; DATA PRODUCTS

- *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.*

DATA COMMUNITY

Data Providers, Data Developers, Data Users

- *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.*

- *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*

DATA OF KNOWN QUALITY

INFORMED DECISIONS

- *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 USERS

- *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!*

Findings of the Interviews

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?

SERVICE COMMUNITY

Service Providers, Service Users, Funders

- 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

NEEDS

SERVICES

SERVICE USERS

- 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

- 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

- 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

RESOURCES

OUTCOMES & OUTPUTS

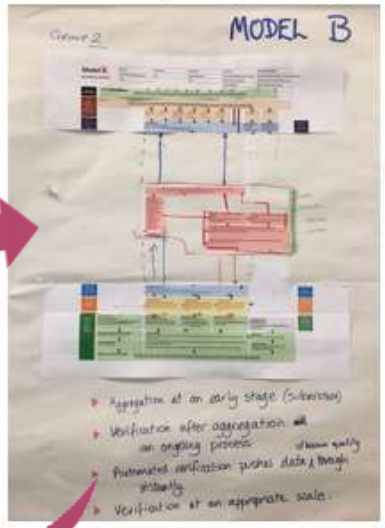
FUNDERS

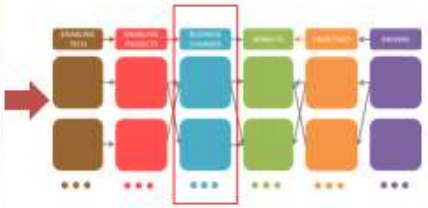
- I really like the idea of an efficient screening process for all planning applications
- Access to data from a central repository would make life a lot easier ensuring a consistent level of service across the country

2b) Summary of Workshop 1

Each model must:

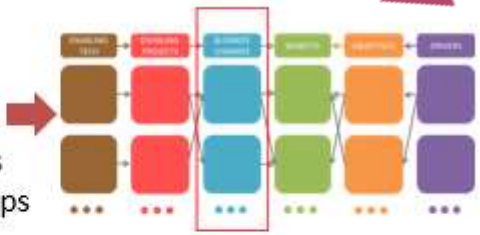
1. Facilitate a single master version of each record
2. Facilitate single submission and curation of records per route/scheme
3. Facilitate access to, and management of, own records
4. Facilitate full coverage (geography/species/habitats)
5. Facilitate open data, allowing for sensitivity restrictions
6. Provide one place where all data for a given use can be found
7. Make available records of known quality (verified + unverified)
8. Facilitate equal access for all (local, national and central)
9. Facilitate prompt progress through the six Data Flow Pathway stages
10. Minimise duplication of effort (and acronyms!)

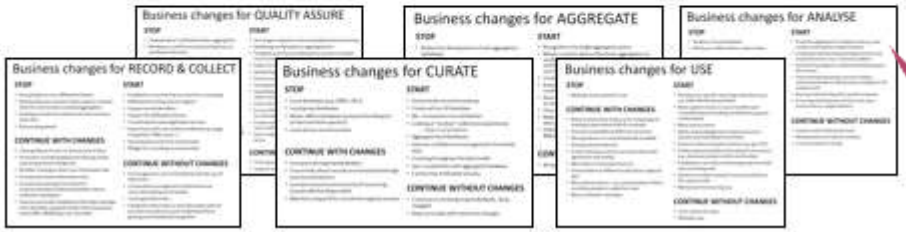


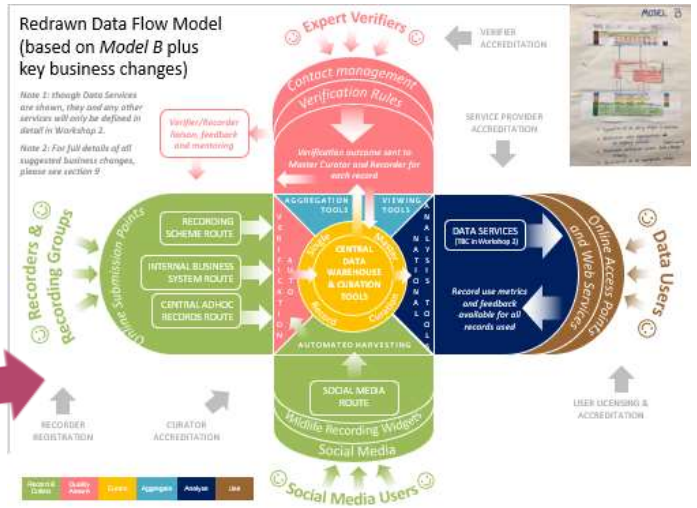


Key business changes

- Full details available in 'Outputs from Workshop 1'
- To be developed into business case following as the workshops progress



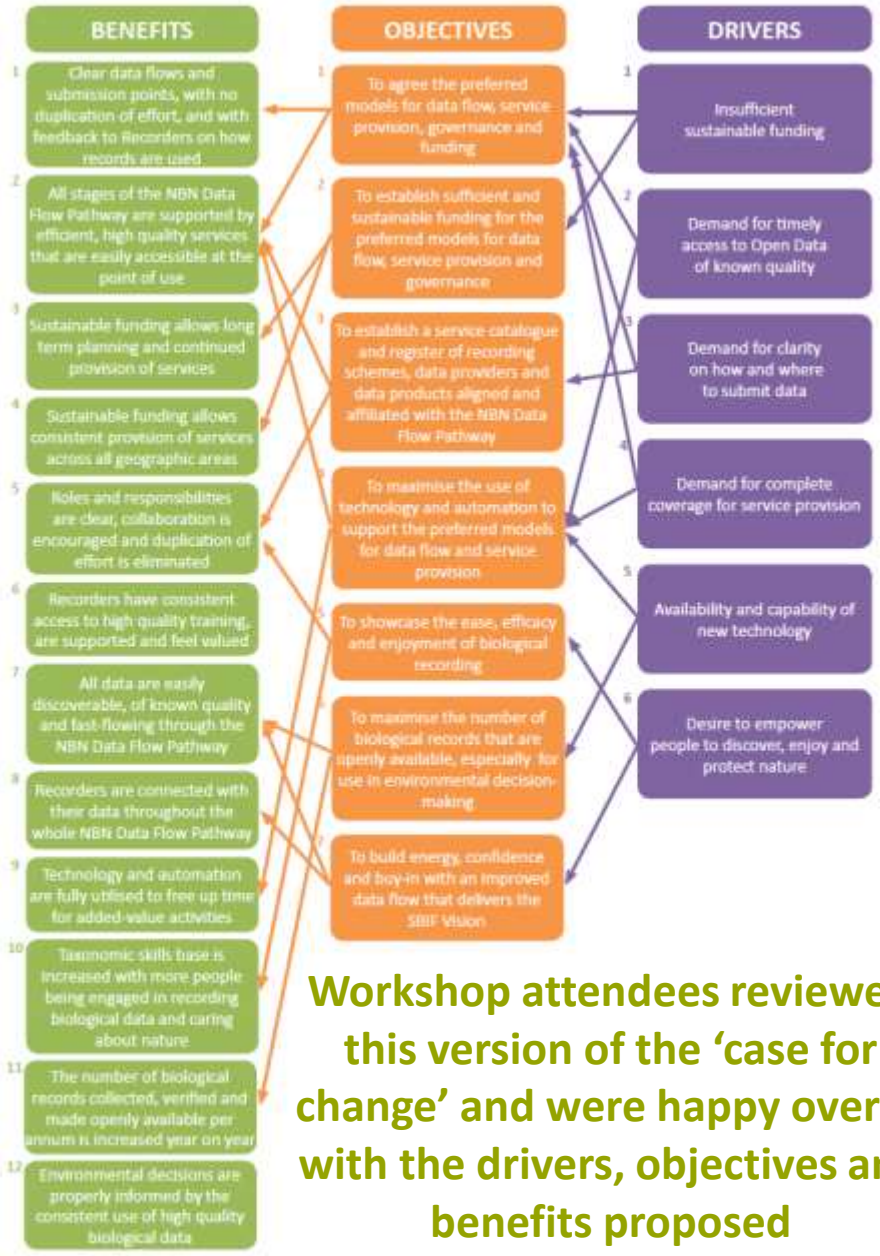




Review of the case for change

SESSION 3

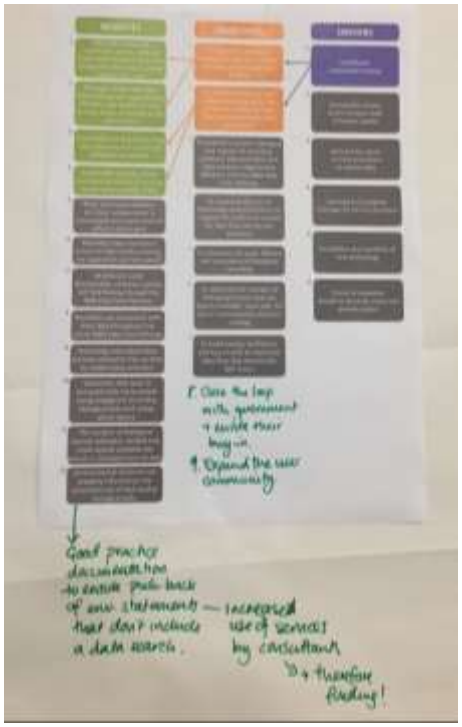
3a) The Case for Change

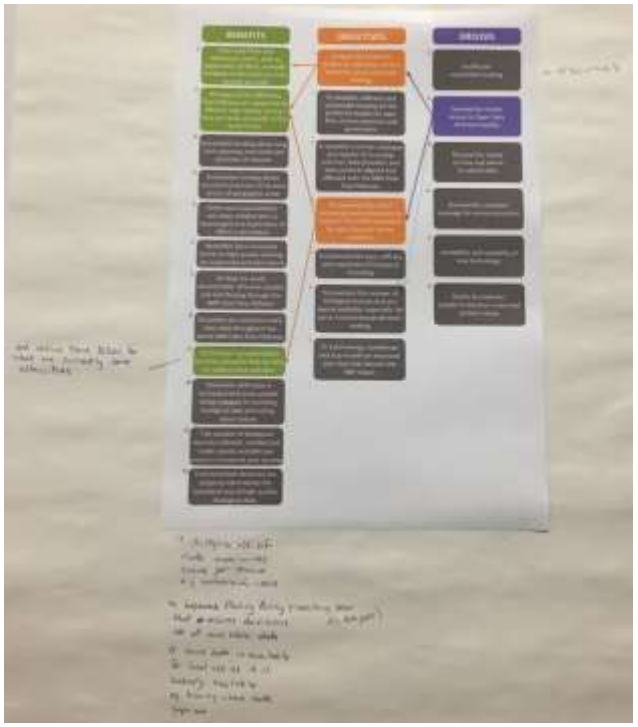


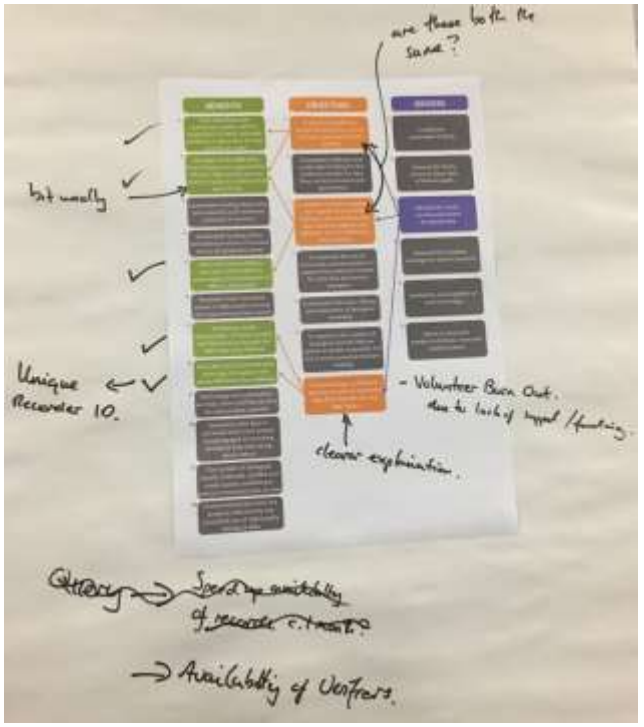
Workshop attendees reviewed this version of the 'case for change' and were happy overall with the drivers, objectives and benefits proposed

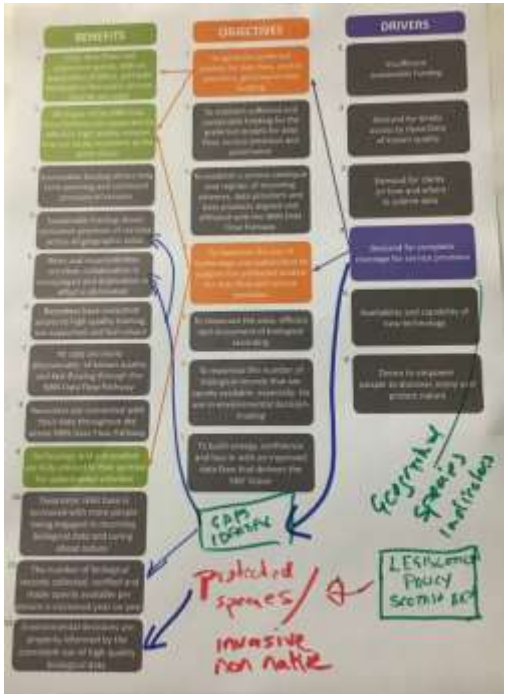
Specific comments

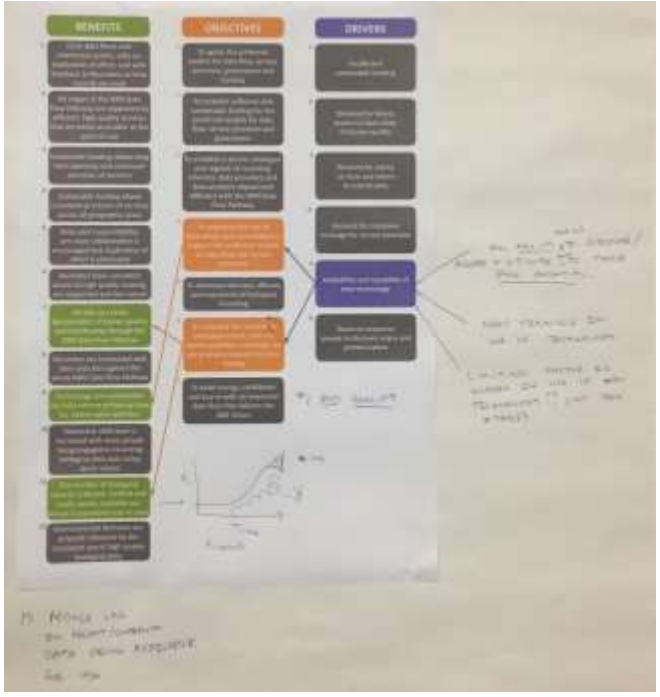
- **Consider adding a driver** relating to the wish to deliver better outcomes for biodiversity and to have better-informed environmental policy and decision-making (added as Driver 7)
- **Consider adding a driver** relating to the need to avoid 'volunteer fatigue' particularly in support of recording groups (Objective 3 and 5, and Benefits 2-5 et al already cover this as they relate to Recording Groups as much as to any one else)
- **Consider giving greater emphasis** to the value of data for everyone, particularly the more that more data are available to more users for more purposes, and the value achieved from the original investment in data collection being maximised, so that more people also then contribute more records so creating a virtuous cycle (added as Benefit 9 in the revised diagram)
- **Consider giving greater emphasis** to the benefit of more data being available for story telling so that we can generate stories more easily to then inspire people to get involved – reinforcing the emphasis on value creation above (added 'so that more people participate' to Objective 6)


BENEFITS
OBJECTIVES
DRIVERS
Close the loop with government + evidence their buy-in.
Expand the user community
Good practice dissemination to ensure public lack of env. statements that don't include a data search.
Increased use of services by consultants
+ therefore funding!


BENEFITS
OBJECTIVES
DRIVERS


are these to be the same?
but usually
Unique Recorder ID.
- Volunteer Burn Out. due to lack of support / funding
clearer explanation.
Availability of Verifiers


BENEFITS
OBJECTIVES
DRIVERS
CAPS IDENTIFIED
Geographical Groups Individuals
Protected species
LEGISLATION Policy Scottish Act
invasive non native


BENEFITS
OBJECTIVES
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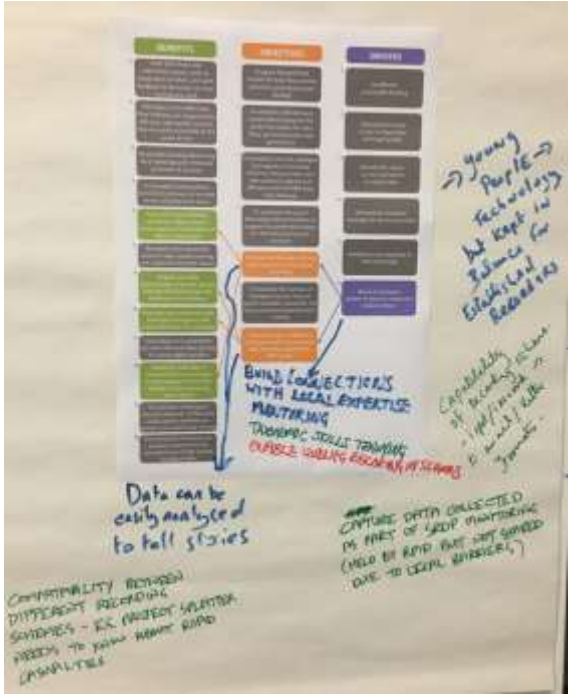

young people → factual ecology but kept in silos for Established Recorders
BUILD COLLECTIVES WITH LEGAL EXPERTISE
MENTORING
Data can be easily analysed to tell stories
CAPTURE DATA COLLECTED AS PART OF GROUP MONITORING (HELD BY RPID BUT NOT SHARED DUE TO LEGAL BARRIERS)

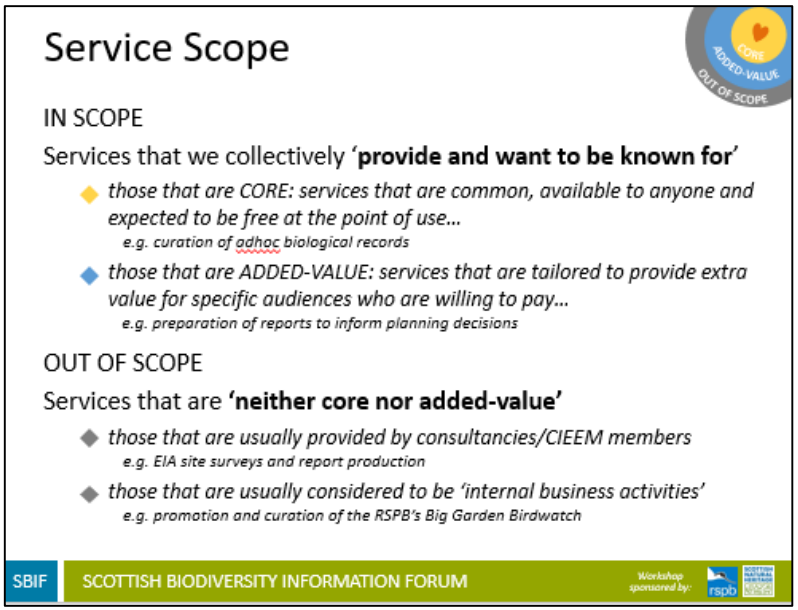
3b) The Case for Change

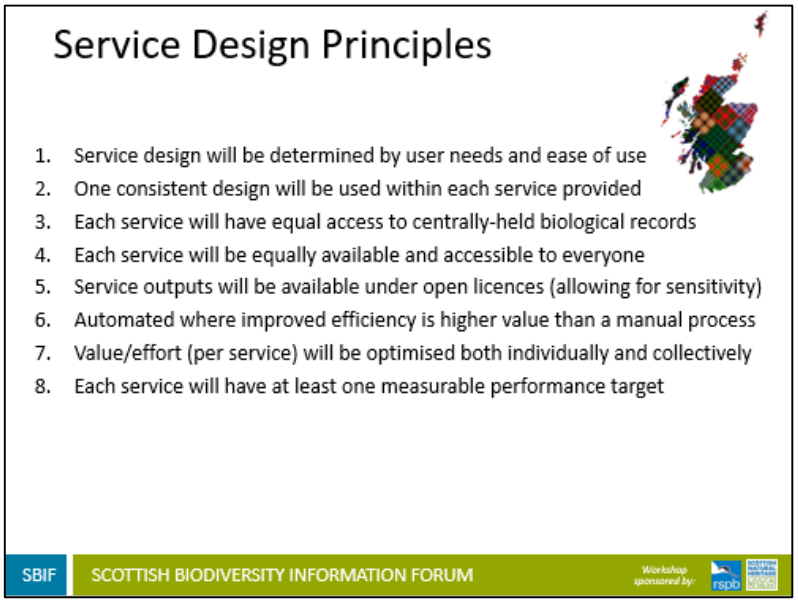
This slide shows the revised ‘Benefit Dependency Network’ which incorporates comments from both Workshop 1 and Workshop 2

Service design principles

SESSION 4

4b) Design principles





Discussion covered:

- What we mean by consistency in principle 2 (which is consistent, but not necessarily uniform, availability of the services that we want to be known for)
- Open service outputs in principle 5 (which were welcomed as providing a great step forward)
- Service value and user design being balanced to maximise ease of use while also optimising service value and effort

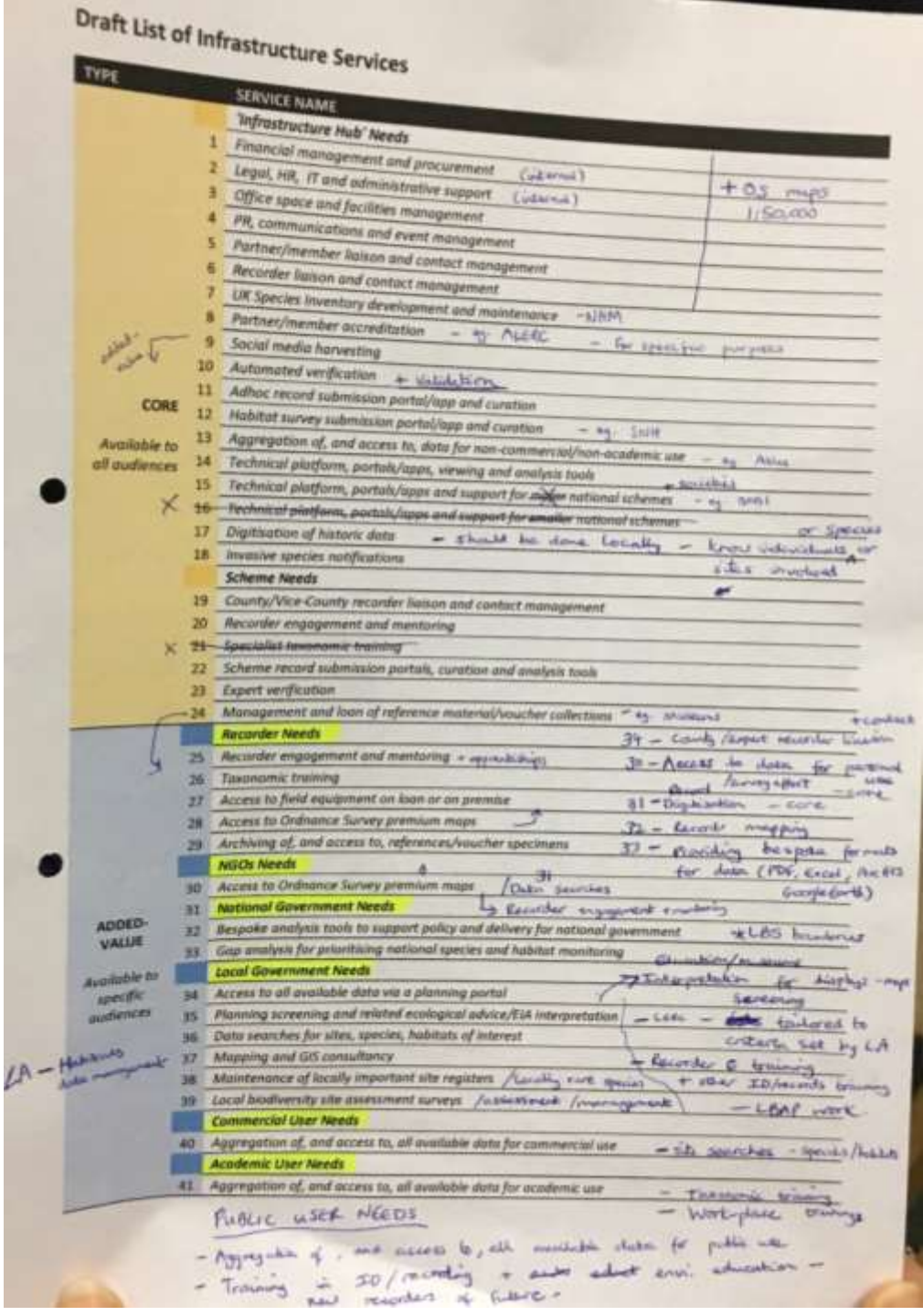
Workshop attendees reviewed the definition of Service Scope and the Service Design Principles and were happy with no specific changes needed

Developing a Service Catalogue

SESSION 5

Example of the List of Core and Added-Value Infrastructure Services used in Workshop 2

(annotated by a Workshop Attendee)



Draft List of Infrastructure Services

	TYPE	SERVICE NAME
		'Infrastructure Hub' Needs
1		Financial management and procurement (external)
2		Legal, HR, IT and administrative support (internal)
3		Office space and facilities management
4		PR, communications and event management
5		Partner/member liaison and contact management
6		Recorder liaison and contact management
7		UK Species Inventory development and maintenance
8		Partner/member accreditation
9	CORE	Social media harvesting
10		Automated verification
11		Adhoc record submission portal/app and curation
12	Available to all audiences	Habitat survey submission portal/app and curation
13		Aggregation of, and access to, data for non-commercial/non-academic use
14		Technical platform, portals/apps, viewing and analysis tools
15		Technical platform, portals/apps and support for [illegible] national schemes
~~16~~		~~Technical platform, portals/apps and support for smaller national schemes~~
17		Digitisation of historic data
18		Invasive species notifications
		Scheme Needs
19		County/Vice-County recorder liaison and contact management
20		Recorder engagement and mentoring
~~21~~		~~Specialist taxonomic training~~
22		Scheme record submission portals, curation and analysis tools
23		Expert verification
24		Management and loan of reference material/voucher collections
		Recorder Needs
25		Recorder engagement and mentoring
26		Taxonomic training
27		Access to field equipment on loan or on premise
28		Access to Ordnance Survey premium maps
29		Archiving of, and access to, references/voucher specimens
		NGOs Needs
30		Access to Ordnance Survey premium maps
31	ADDED-VALUE	**National Government Needs**
32		Bespoke analysis tools to support policy and delivery for national government
33		Gap analysis for prioritising national species and habitat monitoring
	Available to specific audiences	**Local Government Needs**
34		Access to all available data via a planning portal
35		Planning screening and related ecological advice/EIA interpretation
36		Data searches for sites, species, habitats of interest
37		Mapping and GIS consultancy
38		Maintenance of locally important site registers
39		Local biodiversity site assessment surveys
		Commercial User Needs
40		Aggregation of, and access to, all available data for commercial use
		Academic User Needs
41		Aggregation of, and access to, all available data for academic use

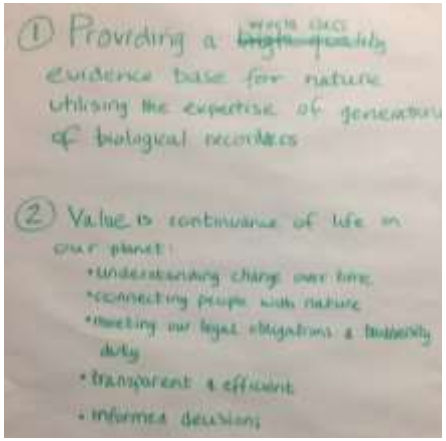
+ OS maps 1:50,000

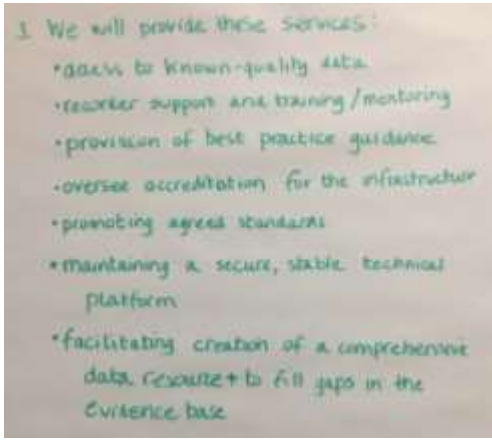
PUBLIC USER NEEDS

5a) Service Pitches for Core Service Groups

Group 1

- Our purpose: “Providing a world class evidence base for nature utilising the experience of generations of biological recorders”
- Our value: “continuance of life on our planet, understanding change over time, connecting people with nature, meeting our legal obligations and biodiversity duty, transparent and efficient, informed decisions”



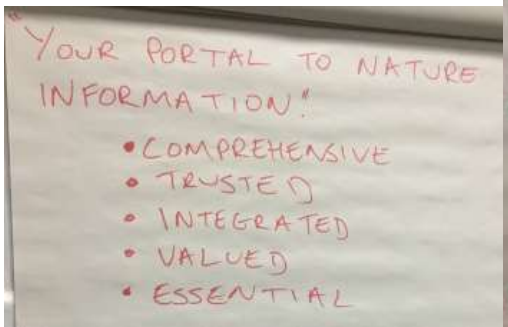


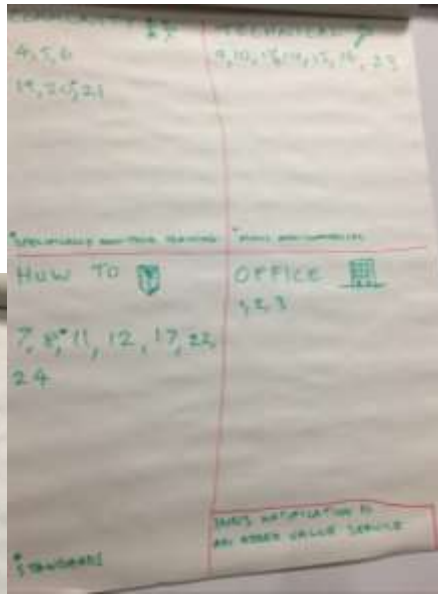
List of services: agreed with core services, picked out top level ones, access to known quality data, recorder support, best practice guidance, governance and promoting standards, more joined up and solid infrastructure, key structure behind it so it works at all stages of the process to deliver data. Identifying and filling gaps in the evidence base

Group 2

- Our purpose: “Your portal to nature information - comprehensive, trusted, integrated, valued and essential”

List of services: keep all ones in the core except invasive spp notifications as that is added value. Grouped into community led ones, eg PR, events, member liaison, contact, recorder engagement etc; How To section about how to come and engage. Partner bit was about setting standards; accreditation was an added value service; curation of records and management of collections; technical section about aggregation and access to data across the board and available to all. Then office services all finance, HR etc all support services together.

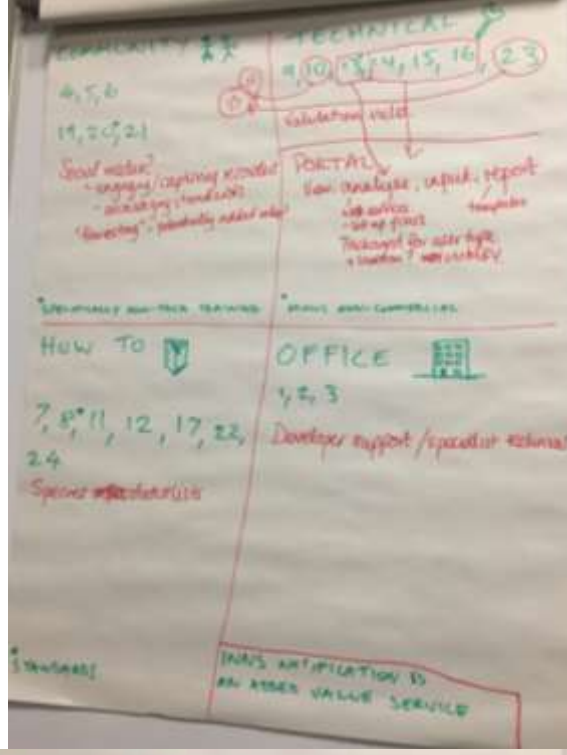


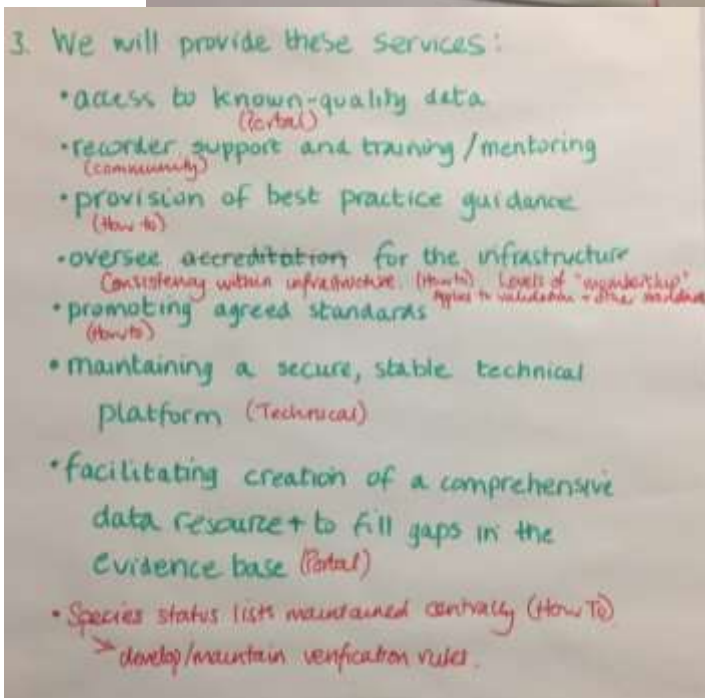


5a) Service Pitches for Core Services AMALGAMATED CORE GROUP

Rough notes of discussion:

Community aspect pulled in parts of validation rules as the community needs to be involved in maintaining these. Social media splits into two – keep as core for community link and engaging recorders and encouraging them to follow standards and investing in them to capture more info and this is a core purpose. Harvesting though is felt to be an added value. Species status lists maintained along with taxonomic lists all in the how to section. Technical – moved out validation and moved all of big platforms to new big things called portal. Felt we hadn't yet addressed users very much yet. Want to push portal so people can view, analyse, view and report the data. Could set up web services and filters to package data up for different user types, so you'd see the layers that help you do your tasks and help you with butterfly recording etc. Would link to WIMBY on SEBWEB, feel we need templates to help people easily pull things out, giving as much power to users without needing to know how the portal works. Office section – develop support and technical support.



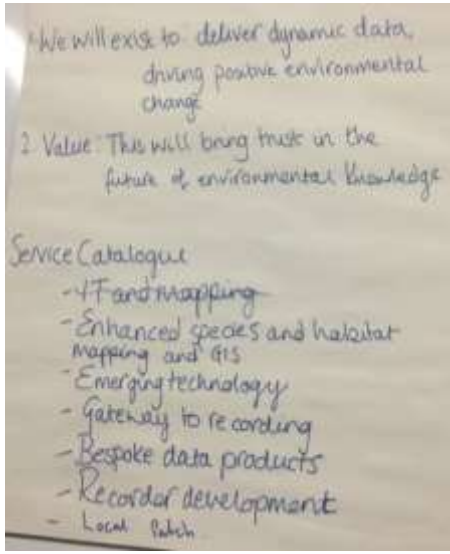


5b) Service Pitches for Added-Value Services Group

Group 3

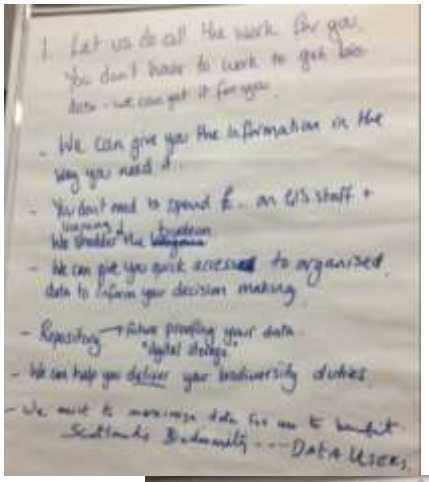
- Our purpose: “We will exist to deliver dynamic data, driving positive environmental change”
- Our value: “this will bring trust in the future of environmental knowledge”

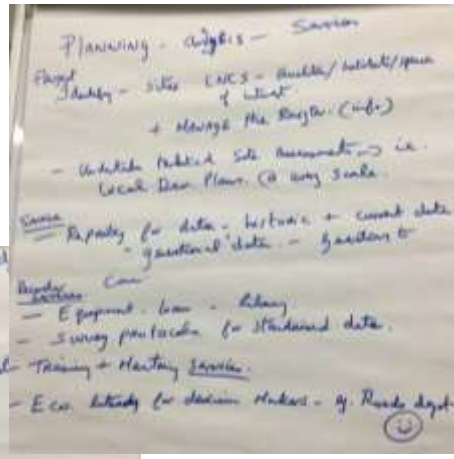
List of services: Enhanced species and habitat mapping and GIS; emerging technology, gateway to recording, bespoke data products, recorder development, local patch



Group 4

- Our purpose: “Let us do all the work for you, you don’t have to work to get biodiversity data – we can get it for you“
- Our value: “We can give you the information in the way you need it; you don’t need to spend £ on GIS staff and licencing, we shoulder the burden; we can give you quick access to organised data to inform your decision making; repository – future-proofing your data “digital storage”; we can help you deliver your biodiversity duties; we exist to maximise data for use to benefit Scotland’s biodiversity…. Data users…”



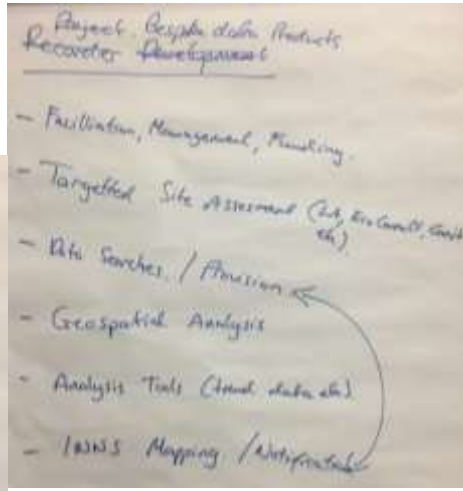


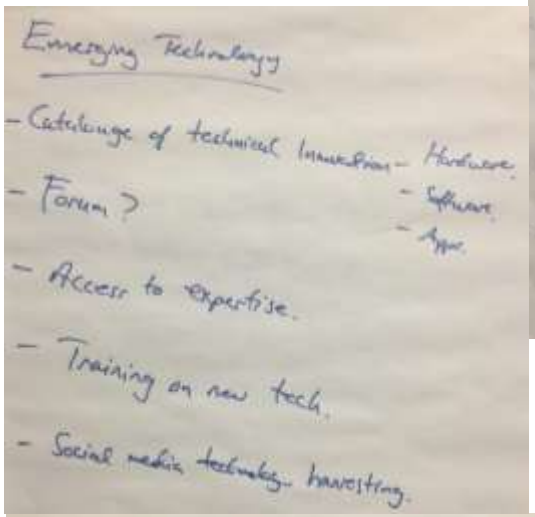
List of services: DATA INFO Knowledge (sweeping, filtering, gathering, marshalling, informing, synthesising, trending, analysis), plannng analysis, identify LNCs, manage LNC Register, repository for data (historic and current), generational data for generations to come, RECORDER SERVICES equipment loan, library, survey protocols, training and mentoring, eco literacy for decision-makers eg roads dept

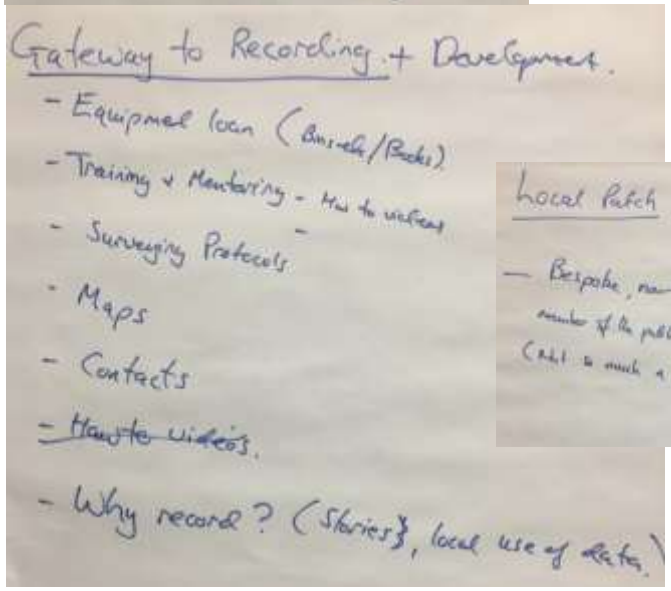
5b) Service Pitches for Added-Value Services
AMALGAMATED ADDED-VALUE GROUP

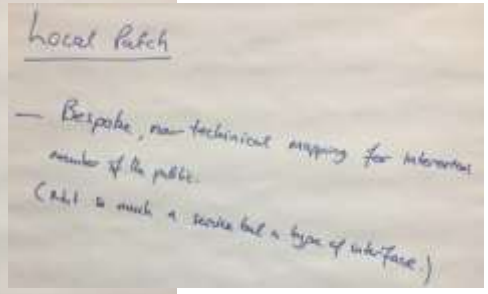
Rough notes of discussion:

Went with headings – gateway to recording and recorder development together, providing equip loan, books, apps, to help recording; then training and mentoring (how to videos, using pooters) primarily for beginner recorders or recorders going into a different group; surveying protocols so all collecting data in the same way; access to maps; access to contacts, why record: maybe for on the front page of the portal as it is a question for everyone. Can utilise existing local and national examples to connect what data go in are actually used for. Colourful characters in recording so you'd get colourful case studies! Didn't want to separate out commercial use. Project funding, making sure there is no doubling up of schemes; targeted site assessment eg LA planning screening, EIA assessments needed; data search and data provision (eg all butterfly data for last three years); geospatial analysis and mapping, analysis/analytical tools for trend info as a collective service and could tie in with localism agenda. Non-native species mapping which comes into data search. One place to put all records. Emerging tech: catalogue of tech innovation – a single place to find out what is happening with drones, software, apps etc, potential for a forum to discuss application; access to expertise and how to create an app etc for a local group… making it easier to find out as a lot of groups are not tech savvie. Training and new tech – eg on drones eg running four training events over the country. Social media harvesting questions… Local Patch – didn't quite fit in with added value services, we did not talk about the general public, but could link them to information of value for them – which schemes for things etc as an educational gateway and then to link people into recording.









5c) Service Catalogue Groupings

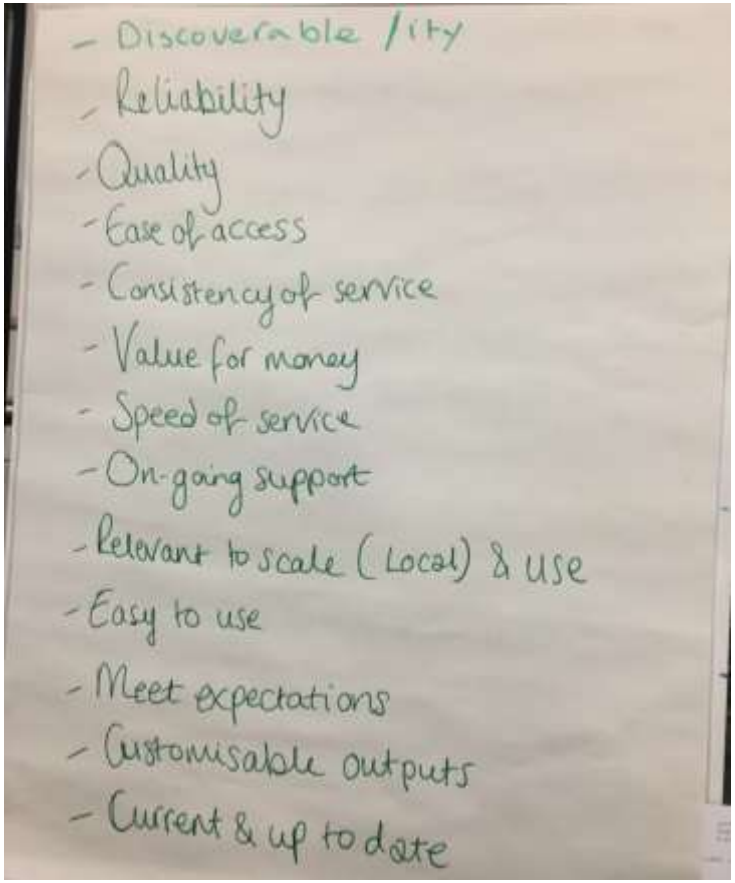
- Gateway to recording
  - Equipment loan (bins/books)
  - Training + mentoring (how to videos)
  - Surveying protocols
  - Maps
  - Contacts
  - Why record? (stories, local use of data)
- Emerging Technology
  - Catalogue of technical innovation (hardware, software, apps)
  - Forum?
  - Access to expertise
  - Training on new tech
  - Social media harvesting
- Bespoke data products
  - Facilitation, management, funding
  - Targeted site assessment (LA, Eco Consultants, Gov etc)
  - Data searches/provision
  - Geospatial analysis
  - Analysis tools (trend data etc)
  - INNS mapping/notifivcations
- Local patch
  - Bespoke non-technical mapping for interested members of the public (not so much a service as a type of interface)
- Community
  - Recorder support and training/mentoring
  - Social media (engaging/capturing recorders, encouraging standards and harvesting records)
- How To
  - Species status lists maintained centrally
  - Provision of best practice guidance
  - Promoting agreed standards
  - Consistency within the infrastructure
  - Levels of membership
- Office
- Technical
  - Maintaining a secure, stable technical platform
- Portal
  - View, analyse, input, report
  - Web services
  - Packaged for user type
  - Access to known quality data
  - Facilitating creation of a comprehensive data resource to fill gaps in the evidence base
  - WIMBY

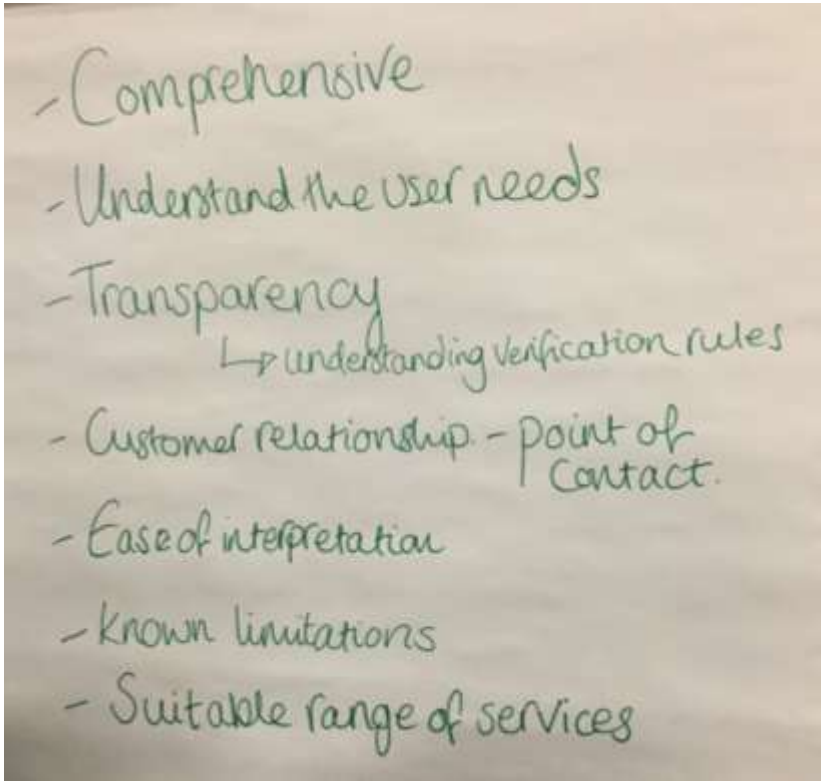
Understanding service brilliance

SESSION 6

6a) What would make services brilliant for LERCs/NBN?

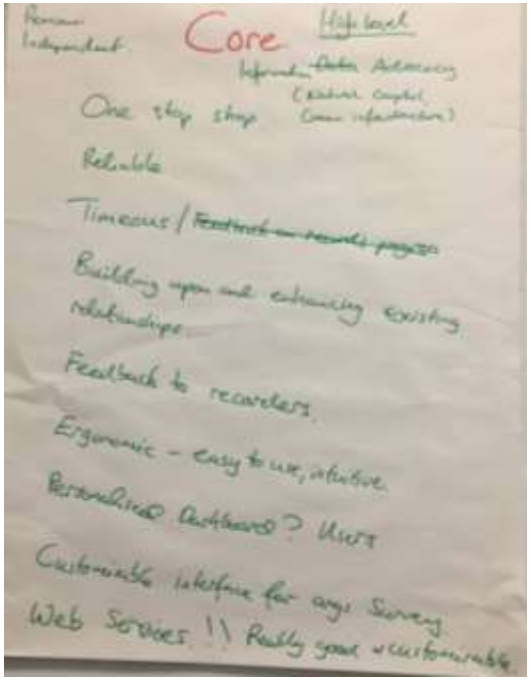
Group 1 (LERCs/NBN): all facets are quite generic and apply to all or most services. Perhaps one of the most important facets of a good service is being able to find it – is it discoverable so people know it exists and can access it. A lot of things eg reliability, quality, knowing what the quality of something is i.e. data of known quality and their limitations; value for money is really important; not just the cost but what is received for the cost. Speed of service also important across all services, could be taking the time to get the service correct not just immediacy. Notion of meeting expectation for users (managing them for providers), transparency – comes back to quality but understanding verification rules and understanding whether records reach all the way through to users or are stopped by being not accepted. Customer relationships and after sales service is also very important so someone can answer questions about the service provided and received. Range of services is really important too – maybe we need to offer a choice so the user can choose what is suitable and lets us look at what is working or not (like AB testing).

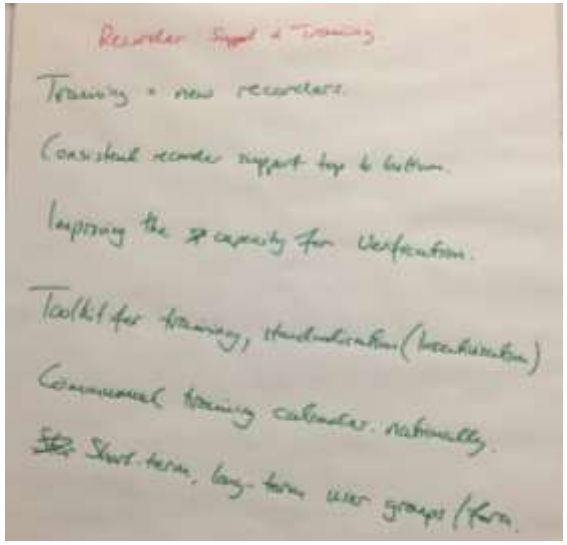


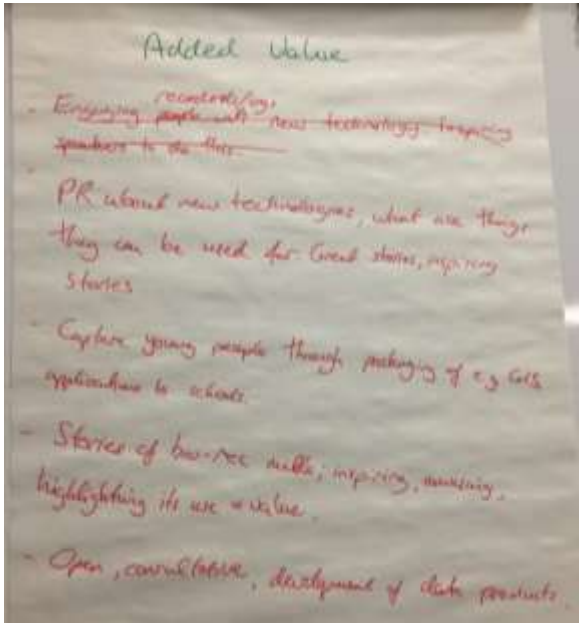


6b) What would make services brilliant for Schemes/Recorders/NGOs?

Group 2 (Schemes/Recorders/NGOs): did split between core and AV but with overlap. Remaining independent would be key and not being subsumed into a government department so infrastructure can be seen as an honest broker and independent. Also as a high level advocate, at the moment there is not really a single voice advocating this, not knowing what is based on hard data in terms of policy. Information advocacy. One stop shop, reliable, timeliness, a contract between users organisations and the infrastructure to actually deliver eg that within 2 months of supplying data onto the gateway they will be available; building on relationships to work with NGOs, finding a way to provide feedback to recorders, e.g. a personalised dashboard for users to see record progress and use. Ergonomic interface and intuitive for users. Customisable interfaces rather than reinventing for uses. Customisable web services. Recorder support and training (training should equal new recorders and should be able to quantify this), don't just abandon people after training but provide support all the way through their recording careers. Capacity for verification, a national training calendar, capability for short and long term working groups to exist within the infrastructure to address particular issues, or a long term data management group. Added value – press releases about new technology, what things can be used for, inspiring stories and applications… Capture young people through packaging applications for schools e.g. GIS and curriculum highlighting the use and value of the data, PR campaign. Open consultative development of data products if you are providing specific products for data partners that as many people are involved as possible so data are used correctly and appropriately.

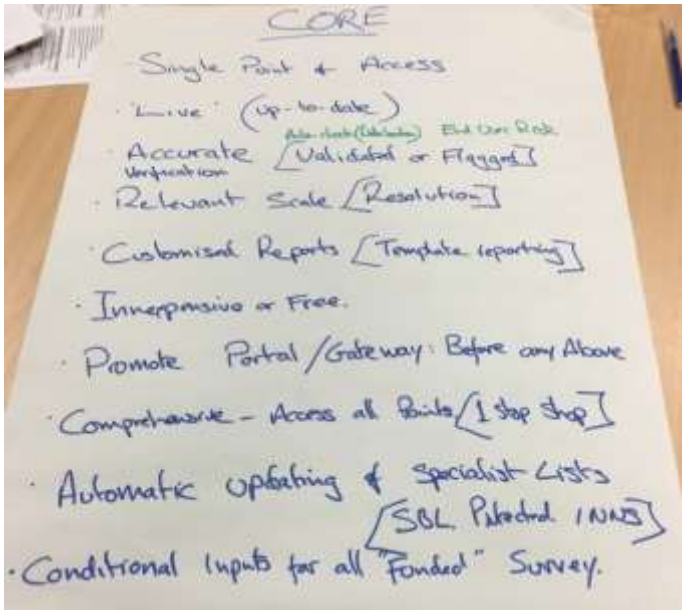


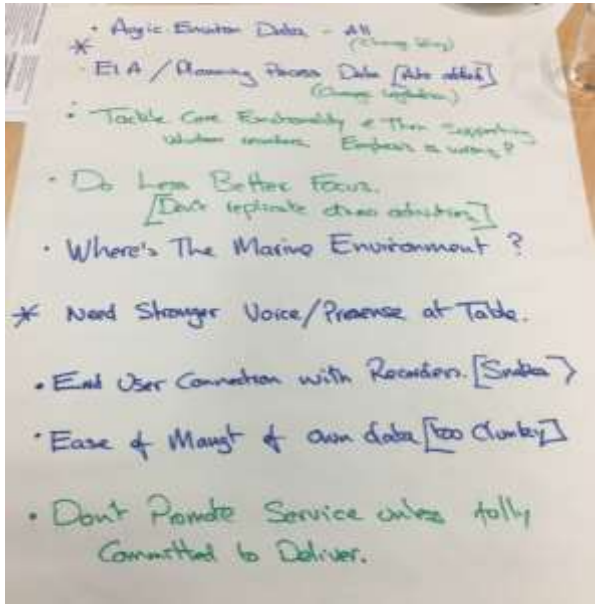




6c) What would make services brilliant for National Government?

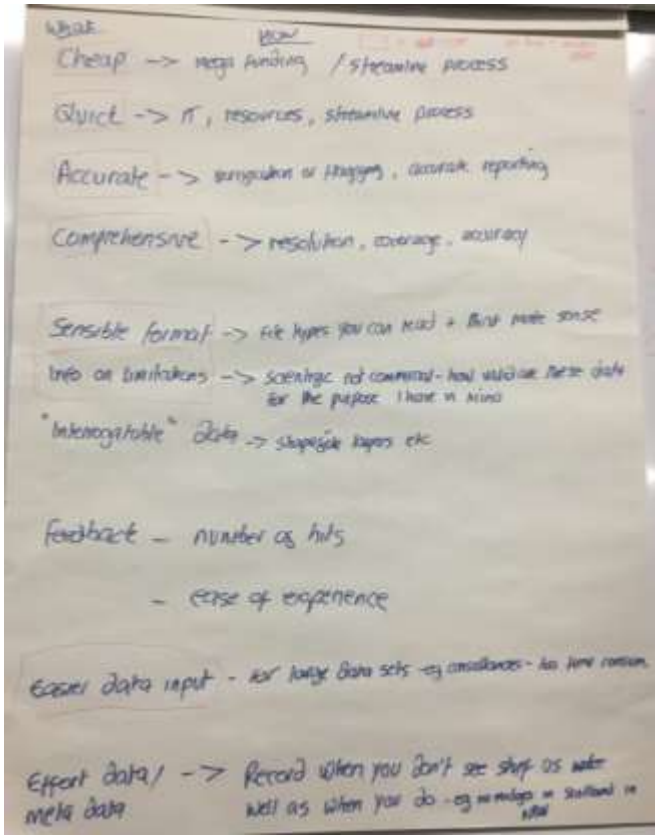
Group 3 (National Government): We wanted a single point of access ie a one stop shop to avoid going to multiple providers. It should be live and up to date, no waiting 1,2 or ten years for data to arrive. We want to know the accuracy and to have autoverification to have a basic level of accuracy. Relevant resolution at capture resolution (10km scale not good enough). NBN only supports 100m but need 8-10 figures. Comprehensive reports; inexpensive or free; wide promotion to encourage use; comprehensive, automatic updating of specialist lists eg Scottish biodiversity list, INNs and protected species lists. Conditional input for all commissioned reports funded by SNH (ie required to be shared). Agri-env data – all species records are collected in these schemes but aren't available but tax payer should be entitled to the outputs of this info. Needs a change in policy. EIA Data collected for planning should also be available and captured automatically as a matter of routine rather than languishing in reports but this also needs a change in legislation. Almost too much emphasis going into citizen science,, it may be more worthwhile to tackle AE and planning records to get a better return than to support citizen science. Do less better – don't replicate each others activities. Marine environment… needs to be brought in and covered too. Not useful format in use yet for marine in NBN so SNH marine team sources the data from elsewhere. Stronger voice/presence at the table for agri-env data need to better represented from NBN at gov policy tables. End-user connection with recorders, ie a better connection for recorders and who is using their data so end-users should know who produced their records, not just for checking data quality but for training and opening up better 'end-user' links. Ease of management of our own data as we (SNH) are users and recorders and it is impossible to go back and edit your own records after they have been submitted and managing data on NBN is quite clunky anyway. Lastly, don't promote services if we cannot deliver them as this loses users, potentially for the long term.

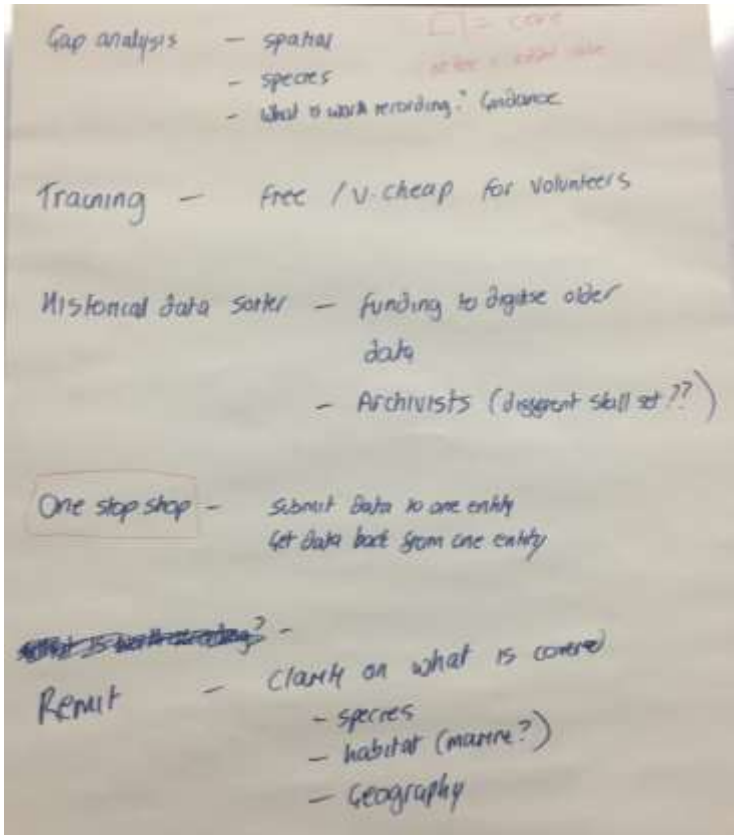




6d) What would make services brilliant for Local Government, Museums, Commercials?

Group 4 (Local Government, Museums, Commercials): want things to be cheap – don't have pots of cash so a subscription method would be more appropriate and value for money. Want it to be quick, streamlined, accurate, comprehensive, sensible format with appropriate file types that are readable, PDF or CSV files you can interrogate. Want info on limitations and how appropriate they are eg does absence mean zero for red squirrels and which years were visits made or records collected. # hits on data and providing feedback yourself so you can talk about the user experience. A lot of developers do want to put their data in but it is a nightmare so improving this process would up numbers of data going in. Want information on effort. Metadata for dolphins in sea state 5 means dolphins less observable… need to know this. Gap analysis – rabbits never recorded. Free training. Historical data sorter eg an archivist rather than an ecologist. Clarity on remit – what species, habitats etc are covered eg do we go up to the 12 limit zone. It is important that rabbits etc and other common species are recorded as it has implications for predators and management impacts. Moles too going downhill due to NZ flatworm…





Service innovation

SESSION 7

7a) Provider:User Ratio

"Which services should be delivered using each ratio?"

1:Many

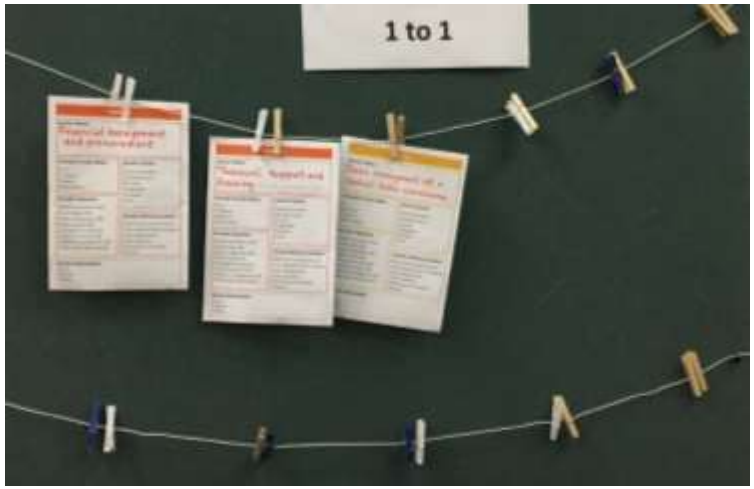
Most services

Many:1

None

1:1

Backend support services



Many:Many

None

7b) Matching expertise to task

"What expertise does a service provider need to be able to deliver each service effectively and efficiently?"

Cross-cutting

- Accreditation, standards and innovation

HR/Finance/Admin

- Financial management and procurement
- Legal, HR, IT and Admin support
- Office space and facilities management
- County/Vice-County Recorder Liaison and contact management
- Scheme Recorder liaison and contact management
- Partner/subscriber liaison and support

Ecology/Taxonomy

- Ecological training to support delivery of biodiversity duty
- Apprenticeship schemes
- Specialist taxonomic training
- Local Recorder engagement and mentoring
- Local Recorder liaison and contact management
- Loan of/access to field or lab equipment etc
- Entry level taxonomic training and mentoring
- Scheme Recorder engagement and mentoring
- UK Species Inventory management and development
- Composite habitat map data curation (HabMoS)

Data Management

- Habitat data submission and curation portal (HabMoS)
- Locally important site designation and registration
- Scheme record submission and curation portals
- Adhoc record submission and curation portal
- Commercial and academic record submission and curation portal
- Invasive species submission and curation portal
- Archiving of individual/personal specimens and collections
- Management of voucher collections/loan of reference material
- Data management of a central data warehouse
- Fast-tracking/backlog management for verification and digitisation

Data Analysis/GIS

- Gap analysis for species and habitat monitoring
- Bespoke analysis/reporting tools for national government needs
- Expert mapping and GIS including visualisation/presentation
- Scheme analysis tools
- Enhanced data search/bespoke reports including sensitive records
- Expert planning screening including interpretation/advice
- Access to premium OS data (raster and vector)

Technology

- Social media harvesting
- Technical platform and central data warehouse
- Technical support and training for developers/data managers
- Aggregation of, and access to, non-commercial/non-academic data
- Aggregation of, and access to, commercial/academic data
- Data management of a central data warehouse

PR/Comms/Events

- Major event management
- Entry level engagement and small events for the general public
- PR, comms and showcase

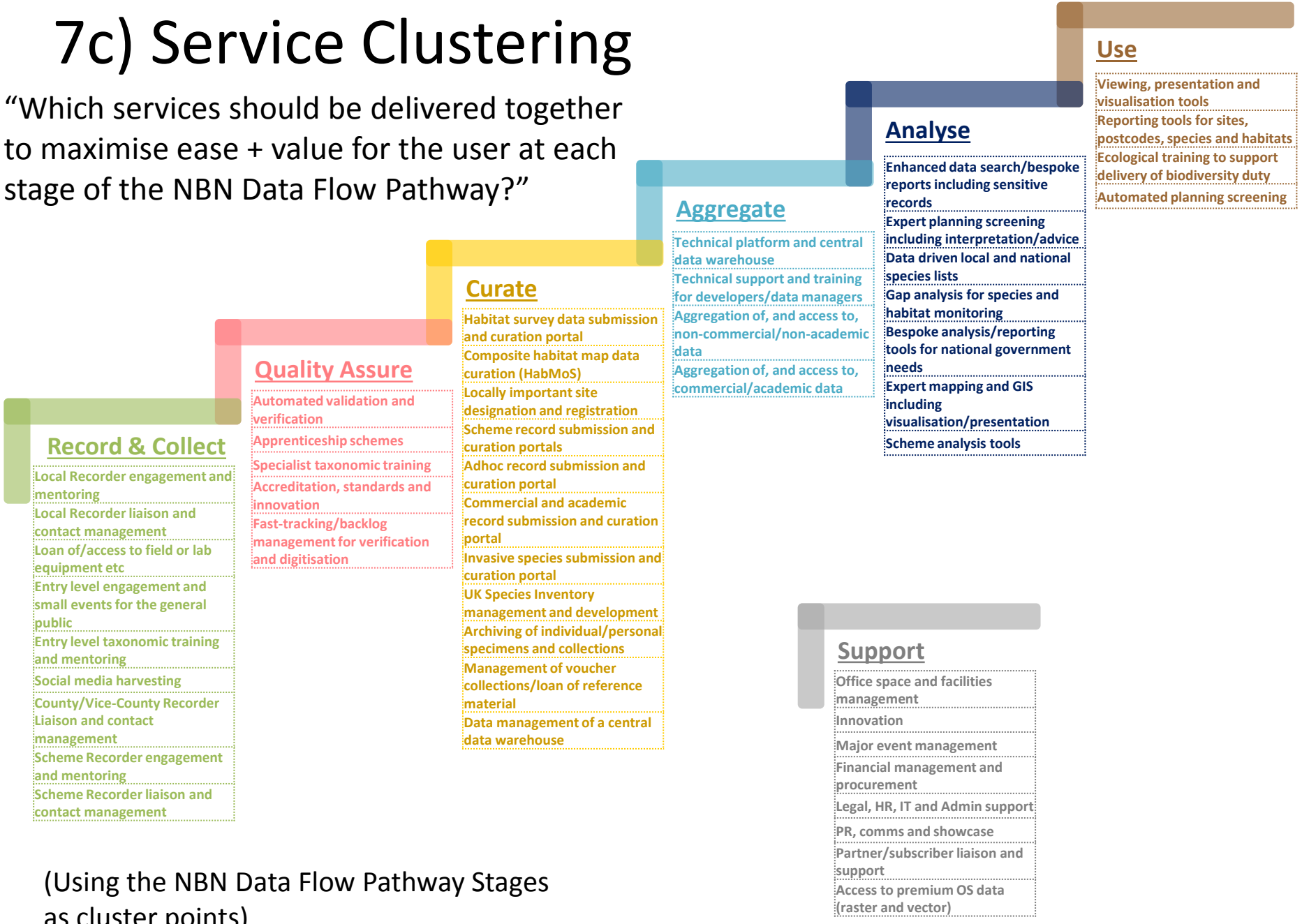
Automation

- Viewing, presentation and visualisation tools
- Reporting tools for sites, postcodes, species and habitats
- Automated planning screening
- Automated validation and verification
- Data driven local and national species lists

NB - The workshop identified one or more areas of expertise necessary to deliver each service; however for ease of presentation the above diagram simplifies this and just maps each service to single area of expertise.

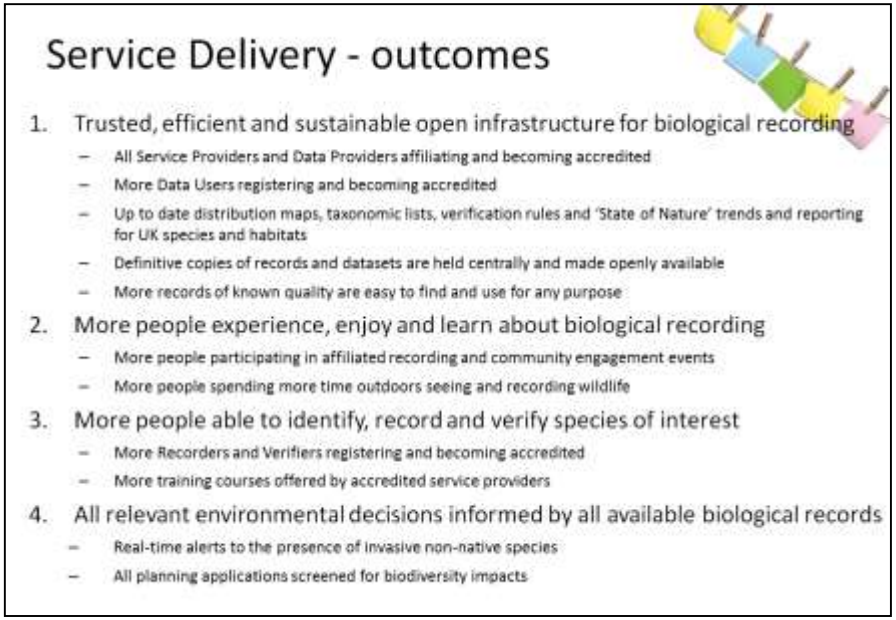
7c) Service Clustering

"Which services should be delivered together to maximise ease + value for the user at each stage of the NBN Data Flow Pathway?"



(Using the NBN Data Flow Pathway Stages as cluster points)

Service Delivery - Outcomes



Discussion covered:

- **Clarifying** that reference to data users registering under Point 1 relates to users having to register for access to added-value services and not core services that should be open to all
- **Consider adding an aspiration** relating to the inclusion of commercial data from consultants
- **Consider adding an aspiration** to be able to access and user higher quality data beyond simple presence data (i.e. abundance and effort info)
- **Consider including additional examples** under point 4 to illustrate land management decision-making and licencing decisions

7d) Service Delivery Location

"Where should each service be delivered to maximise access and success for Service Users?"

Central Services

- Financial management and procurement
- Legal, HR, IT and admin support
- Accreditation, standards and innovation
- UK Species Inventory management and development
- Technical platform and central data warehouse
- Technical support and training for developers/data managers
- Data management of a central data warehouse
- Scheme record submission portals and curation and analysis tools
- Adhoc record submission and curation portal
- Commercial and academic record submission and curation portal
- Invasive species submission and curation portal
- Automated validation and verification
- Viewing, presentation and visualisation tools
- Reporting tools for sites, postcodes, species and habitats
- Habitat survey submission and curation portal
- Social media harvesting
- Aggregation of, and access to, non-commercial/non-academic data
- Aggregation of, and access to, commercial/academic data
- County/Vice-County Recorder liaison and contact management
- Scheme Recorder engagement and mentoring
- Scheme Recorder liaison and contact management
- Major event management

National Services

- Automated planning screening
- Data driven local and national species lists
- Gap analysis for species and habitat monitoring
- Composite habitat map data curation (HabMoS)
- Bespoke analysis/reporting tools for national government
- Archiving of individual/personal specimens and collections
- Management of voucher collections/loan of reference material
- Ecological training to support delivery of biodiversity duty
- Apprenticeship schemes
- Locally important site designation and registration
- Specialist taxonomic training
- Fast-tracking/backlog management for verification/digitisation

Regional Services

- Enhanced data search/bespoke reports including sensitive records
- Expert planning screening including interpretation/advice
- Local Recorder engagement and mentoring
- Local Recorder liaison and contact management
- Loan of/access to field or lab equipment etc
- Entry level engagement and small events for the general public
- Entry level taxonomic training and mentoring

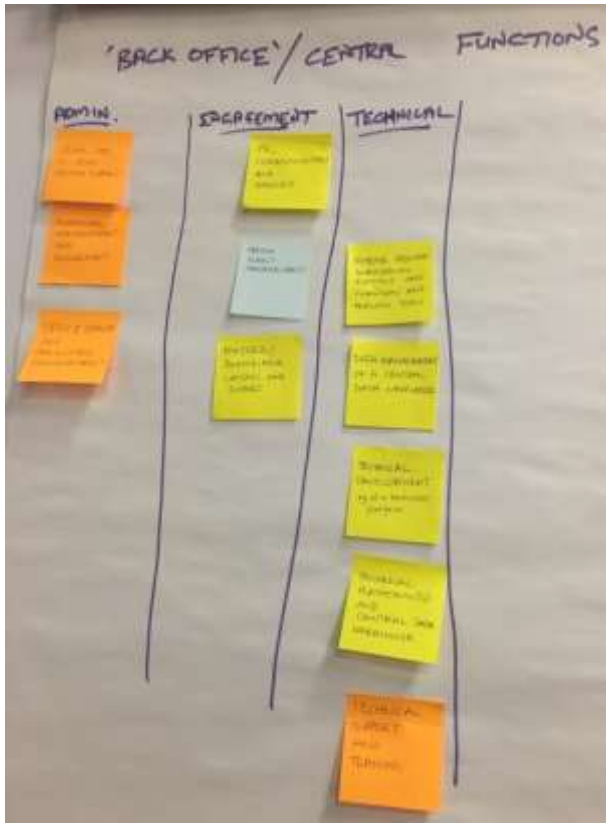
Cross Cutting Services

- Office space and facilities management
- Access to premium OS data (raster and vector)
- Expert mapping and GIS including visualisation/presentation
- Innovation

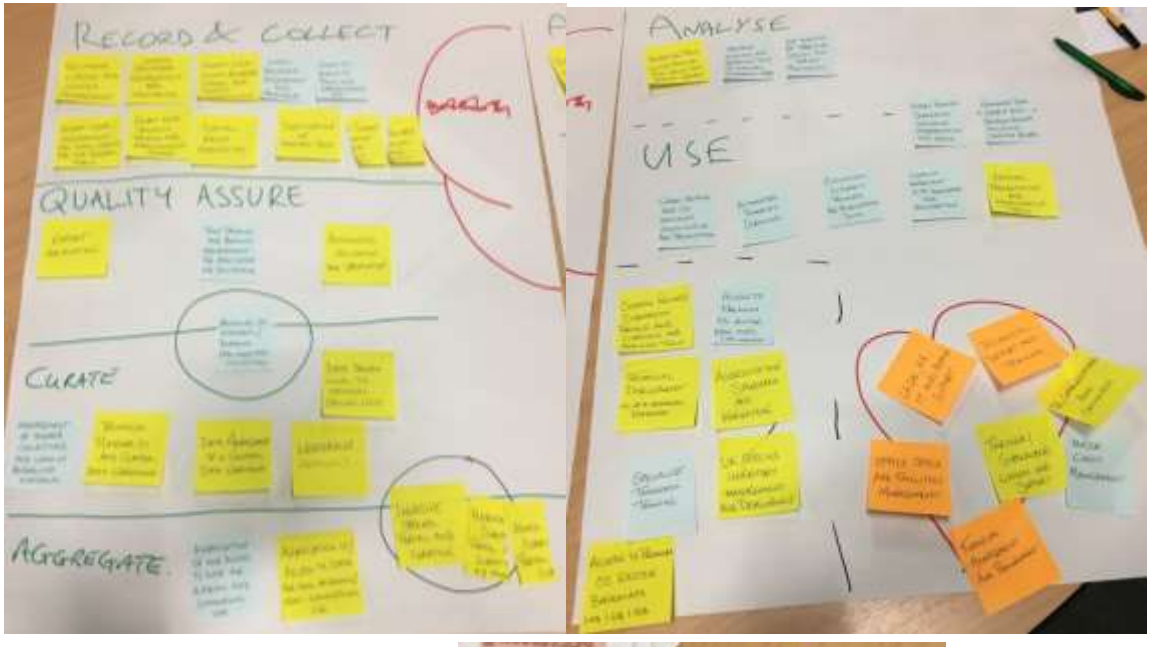
Online presence

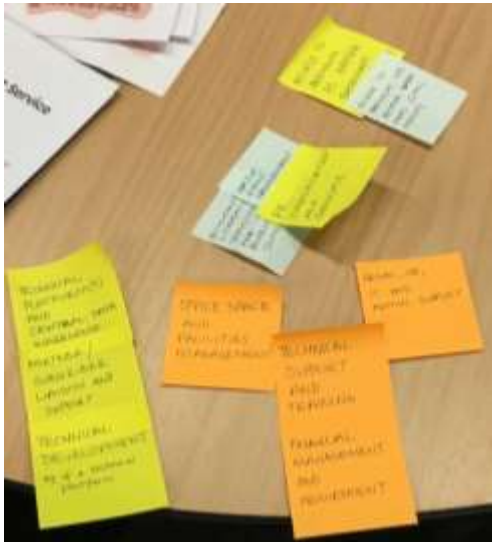
All services

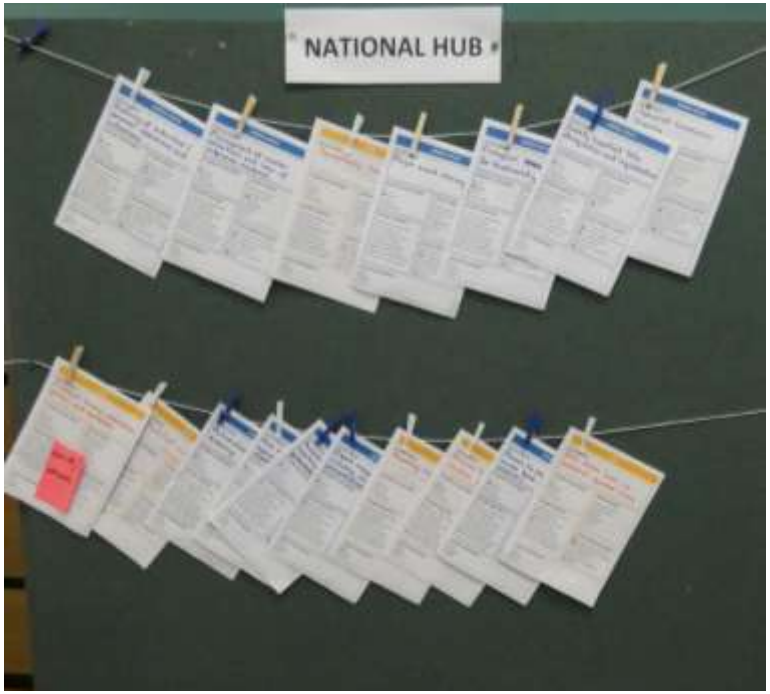
Service Clustering

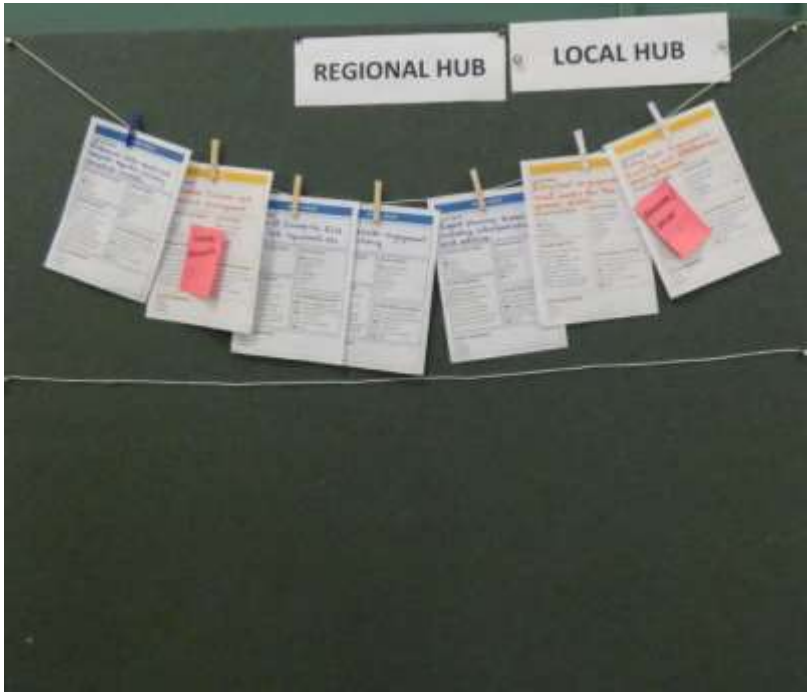


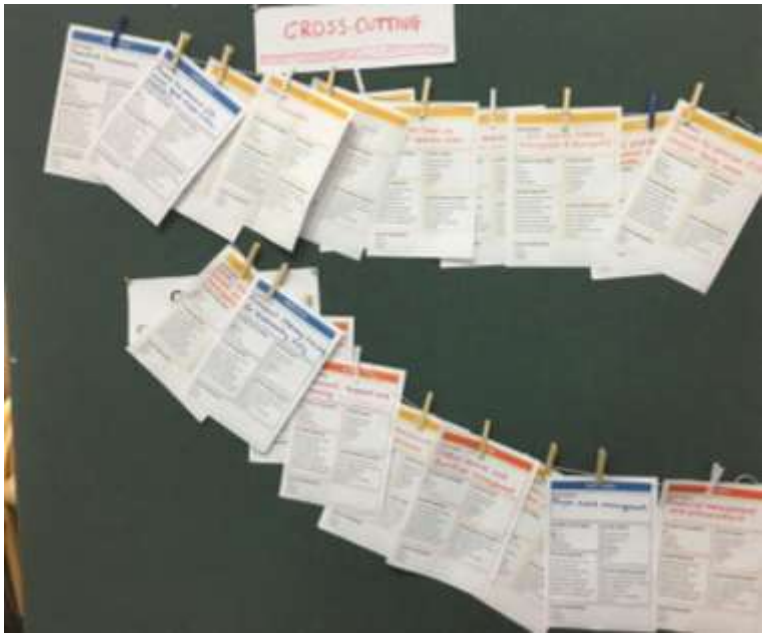
Service Clustering






NATIONAL HUB


REGIONAL HUB
LOCAL HUB


CROSS-CUTTING


CENTRAL HUB

Business changes needed

SESSION 8

Business changes for CENTRAL HUB

STOP

- Expecting too much from a small team

START

- More money
- More staff – at all levels
- Discoverability and sign posting of expertise
- Automation of processes
- Innovation
- Directing/Feeding data from regional hub portals to central database and vice versa (data held centrally available for use locally)

CONTINUE WITH CHANGES

- Making/changing tech platform
- Accreditation – speedier
- Acquire more habitat data
- Integration of other organisation's data
- Knowledge sharing and best practice
- Acquire consultant's records
- UK Species Inventory properly resourced
- Comuunication specific to audience
- Better resourcig for validation and verification rules

CONTINUE WITHOUT CHANGES

- Species records database

Business changes for NATIONAL HUB

STOP

- Services to be covered regionally

CONTINUE WITH CHANGES

- Apprenticeships
- Major events
- Local site designation
- Specialist taxonomic training (more)
- Local – national species lists
- HabMoS
- Update Scottish biodiversity list

START

- Archiving specimens
- Ecology training for decision makers
- Access to OS maps
- Reporting tools
- Expert GIS team
- Bespoke analysis
- Gap analysis
- Automated planning screening
- National infrastructure (full coverage of regional hubs)
- Local status lists to feed into national

CONTINUE WITHOUT CHANGES

- Voucher collections

Business changes for REGIONAL HUBS

STOP

- Curating local databases (aggregating data)
- Local office management services
- Services provided centrally/nationally

START

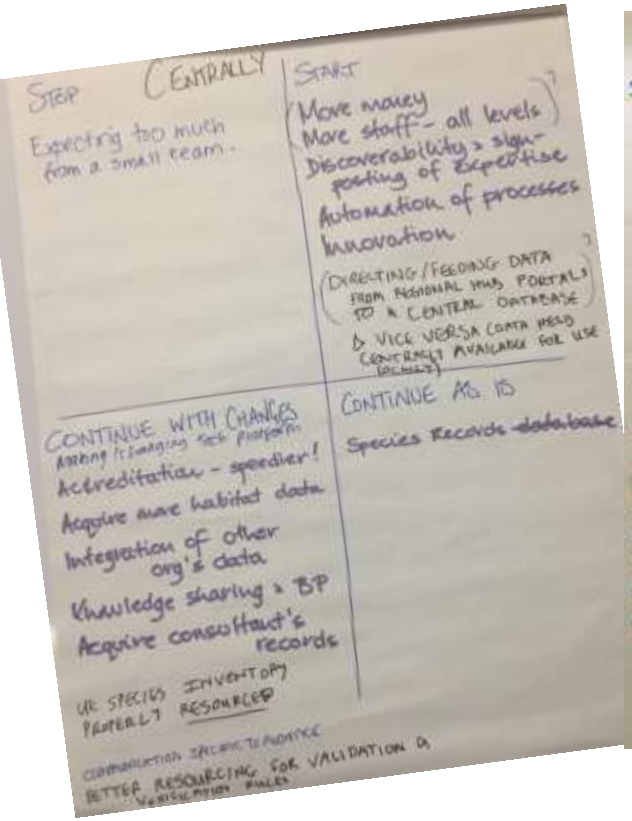
- Full regional hub coverage
- Gap analysis for training needs
- Equipment/ID guides/resource loan where not available
- Contribute to central adhoc record collection
- Digitising local site information

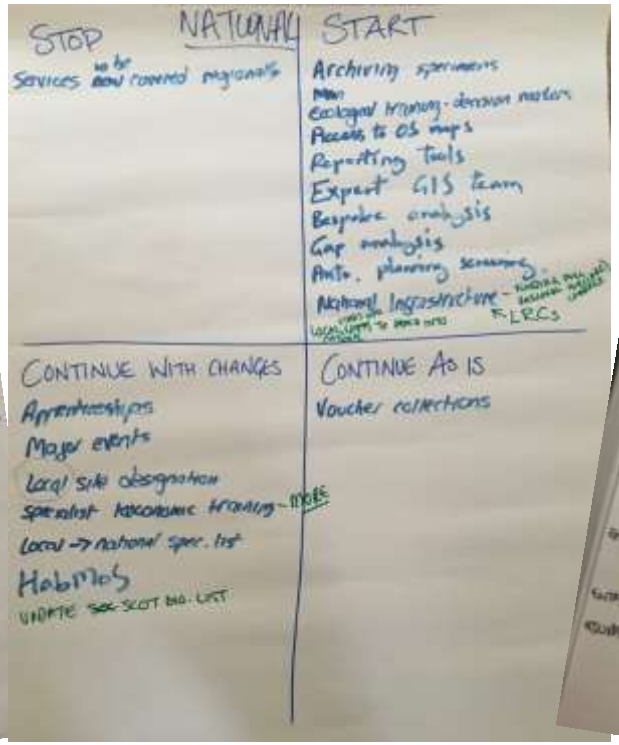
CONTINUE WITH CHANGES

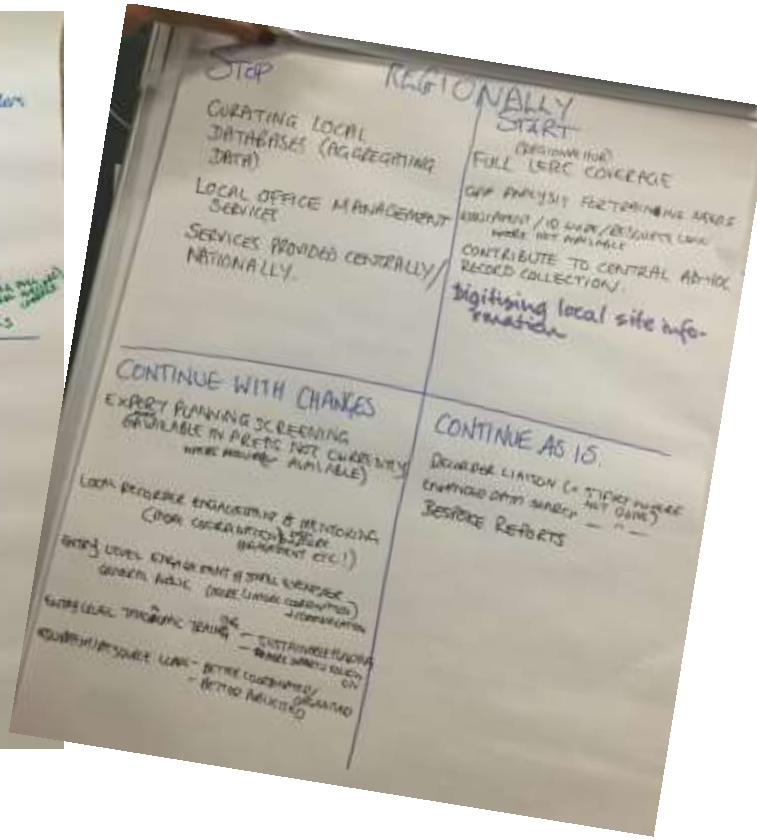
- Expert planning screen available in areas not currently available
- Local recorder engagement and mentoring (more coordination and even more engagement etc)
- Entry level engagement and small events for general public (more and more coordination and communication)
- Entry level taxonomic training – sustainable funding and more support and follow on
- Equipment / resource loans – better coordinated/organised and better publicised

CONTINUE WITHOUT CHANGES

- Recorder liaison (and start where not done)
- Enhanced data searching (and start where not done)
- Bespoke reports







Business change flip charts

Workshop Vision and Feedback

SESSION 9

Our vision for an improved service model

So that we could draft a ‘100 word vision’ of the preferred model for service provision, we brainstormed words that could be included:

- Upskilling
- Ergonomic
- Open
- Useful
- Necessary
- Streamlined
- Essential
- Effective
- Integrated
- Regional
- Better decision-making
- Consistent
- Appropriate (level)
- Engaging
- Brilliant
- Comprehensive
- Valued
- Discoverable
- Attractive
- Fit for purpose
- Informed (decision-making)
- Compatible
- Sustainable
- Efficient
- Accessible
- Supportive
- Trusted
- Value
- Accurate
- Governed
- Funded
- Coordinated

Workshop feedback

- Hard work but involving and relevant to own situation
- Have high hopes that will lead to situation becoming better for all in the future
- Thought provoking sessions, good opportunity to listen to different perspectives
- Some exercises confusing at times
- Good cross sectoral representation
- Switching groups was good
- Chance to interact with lots of people
- Good range of activities but some tasks repetitive
- Could perhaps have been done in half time (lots of reviewing which could have been cut down)
- Comfortable, pace about right, some elements quite fast
- Opportunity to change things for the better
- Not going to change everything, but will change somethings
- National not so well represented in comparison to others but had chance to give a national perspective
- Amount of preloading perhaps too much, ready to hit the ground running as workshop participants already very knowledgeable