JNCC/NGO's UKOT/CD Workshop

Morning session
OT data access

5th May 2015

To find more about JNCC's OT and CD programme visit:
http://jncc.defra.gov.uk/default.aspx?page=4079

Contents

Policy context

- It is widely recognized that lack of data and/or lack of access to data is a challenge and one of the five strategic priorities for the UK Government's support for biodiversity conservation in the Overseas Territories set out in the UK's Overseas Territories Biodiversity strategy is focused on data i.e. *obtaining data on the location and status of biodiversity interests and the human activities affecting biodiversity to inform the preparation of policies and management plans (including baseline survey and subsequent monitoring).*

Background to the workshop.

- In a broader approach to facilitating better access to, and use of existing data to provide a sound environmental evidence-base to feed into decision-making, JNCC has initiated a project looking at facilitating better access to UK overseas Territories data.

- The project background information provides the overall context for this workshop, which sits as one of a series of activities being implemented to deliver the projects aims.

Aims

The specific aims of the workshop were:

- To bring together UK organisations who currently work/are interested in working in the UK Overseas Territories to discuss common areas of focus and explore opportunities for synergy and collaboration.

Outputs
- The key output of this workshop session was to further develop the OT data access concept, and create a preliminary list of OT data that organisations hold OT data

Participation
- Participants came from a number governments, academic institutions and NGOs. The participants list is attached.
- Invitees who weren't able to attend were given the opportunity to provide written input to feed into the discussion -

Presentations
Steve Wilkinson (JNCC) introduced the OT data access project concept, providing a foundation for the discussion. His presentation is available here>>.

Paul Brickle's (SAERI) presentation on the case study of the development of a regional OT information management centre in the South Atlantic is available here>>.

Key messages and outcomes:

Participants gave an indication of the data that their organisations hold, and how it is currently shared. This information has been compiled in a spreadsheet (attached).

There were a lot of interesting and pertinent points that were raised in the discussions – these are outlined in detail in Annex 1. Points that the groups thought were most important are highlighted here:

- It became clear that there is a significant quantity of OT data that is held by UK organisations (see attached spreadsheet), and that there is no standardised approach to collecting and accessing this data.

- While few participants could commit their organisations to uploading their data onto GBIF and collecting metadata, it was clear that participating organisations collectively agreed to the principle of working towards better access to and sharing of OT data.

- Key messages that emerged from the discussion on **barriers to data access and sharing** is provided here:

  - There is **no clear mandate** or driver to share OT data.

  - There remains a lack of clarity regarding the **data flow process**. Users and providers need to know what this process is, and it needs to be automated where possible to avoid duplication and help ensure sustainability.

  - There are a number of **sensitivities** (e.g. commercial, academic and ownership) **around sharing data** that need to be considered.

  - It is important to establish **data use** as a driver for sharing.

  - There is a **lack of capacity** (human, financial and technical) within organisations (both UK and OT-based) to implement and ensure compliance with standard data processes and ensure data is shared.

    - This includes **slow internet access** in some OTs.

- Key suggestions that emerged from the discussion on **addressing these barriers** is provided here:

  - A **mandate** to share OT data should be provided by funders/donors (*including Darwin Plus, and Defra Research and Development funding*) making it a grant requirement that data is open access and shared using agreed standards and systems.
    - **GBIF** for all species data
    - **Metadata** for all data
    - **Copies of all data**

    - **OT based research permitting systems** (many of which already exist) should **also provide a mandate** to share OT data and be explicit about the data sharing requirements (including those outlined above for funders and donors) so that there is consistency of approach.

  - A **data flow** process needs to be established.

  - Addressing concerns around **data sensitivities** could be built into the data flow process.

  - The **capacity** barrier is one of the more difficult to address, and there is no single solution as the range of capacity/resource requirements vary greatly. However

- there was a strong steer by the group that **local ownership**, and a **strong OT-based data management system** (with support and continuity help from UK) was a key foundation to any solution.

- Integration within existing systems would minimize 'start-up' costs

- **Co-ordination** is required to ensure that the standardisations and data flow process.

Next steps

- The access to OT data concept will continue to be developed with stakeholders and will be discussed further at the UKOTCF Gibraltar conference in July.

- Components of these key messages translate into some 'quick-win' actions that could be implemented almost immediately. These are:

  - Darwin Plus to add a clause on data sharing.
  - JNCC to consider playing a co-ordination role to establish and implement a data flow process, and facilitate the sharing of technical expertise.

Annex 1: Notes to feed into discussions.

Some participants are unable to attend, but have provided the information below to feed into the discussions.

Ascension Island.
Dr Nicola Weber – Head of Conservation, Ascension Island Government.

"In Ascension Island, environmental management, biodiversity conservation and scientific research is coordinated through the **Ascension Island Government Conservation Department**. AIG is committed to supporting research that informs local environmental decision making, enhances our understanding of the Island's natural and physical environments, and which contributes to broader environmental research objectives. With what appears to be an increase in Ascension Island as a venue for scientific research and at times an apparent lack of proactive consultation with local stakeholders, AIG is also determined that research should be conducted within a coordinated framework that prevents duplication, minimises environmental impact and ensures that the knowledge generated is captured for the benefit of the Island, its people and its wildlife. AIG have recently introduced an Environmental Research Permitting Scheme (www.ascension-island.gov.ac/services/entry-permits/) that aims to provide such a framework.

With funding from the Darwin Initiative and input from local stakeholders and overseas partners, AIG have also recently completed a major strategic planning exercise with the development of the first **National Biodiversity Action Plan for Ascension Island**, which can be viewed online: www.ascension-island.gov.ac/government/conservation/projects/bap/ Limited time and resources necessitates that we prioritise those species, habitats and ecosystems where conservation action is most needed or will be most effective, and to identify gaps in knowledge that require addressing.

- In its initial iteration, **the BAP targets 13 indigenous and endemic species** that are regarded as particularly important because they are threatened with extinction or because they are "flagships" for more general conservation issues facing specific taxa or ecosystems. In many cases, actions taken to conserve these species will have wider benefits for lesser known species that share the same habitats.

- In addition, **the BAP identifies four priority habitats and ecosystems** where important assemblages of endemic and indigenous species are facing common threats and can be conserved through a common set of actions. Two introduced species are also singled out for attention because of the magnitude of their impacts on the ecology of the Territory.

We welcome and highly value the skilled input of overseas organisations on environmental matters in Ascension Island, but for efforts to be most productive and to have a noticeable and lasting legacy we have found that on-island consultation and engagement is key to the success."

Annex 2 : Record of group discussions.

Group One Morning Session

Matt Smith – JNCC (Facilitator)
Catherine Wensink - UKOTCF
Clare Fitzsimmons – University of Newcastle
Jim Kerr – Tristan Da Cunha Government
Jonathan Hall - RSPB
Koen Vanstaen - CEFAS
Matthew Gollock - ZSL
Steve Wilkinson - JNCC

Barriers to Data Access and Sharing

- There remains a lack of clarity regarding the dataflow process. Users require the process to be automated where possible and to link to other existing reporting and/or cataloguing mechanisms so that there is no need for duplicate entries to be made (e.g. GBIF to link to other data platforms, such as MEDIN

- The commercial value of data is a key barrier; making this knowledge open access relinquishes potential economic gains to be made from selling the information. There is also some feeling of resentment that information collected by NGO's are then used by commercial companies for their own gain.

- Time lags between data collection and publishing research papers. Researchers are unwilling to share data until it has been published, this sometimes can take a significant amount of time.

- Some data collection is undertaken simultaneously with patrolling for illegal fishing. There is some concern that is data is published it will provide an indication of patrol routes and times.

- Simply a lack of capacity and resources to input data into data catalogues.

- Whilst there is a lot of focus upon providing open access data ad data sharing, there is little focus on ensuring that data users are aware of how the information can be used in decision support.

- More needs to be done to encourage community ownership of data and data collection and facilitating access to data for local users and decision makers

- Current lack of understanding on what data will be valuable to include in GBIF, practitioners and researches want to know what data they should include as a priority.

- More needs to be done to demonstrate the value that data provides both within and outside of the OT; including wider application in international decision making.

- Funders need to make explicit that grants require data to be open access, particularly where public money has been used for collection of data.

- Internet access in some territories is incredibly slow, which limits how data is shared or uploaded into data facilities.

- There is also a lack of IT skills within the administrations, more needs to be done to build internal capacity for data collection, cataloguing and storage to improve data access and discovery.

- Some OT administrations do not always have the capacity to follow up researchers to ensure that the data and knowledge is repatriated.

- Some fear that data or information on valuable environmental commodities (e.g. species with high market valuable and minerals) may be left open to exploitation if data on their distribution are made publicly available.

Actions to Overcome Barriers

- UK needs to take a strong leading role to govern data sharing and access protocols to coordinate actions between nations. This is imperative to ensure that data held by other nations that are relevant to UKOTs is accessible and of a suitable standard.

- Research permits should stipulate time-frames within which data is made available, irrespective as to whether the researchers have managed to publish.

- Research permits and other related documents should make repatriation of data an obligation of the researcher. Those not honouring agreements should be refused future research permits and letters of complaint to be passed to the organisations not fulfilling obligations. An example of this is the SAERI research permit agreement. The Falkland Islands-based South Atlantic Environmental Research Institute (SAERI) has recently launched the South Atlantic Information Management System (SAIMS) which will act as a hub for archiving environmental data collected within the South Atlantic UK Overseas Territories (SAOTs)[i].

- Ensure that research permits and/or funding provision stipulates the requirement for incorporating data into GBIF (or other facilities) and provides sufficient support to facilitate this cataloguing process by providing extra funds, resources or time.

- Reduce the overhead for including data in the catalogue – focus should be on inclusion into GBIF – as opposed to taking great efforts to standardise data sets.

- In some OTs environmental data is not being linked to inter-sectoral decision making processes (e.g. ecosystem data is not used in land use planning). Data platforms could help make these links to multiple applications of environmental data.

Notes:

There was some discussion around whether existing open access data should be recorded in GBIF. Clare Fitzsimmons raised the point that they have used NOAA[ii] and NEODAAS[iii] satellite data, as it proves useful for setting context for other datasets. These data products are free for use by NERC fellows, and the metadata is freely available for those with the capability of processing it.

Group 2 Morning session.

Facilitator: Alexandra Cunha (JNCC)

Mike Pienkowski (UKOTCF)
David Righton (CEFAS)
Paul Brickle (SAERI)
Janice Panton (Montserrat)
Roderick Bowie (RGS)
Katie Medcalf (Env systems)
Jacqui Christian (Pitcairn)
Vicky Kendemba (Buglife)

Barriers to Data Access and Sharing

The following constraints/barriers were identified by the group
- Financial
- Human resources
- Technology
- Poor internet
- Lack of knowledge of datasets
- Lack of formal agreement and compliance
- Complex technology
- Timelines for decision
- Poor follow up on Darwin projects
- Lack of clarity on resolution
- IP – Intellectual property rights
- How to add support data (CIFP)
- Staff resource – the adding of data to GBIF is not easy for a small charity with limited resource
- Resourcing for
- managing the database
- data entry including backlog
- accessing Pitcairn data – who has what where?

Actions to Overcome Barriers
- Improve financial governance mechanism
- Set up data management systems
- Responsibility lies with the data collector
- Encourage citizen participation
- Go more formal in networking
- Start in school
- Data mining and keeping
- Governments change and information is lost.

The areas of highest importance/priority
Collectively the areas of highest importance/priority were those relating to financial, human and technological resources. Intellectual property rights, and the lack of/lack of compliance with formal agreements was also seen as highly important.

Group 3 Morning session.

Facilitator: Tara Pelembe (JNCC)

Helen Peat (BAS)
Mark Eaton (RSPB)
Sukey Cameron (Falklands)
Christopher Lyal (NHM)
Paul Rose (JNCC)
Mark Stevenson (Defra)
Diego Juffe-Bignoli
 (UNEP-WCMC)
Nicholas Jeria (BVI)

Barriers to Data Access and Sharing

The following constraints/barriers were identified by the group

- Concentrate more on making sure each territory has good access – more important?
- Metadata analysis – could then feed into GBIF
- Capacity issue – responsibility lies with the OT or the organisation?
- Getting people to part with data! Needs to be part of follow up from the funding.
- Capacity – different for different territories
- Differences in data management practices
- Raw data needed in terms of making management decisions.
- Cost – who pays?
- Technical – how does data fit?
- Quality and checking things are up to date
- Time! Human resources.

Actions to Overcome Barriers
- Need to think about the end user
- Think about what the future uses might be
- Maybe could be written into the funding/project requirements – e.g. written into the permit.

The areas of highest importance/priority
- Collectively the areas as the barriers that were of greatest importance/highest priority were capacity, standardising data practices, getting people to part with data and cost – who pays?

Group 4 Morning session.

Facilitator: Charli Mortimer (JNCC)

Alan Gray (CEH)
Maria Taylor (SAERI FLK)
Fiona Llewellyn (ZSL)
Edward Lewis (UNEP-WCMC)
Charles Parchment (CAY)
Thomas Appleby (UWE + Blue marine Foundation)
Colin Clubbe - (Kew)

Barriers to Data Access and Sharing

The following constraints/barriers were identified by the group

- There are issues with duplication – if there are different data centres, however this can be dealt with through appropriate data access standards
- Unique identifies used.
- There should be an agreed system of data flow for funding (Darwin/research funding) research
- Whose responsibility is it to fund data management infrastructure?
- OT capacity to manage data
- Who holds data?
- Local ownership
- Cost of internet
- People/capacity to upload
- OT capacity to manage data
- Standard set of words for research contracts
- Data standards identified and implemented
- GBIF gives names that are wrong (fuzzy matching)
- Each OT should have a catalogue with valid names and synonyms and other name-string variants – local names are important.
- Global Invasive species database is not compatible with GBIF (however it is routed through to GBIF)
- Species polygon data is not compatible with GBIF
- No agreed data flow model so no standard data sharing clauses in R@D contracts and grants
- Funding
- Prioritisation
- Scientific importance (NHM science strategy questions that can be addressed with mobilised data)
- Appropriate workflows
- Geo-referencing and data cleaning.
- Internet access
- Lack of capacity in uploading the data.

Actions to Overcome Barriers

Solution Tree
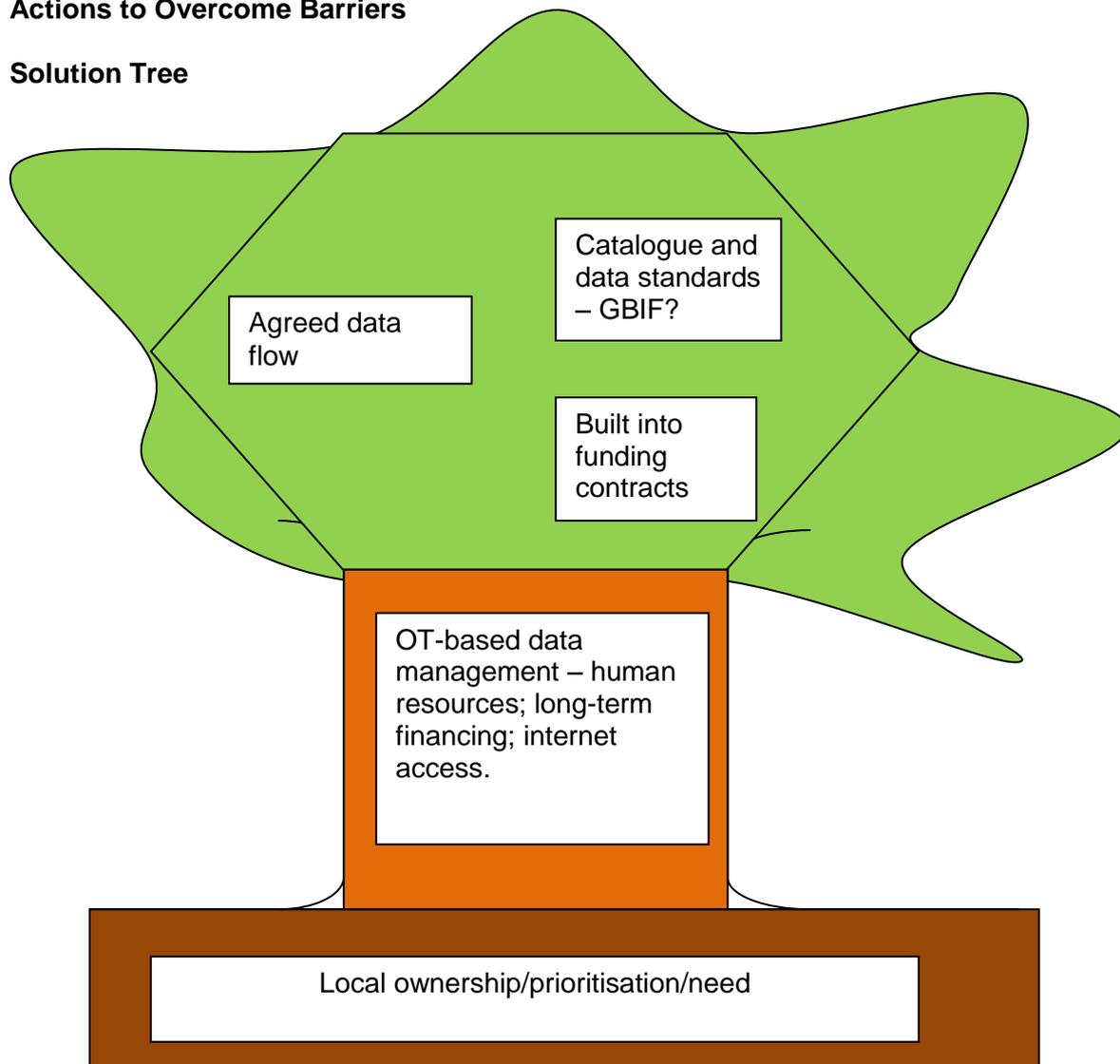
The diagram above outlines a proposed solution. The creation/formalisation/continuation of an OT-based data management systems, built on the foundation of local ownership/prioritisation and need. This contributes to the development of an agreed data flow for OT data, and feeds into more international systems and standards such as GBIF. A tool for promoting this principle and practice is building agreed data management requirements into donor contracts.

The areas of highest importance/priority

Collectively the areas as the barriers that were of greatest importance/highest priority were
- Establishing an agreed system of data flow for funded (Darwin/research) research
- Strengthening OT capacity to manage data
- Local ownership of data and data management
- Establishing a catalogue with valid names, synonyms, other name-string variants and local names.
- Answering the question – whose responsibility is it to fund data infrastructure?

Commitments

Groups were asked to consider whether participating organisations could 'sign up' to two commitments:

Can my organisations commit to:
1) Collect metadata using ISO19115 and providing metadata to OTs + SAERI (South Atlantic) - YES/NO/MAYBE
2) Collect species data using Darwin core standards and upload onto GBIF YES/NO/MAYBE

Commitment 1 (collect metadata and provide to OTs and SAERI)
NHM   No
RSPB   Maybe
            Moving forward will get more metadata collated
WDPA   Yes – have metadata sheet for all data – need to have system of automatic harvesting.

Commitment 2: Collect species data using Darwin core standards and upload onto GBIF
NHM   Yes
BAS   Yes
Kew   Yes

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[i] THE ASCENSION ISLAND ENVIRONMENTAL RESEARCH PERMITTING POLICY A GUIDE FOR RESEARCHERS. Available online: http://www.ascension-island.gov.ac/wp-content/uploads/2013/08/Ascension-Island-Environmental-Research-Permitting-A-Guide-for-Researchers.pdf

[ii] NOAA Satellite Data Products. Available online: http://www.noaa.gov/satellites.html

[iii] NEODAAS Data Products. Available online: https://www.neodaas.ac.uk/datasets.php