
SWaNS Project

Regional training, skills and collections analysis of museums with natural sciences collections in the south west.

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John Ellerman
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Introduction

This survey has been produced in partnership by South West Museum Development (SWMD) on behalf of Bristol Museum, Galleries and Archives (BMGA) for the John Ellerman Foundation funded South West and Natural Sciences (SWaNS) project.

The SWaNS project seeks to provide vital new opportunities by increasing the skills, knowledge, public engagement, research and recognition of the value of natural science collections held across the region.

Led by BMGA, other project partners include Plymouth City Museum and Art Gallery, Royal Albert Memorial Museum, Bath Royal Literary and Scientific Institute, the University of Bristol Geology Collection and Royal Cornwall Museum; all of whom host natural sciences curators in the region. The partnership will explore new digital platforms, map natural science skills across the region, develop a regional network for skills sharing and co-developing regional projects and improve specialist knowledge in challenging areas such as the legal and ethical positions on collecting specimens.

SWMD's role is to identify skills gaps and to support a strategic plan of training opportunities for circa 25 regional museum and heritage organisations to enable regional natural sciences curators and non-specialists with responsibility for natural sciences collections to preserve and share collections as well increase knowledge and skills. This report provides the research basis from which these training opportunities will be developed.

Methodology

SWMD identified 39 museums and heritage organisations in the south west region with natural sciences collections¹. These museums were identified from collections mapping data²; SWMD sector knowledge including the regional Conservation Development Officer, Helena Jaeschke and project lead Isla Gladstone's own knowledge and networks within the natural sciences in the south west. Participants were approached to complete an online survey identifying the responder, their experience and skills, provide information about their natural sciences collections and ascertain their organisation's training needs. 27 respondents from 28 organisations completed the survey in full, plus one partial response which has been omitted from the results. This is a return rate of 69% (27/39).

¹ Natural sciences collections for the purpose of this research are defined as; botany, conchology (shells), entomology (pinned insects), fluid specimens, fossils, microscope slides, minerals, osteology (bones), models, natural science note books, rocks, study skins and taxidermy (stuffed animals).

² South West Museums and Libraries Area Council, 2000 and 2011.

Survey Participants

Alfred Gillett Trust
Bournemouth Natural Science Society
Dorset County Museum
Frome Museum
Ilfracombe Museum
Lyme Regis Museum
Museum in the Park
Museum of Barnstaple & North Devon
National Trust Arlington Court
National Trust Overbecks
National Trust Snowhill Manor
Newton Abbot Town and GWR Museum
Penlee House Gallery and Museum
Poole Museum Service
Russell-Cotes Art Gallery and Museum
Salisbury Museum
Sherborne Museum
Sidmouth Museum
South West Heritage Trust (Comprising of Museum of Somerset and Weston-super-Mare Museum)
Swindon Museum and Art Gallery
The Wilson Cheltenham's Art Gallery and Museum
Tiverton Museum of Mid Devon Life
Torquay Museum
Trowbridge Museum
Watchet Market House Museum
Wells and Mendip museum
Wiltshire Museum

Geographical Spread

Cornwall (West)	1
Dorset	6
East Devon	1
Gloucestershire	3
Mid Devon	1
North Devon	3
Somerset	5
South Devon (South Hams, Teignbridge and Torbay)	3
Swindon	1
Wiltshire	3

Cluster Groups According to Geographical Spread

1	National Trust Overbecks Newton Abbot Town and GWR Museum Penlee House Gallery and Museum Sidmouth Museum Torquay Museum	South Hams Teignbridge Cornwall East Devon Torbay
2	Bournemouth Natural Science Society Dorset County Museum Lyme Regis Museum Poole Museum Service Russell-Cotes Art Gallery and Museum Sherborne Museum	Dorset Dorset Dorset Dorset Dorset Dorset
3	Museum in the Park National Trust Snowhill Manor The Wilson Cheltenham's Art Gallery and Museum	Gloucestershire Gloucestershire Gloucestershire
4	Salisbury Museum Swindon Museum and Art Gallery Trowbridge Museum Wiltshire Museum	Wiltshire Swindon Wiltshire Wiltshire
5	Ilfracombe Museum Museum of Barnstaple & North Devon National Trust Arlington Court Tiverton Museum of Mid Devon Life	North Devon North Devon North Devon Mid Devon
6	Alfred Gillett Trust Frome Museum South West Heritage Trust (Comprising of Museum of Somerset and Weston-super-Mare Museum) Watchet Market House Museum Wells and Mendip Museum	Somerset Somerset Somerset Somerset Somerset

The Respondents

Organisation Type

51.8% (14) of respondents' governance status is classed as Independent Charity; this was followed by 37% (10) whose organisations reside within a local authority. The remaining organisations, 11.2% (3) were properties under the National Trust.

96.3% (26) of respondents' organisations are within the [Arts Council England Accreditation Scheme](#) which sets nationally agreed standards for museums in the United Kingdom.

About the Respondents

- Of the 27 respondents, 55.6% (15) identified themselves as a Curator, 18.5% (5) as a Manager, none identified as working with Documentation. However 25.9% (7) identified as 'Other', roles included 7.4% (2) as Director, 3.7% (1) as Collections and Documentation Officer, 3.7% (1) House and Collections Manager, 3.7% (1) House Steward, 2.9% (1) Curator and Director and 3.7% (1) as Assistant Curator.
- 63% (17) of respondents classed themselves as paid full time, 14.8% (4) as paid part time and 22.2% (6) as a volunteer. Data on the number of hours volunteers committed to their organisation was not collected due to the variables in volunteer hours worked week on week.
- When asked 'how long have you been in the above role?' 51.9% (14) had been in their role more than five years, 33.3% (9) one to five years and 14.8% (4) less than one year. Of those who had been in their role more than five years 92.8% (13) were in a paid position and only 7.2% (1) was a volunteer. Of the other five volunteers who responded, 3 have been with their organisation between one and five years and 2 less than one year.

Of the paid staff when asked 'Please tell us about any previous experience related to natural sciences collections' 51.8% (9) responded and were either identified as having a good level of experience or as having some experience. There is no correlation between the experience of the respondent and size of collection in the organisation.

- Good level of experience (3)
- Some experience (5)

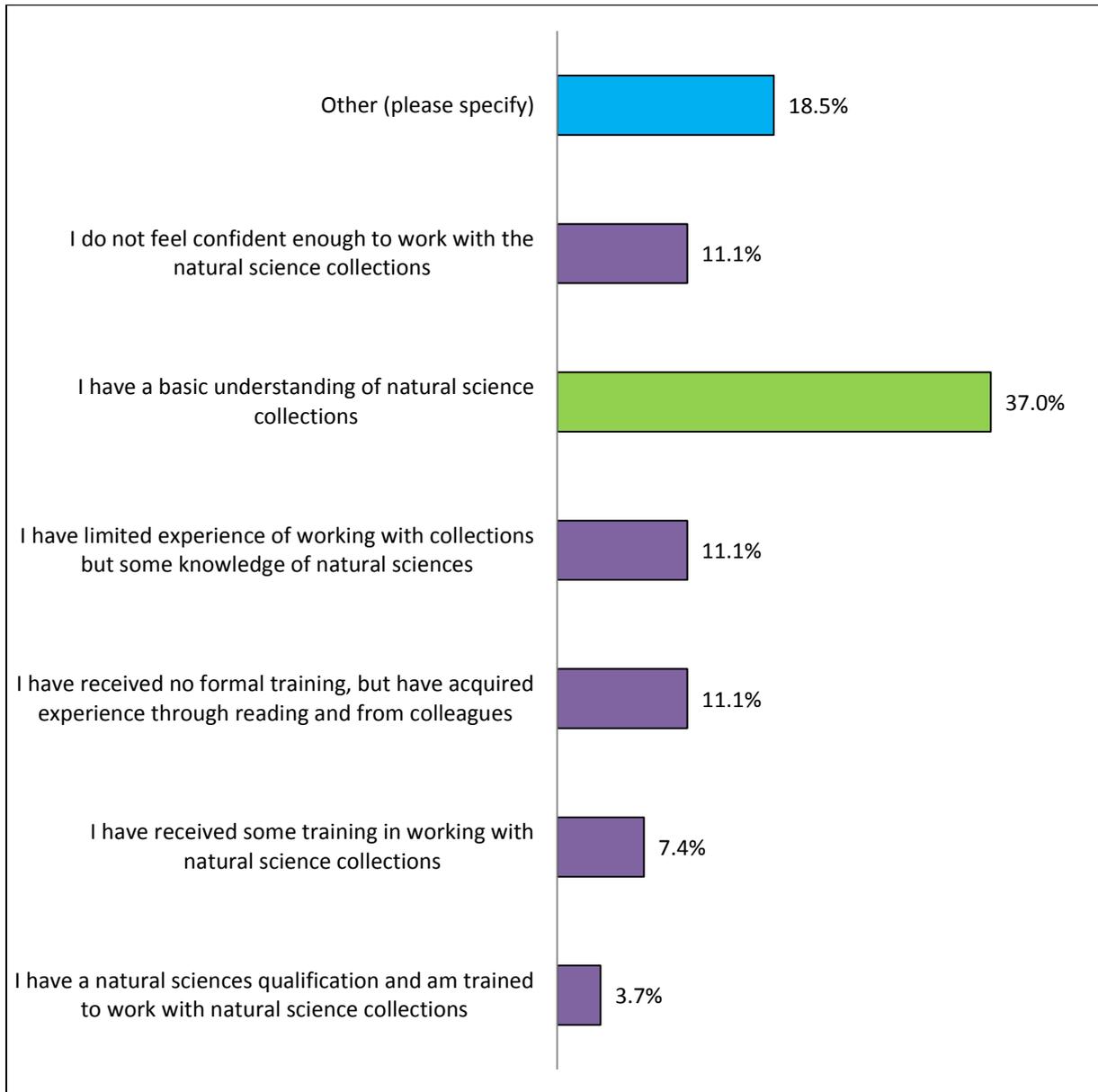
And 5 responded 'none'. In total of the paid staff, 10 are identifiable as in need of access to training and support.

Of the volunteers 11.1% (3) are identified as having 'some experience' and 3 responded 'none'. All of the participants classed as volunteers, all (6) are identifiable as in need of access to training and support. As with the paid staff there is no correlation between the amount of experience and size of collection.

Only 19 (70.3%) respondents stipulated an answer to this question, 8 (29.7%) did not respond at all. The assumption at this point is that those who did not give a response have no experience of working with natural sciences collections. Collectively, based on the non-responders and those identified as having no or some experience with natural sciences collections account for 88.8% (24)

of total survey participants, suggesting that knowledge and skills development for those caring for natural sciences collections in the south west is in need of investment.

When asked 'How would you describe your experience or understanding of working with natural sciences collections?' the following responses were provided.



Of those who stated 'Other' the 5 responses included postgraduate qualifications and lengthy experience in collections management; none are directly focused on natural sciences.

When asked 'Please describe any skills you use with natural sciences collections' 66.6% (18) responded.

Paid staff 48.1% (13) responded with:

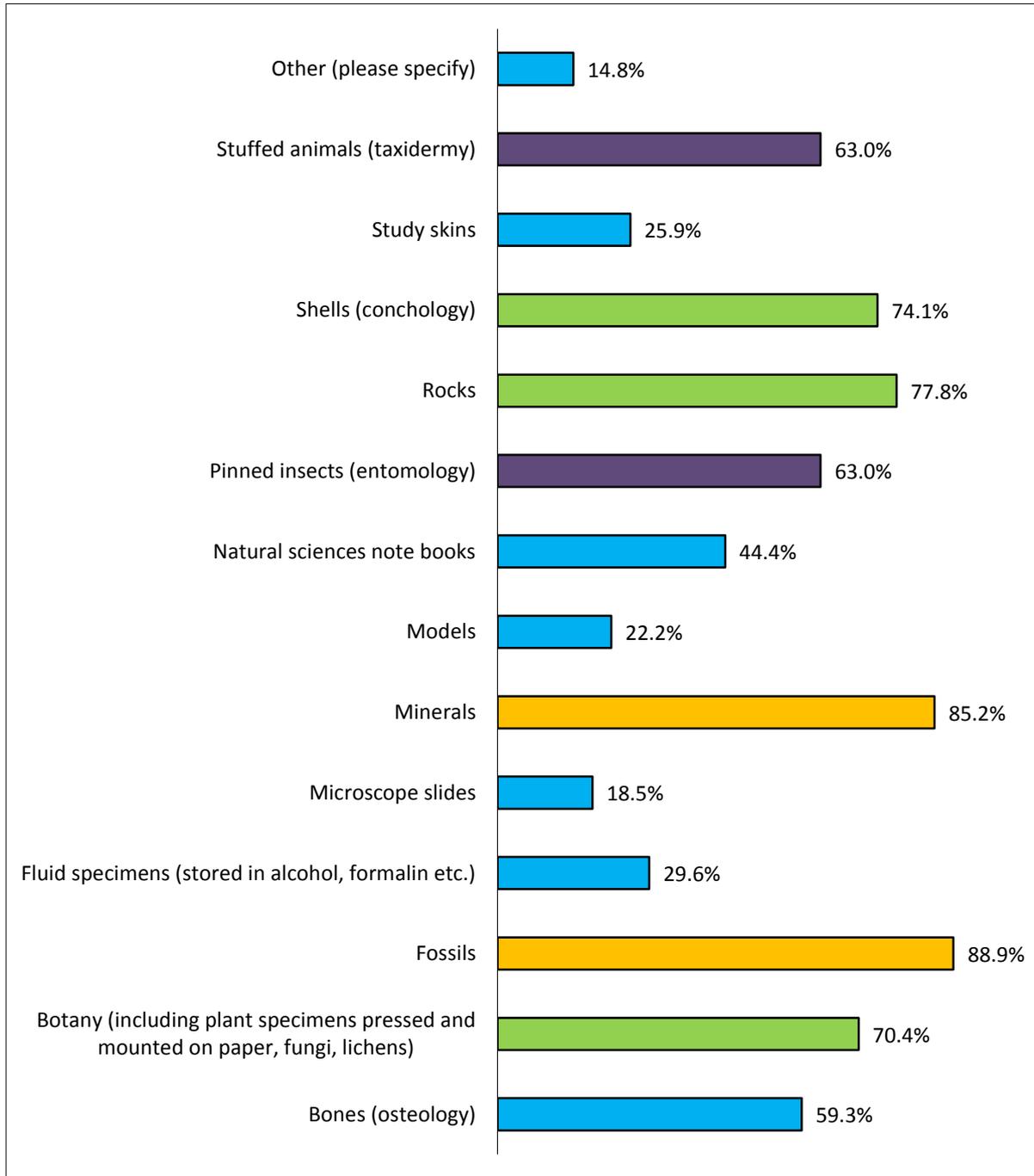
- Conservation (2)
- Collections care/management including; handling, documentation etc.,(6)
- Fundraising (1)
- Identification (1)
- Management (2)
- Other (1)

Volunteers 18.5% (5) responded with:

- Collections care/management including; handling, documentation etc.,(4)
- Identification (1)

The Collections

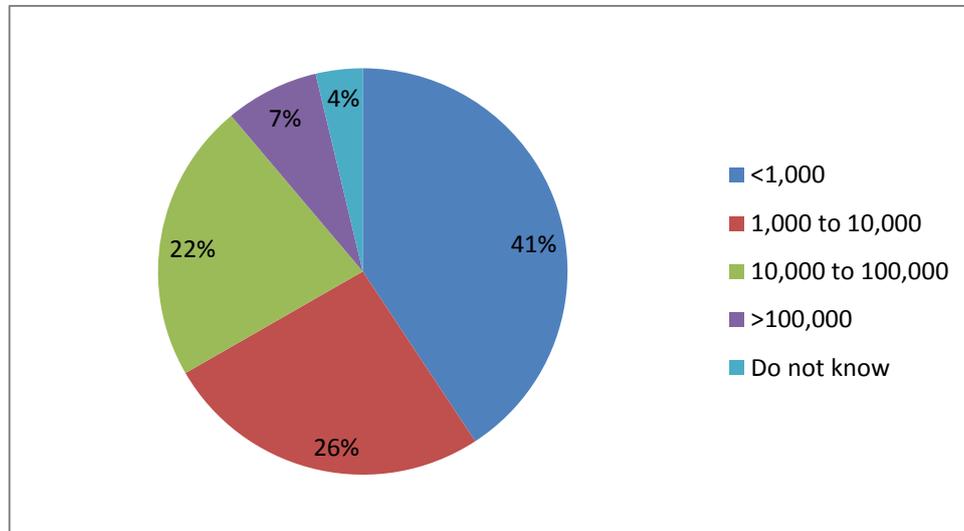
Survey participants were asked 'What type of natural sciences specimens are present in your collection?' Participants were permitted more than one answer and the chart below represents 100% (27) of respondent's answers.



Of those who stated 'Other' 14.8% (4) provided the following answers:

- Bird Eggs
- Egg collections
- Egyptology, Archaeology
- Large collection of botanical drawings

When asked 'Approximately how many specimens are there in the collection?' the majority of participants organisations 41% (11) had less than 1,000 specimens. Only 7.4% (2) had greater than 100,000+ category. Nearly half of the organisations 46% (13) who replied categorised their collection as falling in middle of the scale.



Number of Specimens in the Collection

Of the responses above, 55.6% (15) were based on documentation records, 40.7% (11) were based on an estimate and 3.7% (1) answered the above question 'Do not know'.

100% (27) responded with the following when asked 'What do you think are the most important natural sciences items in the collection and why?'

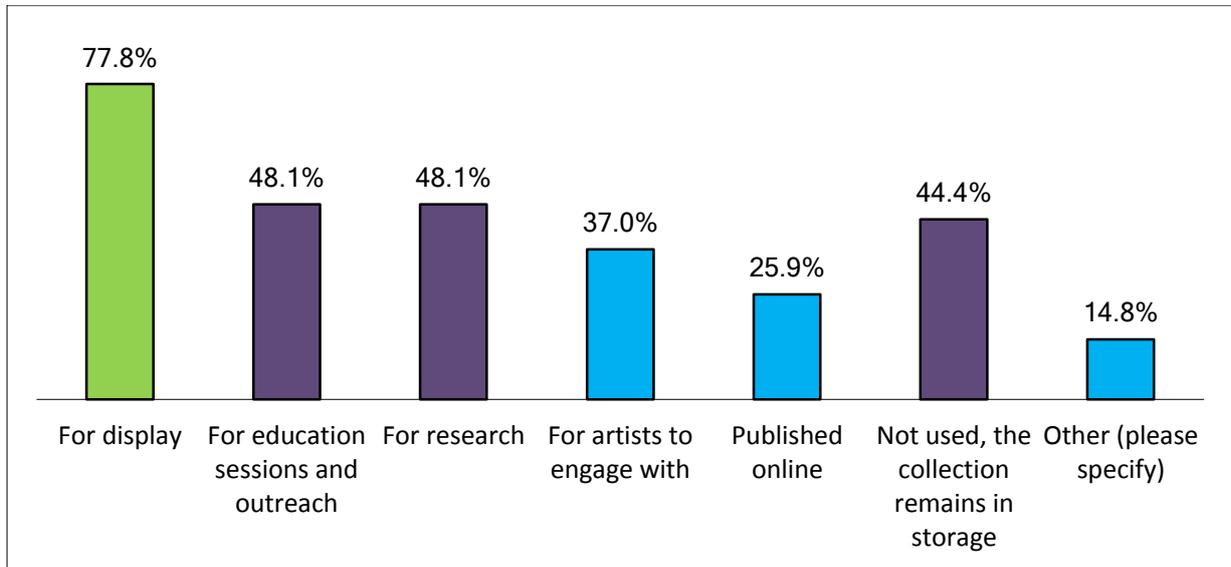
- The fossil collections have been independently evaluated as collections of national importance.
- Herbarium, Entomology, minerals & Fossils.
- Large vertebrate and holotype fossils; Alfred Russel Wallace bird skins.
- A small but regionally important collection of Pleistocene animal bones collected from a cave close to Frome. We have a few other geological specimens and are actively increasing our collections so that we have a better representation of our regions geology.
- British bat collection in ethanol - due to rarity. Entomology - majority on display and a major feature of the museum. Local pressed seaweeds and ferns dating from 1850s.
- Our large 'showstopper' Jurassic Fossils and our three holotypes.
- Only very few specimens which are scientifically valid and so they are the most important, particularly the megalosaur remains. Then we have some collections from high-profile collectors. Then a lot of un-provenanced, damaged and neglected material.
- Figured specimens (fossils), historic herbaria, some recent entomology.
- The shell collection was collected by the owner of the house and therefore has an important connection to the family.
- Those linked to the story of Charles Wade.
- 1920's British butterfly, moth collection. A few high quality fish taxidermy over 100 years old. British bird eggs over 100 years old.
- A butterfly and moth collections they were collected by the Urban District Council's medical

officer in the early 1900s. Dr Mapleton collected local specimens, with a few exotics. The collection could identify the changing character of the local species if one could learn more.

- Items relating to West Cornwall, those only number a few.
- Those associated with local collectors, the local area or significant firms (e.g. trophies mounted by Roland Ward); some possible rarities among the taxidermy and marine specimens.
- The most important items are those collected or owned by Lady Russell-Cotes but these are more along the lines of Victorian decorative items/trophies than anything with seriously gathered scientific data. (...)
- Chalk fossils from south Wiltshire. This was started in the 19th century by one of the founders of the museum - Dr Humphrey Blackmore and is a core part of our collection. Our taxidermy collection was also one started in the 19th century for the purposes of display - some of the specimens were mounted by well-known taxidermists.
- The collection of 200 botanical drawings of local flora created by Diana Ruth Wilson (1886-1969) who was born in the town and went on to become a pioneering artist/plants woman in India.
- Probably fossils. Important in relation to Jurassic coast location.
- 1. Pleistocene bones. We hold a major reference collection used to document the late Ice Age of southern Britain. Actively researched and growing. 2. Type specimens (fossils). 3. Liassic fossil marine reptile specimens, including 3 plesiosaurs. Whole vertebrate material is scarce and essential for research. 4. Herbarium. Provides the county record of botanic history (environment) dating from the late 18th century to present. Currently being digitised and placed on website.
- The 'Todd Herbarium' - an early 20th century botany collection with notes and correspondence. The Higginbotham Mollusca of Wiltshire, substantial late 19th/early 20th century geology collections.
- Sited fossil and mineral specimens, Antarctic geological specimens from 1904, and 1910 Scott expeditions, moss and liverwort specimens (as examined and pronounced on by experts), taxidermy birds from Sturt exploration of Australia, skeletal remains from Cotswold long barrows (if you are counting these under osteology).
- A tiny number - in the tens. They aren't very significant, and are mostly on loan from RAMM.³
- Quaternary palaeontology, rare and nationally important, local Devonian fossils and marbles, herbarium, large and well documented, entomology, large with unusual collections.
- Reverend George Crabbe's fossil collection and herbarium. He was an 18th/19th amateur collector who specialised in beetles (which we don't have). We have his collection because he lived and worked in Trowbridge, and was a respected poet in his day. We do not normally collect natural sciences; an exception was made for this particular collection (before my time).
- Pre-history fossils including ichthyosaur that are found locally.
- Prehistoric bones from Mendip caves.
- William Cunnington III Geology collection (see FENSCORE) and herbarium.

³ As this participant's natural sciences objects are on loan from one of the project partners (Royal Albert Memorial Museum), there is the assumption that these items fall under their care. Follow-up is required to establish whether the participant should remain part of the wider skills sharing and training for regional participants.

When asked 'How is the collection currently used?' 100% (27) responded with results displayed in the bar chart below. (Respondents were permitted more than one answer).



Of those who stated other 14.8% (4) the following responses were given:

- Beginning to digitise pressed seaweed collection.
- Some on display - most in store where it is accessible to view by appointment.
- We have also done a special exhibition on fossils and palaeontology.
- Are planning a new gallery in partnership with Wildlife Trust.

When asked 'Roughly how much of the collection is documented on a computer database?' the following responses were given. It is a positive indicator that more than half of the natural sciences collections held by survey participants are documented on a computer database. However, what is unknown is the percentage which is documented in a non-electronic format such as paper based records.

- 55.6% (15) replied >50%
- 7.4% (2) replied 25 – 50%
- 22.2% (6) replied <25%
- 11.1% (3) replied 'none'
- 3.7% (1) replied 'unknown'

The following databases were named, with MODES or a specific version of MODES accounting for more than half 55.6% (15) of organisations collections database. Only 3.7% (1) did not state a database. The number of responses per database system identified is shown numerically within brackets.

- Access (1)
- Adlib⁴ (3)
- CMS⁵ (3)

⁴ Includes Museum and Axial

⁵ Database not specified other than 'CMS'.

- Microsoft Excel (1)
- Microsoft Access (2)
- MODES⁶ (15)
- System Simulation's Museum Index + (1)

When asked 'Tell us about the condition of your collection - do you consider it to be at risk?' over half 51.8% (14) stated 'no' or did not provide an answer. 22.2% (6) were 'unsure' and provided the following explanations for their answers:

- All properly packed to high standards by conservators, all geology properly examined and documented to a high standard in manual form, some held in environmentally controlled stores. Some however in less good storage e.g. soil samples. There is no dedicated curator, and the material is very low priority in current forward plans. This represents the major risk to the collection.
- Poor museum environment.
- There has been no time available to assess each item.
- Not enough expertise in-house to be certain.
- We have a herbarium which I am not certain how to store correctly - although I have brushed each specimen for dust. There are security issues surrounding the display of the botanical drawings at present. I am uncertain of how to conserve our historic birds' egg collection.
- The museum is small, and storage space at a premium. The butterfly and moth cabinets were on display for a long time in the galleries. With the redevelopment and modernisation of the galleries in 2009, the moth collection was stored in the Town Clerk's office. The conditions of the Moths were stable until spring this year when Carpet Beetle devastated some of the draws. (...) advice was given and the drawers frozen. Both cabinets are now in the museum store and we are keen to develop knowledge on best practise and gain greater understanding of the collection itself as the museum does not have an entomology expert.

However, 25.9% (7) stated 'Yes' their natural sciences collections were at risk which is a cause for concern. Participants provided the following information explaining their reasoning:

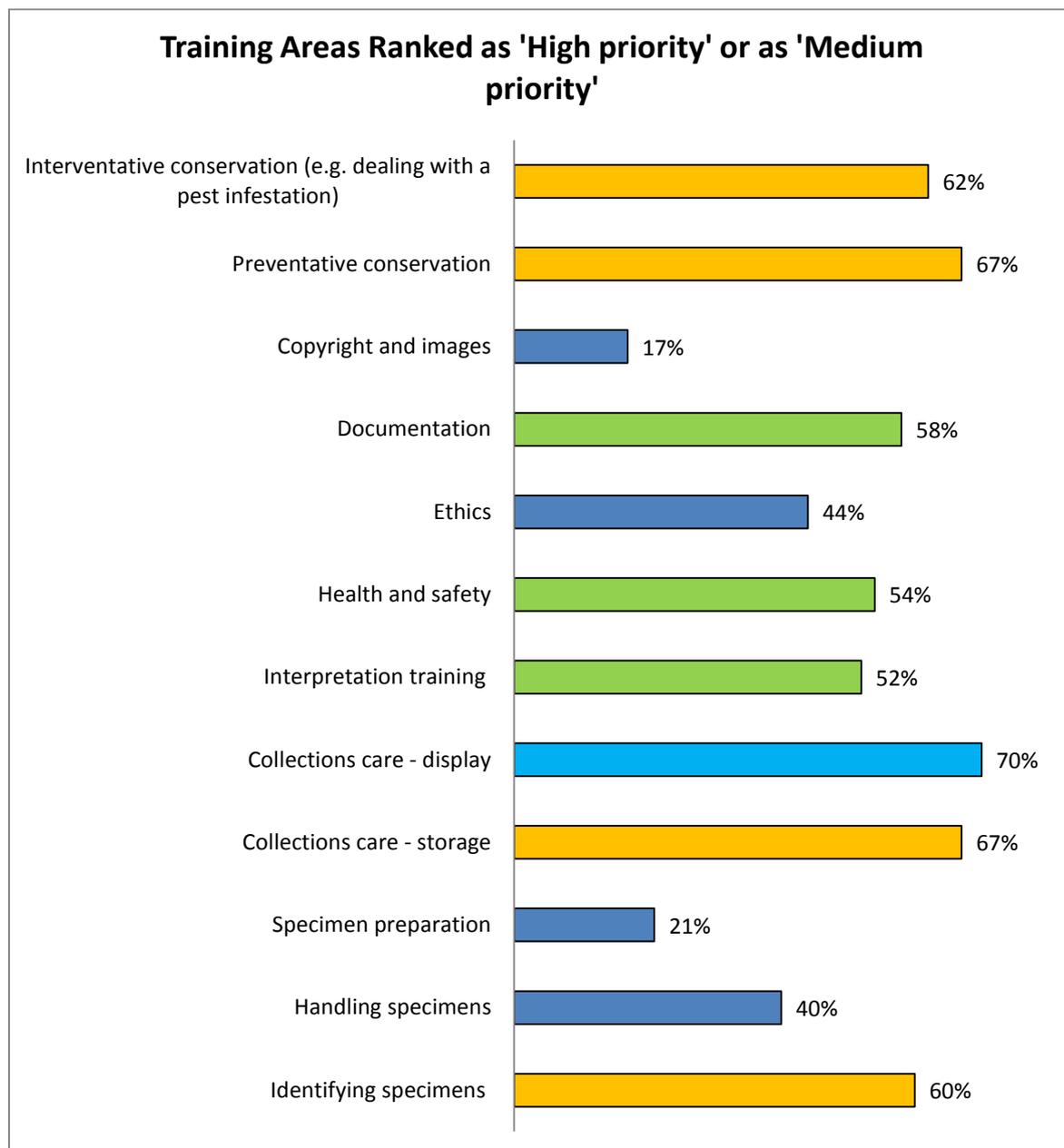
- We have been advised that some parts of the collection require conservation work.
- Some of the stores are environmentally sub-optimal and full. We are in the process of changing the stores.
- Some of it certainly is, the geological material is relatively secure, but the rest is a problem.
- There is no in house specialism and unlike other collections there is no interest from volunteers or local groups despite efforts to engage them with the collection. The collection is rarely inspected except during routine inspections of the stores and there is no detailed condition survey. It is probably the most under used part of our collection and that leaves me concerned about its future.
- Natural history collection in fair to poor condition. Require advice to better store, pack and access most natural science collections.
- The Museum has a very uncertain financial future. Storage facilities need upgrading. Not enough curatorial time allocated for their upkeep.
- The collections is stores in fairly cramped conditions in the main museum store, some in over-packed boxes, with some possibly open to or previously damaged by insect attack.

⁶ 4 participants specified the type of MODES Catalyst (1), Compact (1) and Complete (2)

Training Needs

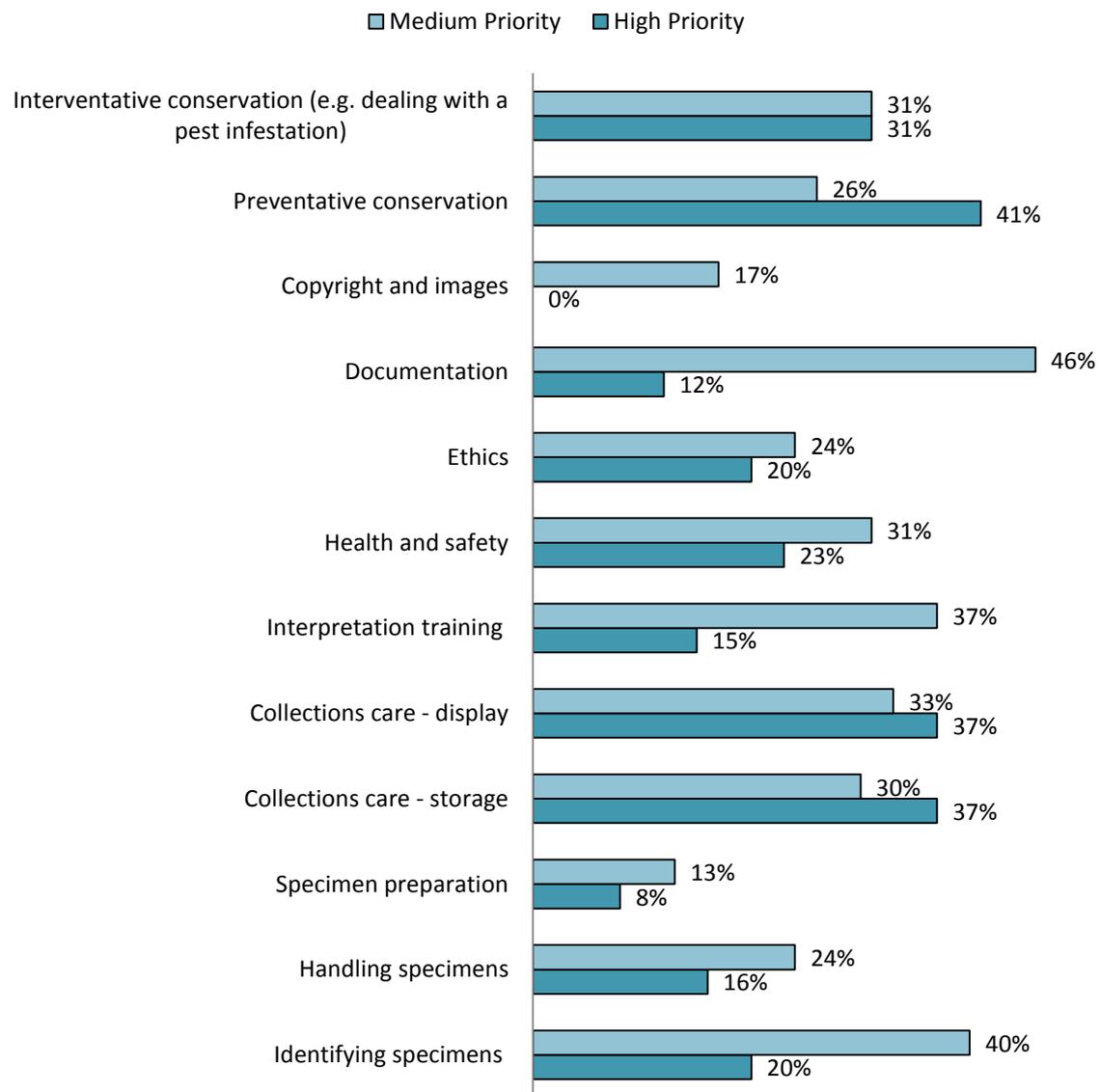
Participants were asked to identify their training needs from a selection of defined subject areas, ranking their priority on a scale from 'high' to 'not at all' or unsure. The results shown below are those who defined a training area as either a 'High priority' or a 'Medium priority'⁷ regionally.

'Collections care - display' is the highest need for training followed jointly by 'Preventative conservation' and 'Collections care – storage'. The least defined need was determined as 'Copyright and images'.



⁷ In order to maximise the impact of meeting the training needs expressed by the respondents, training areas expressed as a 'high priority' and as a 'medium priority' would benefit a greater number of individuals and organisations at a regional level rather than providing training provision based solely on areas defined as a 'high priority'. It is on this basis that recommendations for the SWaNS project training programme have been provided.

Breakdown of Training Areas by 'High' and 'Medium priority'



Of those who stated 'Other' 11.1% (3) responded with the following requests for training; health and safety, handling historic specimens, copyright and images specific to natural science collections and further specialist training, of which further detail was not stipulated.

Full Breakdown of Training Priorities

Subject Area	High priority	%	Medium priority	%	Low priority	%	Not a priority at all	%	Unsure	%	Response Count	%
Identifying specimens	5	20%	10	40%	3	12%	6	24%	1	4%	25	100%
Handling specimens	4	16%	6	24%	7	28%	7	28%	1	4%	25	100%
Specimen preparation	2	8%	3	13%	6	25%	11	46%	2	8%	24	100%
Collections care - storage	10	37%	8	30%	2	7%	6	22%	1	4%	27	100%
Collections care - display	10	37%	9	33%	2	7%	5	19%	1	4%	27	100%
Interpretation training	4	15%	10	37%	6	22%	5	19%	2	7%	27	100%
Health and safety	6	23%	8	31%	5	19%	6	23%	1	4%	26	100%
Ethics	5	20%	6	24%	4	16%	9	36%	1	4%	25	100%
Documentation	3	12%	12	46%	4	15%	6	23%	1	4%	26	100%
Copyright and images	0	0%	4	17%	11	46%	7	29%	2	8%	24	100%
Preventative conservation	11	41%	7	26%	4	15%	4	15%	1	4%	27	101% ⁸
Interventive conservation (e.g. dealing with a pest infestation)	8	31%	8	31%	4	15%	5	19%	1	4%	26	100%

⁸ Percentages rounded up to nearest whole number.

Geographical Training Clusters

Given the large geographical nature of the south west region and challenging transport infrastructure it was important to establish the priority of need for cluster groups based on geography to determine if there is any differentiation at local level where specific training should be provided in order to maximise participation within the project. Six cluster groups were identifiable based on the county of their organisation. The results below identify one or more areas of training defined as a 'high priority' only⁹ by more than one museum in that area excluding the Wiltshire and Swindon cluster, as no clear priority was established from the data. In addition all training needs ranked as a 'high priority' by the organisations within that cluster are listed, with the number of requests identified numerically in brackets.

Cluster 1

5 organisations based in Cornwall, East Devon, South Hams, Teignbridge and Torbay identified 3 clear priorities:

- Collections care – Storage (3)
- Collections care – Display (3)
- Preventative conservation (3)

Other high priorities included;

- Handling specimens (2)
- Documentation (2)
- Interventative conservation (e.g. dealing with a pest infestation) (2)
- Identifying specimens (1)
- Interpretation training (1)
- Health and safety (1)
- Ethics (1)

Cluster 2

6 organisations based in Dorset identified the following 3 areas as a priority:

- Collections care - Display (4)
- Preventative conservation (4)
- Interventative conservation (e.g. dealing with a pest infestation) (4)

Other high priorities included;

- Collections care - Storage (3)
- Ethics (3)
- Handling specimens (2)
- Specimen preparation (2)
- Interpretation training (2)
- Health and safety (2)

⁹ The findings here list those defined as a 'High priority' only and does not include those determined as a 'Medium priority' unlike the findings at regional level. The decision to examine the data in this way was to establish the most pressing areas of need at local level to determine if there was any variation of need that could be supported by training delivered locally i.e. within the county or neighbouring county the need was expressed.

- Identifying specimens (1)

Cluster 3

3 organisations based in Gloucestershire identified 1 common priority:

- Health and safety (2)

Other high priorities included:

- Identifying specimens (1)
- Collections care – Storage (1)
- Collections care – Display (1)
- Preventative conservation (1)

Cluster 4

4 organisations based in Wiltshire and Swindon identified no clear priority. The following however were listed as a high priority;

- Identifying specimens
- Collections care - Storage
- Collections care - Display
- Interpretation training
- Health and safety
- Ethics
- Documentation
- Preventative conservation
- Interventative conservation (e.g. dealing with a pest infestation)

Cluster 5

4 organisations based in North and Mid Devon only identified one clear priority;

- Preventative conservation (2)

Other priorities included:

- Identifying specimens (1)
- Collections care – Storage (1)
- Collections care – Display (1)
- Interventative conservation (e.g. dealing with a pest infestation) (1)

Cluster 6

5 organisations based in Somerset identified only one common priority;

- Health and safety (2)

Other priorities listed as 'high' include;

- Identifying specimens (1)
- Collections care – Storage (1)
- Collections care – Display (1)
- Preventative conservation (1)

All of the areas ranked as a high priority at a cluster level reflect regional need in all but one area; 'Health and safety' ranked as a 'high priority' for cluster group 3 and 6 by more than one museum and as one of the 'high priorities' for Wiltshire and Swindon which had no clear defined priority.

Summary

The majority (96.3% -26) of respondents' organisations are within Arts Council England's Accreditation scheme. Even though only 37% indicated that they have 'a basic understanding of natural sciences collections' participant organisations have the foundation of nationally agreed standards for museums on which to develop specialist skills to support their natural sciences collections.

In addition, only 11.1% (3) stated they 'did not feel confident enough to work with the natural sciences collections', therefore the vast majority, 89.9% (24) feel that they can work with natural sciences collections.

From the responses given in terms of experience, there is also the potential to widen the support network offered by the project partners who are based in Bath and North East Somerset, Bristol, Cornwall and Devon to include Somerset and Dorset, if the 11.1% (3) of survey participants are identified as having 'good experience' are willing to undertake a proactive role in forming a support network for their geographic areas. This would only leave the counties of Bournemouth, Gloucestershire, Poole, Swindon and Wiltshire without a museum professional experienced in the natural sciences.

In terms of collections, the majority of museums held fossils 88.9% (24) within their collections, this was closely followed by minerals 85.2% (23) and rocks 77.8% (21). The least collected item by museums were microscopic slides 18.5% (5) and those who stated other 14.8% (4) of which egg collections accounted for 2 participant responses and 1 with a collection of botanical drawings.

100% (27) of respondents answered what asked 'what do you think are the most important natural sciences items in your collections and why?' indicating a good awareness of their collections despite the fact 44.4% of the collection is 'not used and remains in storage'¹⁰.

41% (11) of participants had less than 1,000 specimens in their collections, however 55.6% (15) stated than more than 50% of their collection is documented on a computer database with the most popular system used being a version of MODES 55.6% (15).

48% (13) of respondents were unsure or stated that their natural sciences collections were 'at risk' which indicates why further training on 'preventative conservation' was identified as a high priority¹¹ across the region. This need is further supported when broken down at a sub-regional level with 'preventative conservation' ranked as a 'high priority' by organisations in Cornwall, Devon and Dorset¹².

The highest priority regionally was stated as 'Collections care – display' followed jointly by 'Collections care – storage' and 'Preventative conservation'. The least defined need was determined as 'Copyright and images'. 'Identifying specimens' also featured highly, however it is unclear what type of specimen respondents require additional support with as specimen type was not stipulated in the survey.

¹⁰ 'Not used' excludes specimens used for research purposes.

¹¹ 'High' / 'highest' priority is defined as those who ranked a training need as either a 'high' or 'medium' priority as stated on P.g.15

¹² Cluster 1, Cluster 2 and Cluster 5, see table on Pg.4.

Overall, it is clear that investment in training is required for regional museums in the south west so that collections can be safely cared for, become more active and engage not only the sector workforce in the natural sciences, but those who the collections are held for.

Recommendations

Based on the information provided by respondents the following training programme is recommended:

- 2 'Introduction to natural sciences' workshops to be delivered by the project partners in conjunction with the SWMD Conservation Development Officer in two geographic locations (Bristol and Exeter), connecting regional museums and their nearest natural sciences curators. Areas to be covered in training should include an overview of collections care, storage and display.
- 1 regional workshop on ethics and the law. A regional workshop in this area would enable networking across all project participants and the project partners and reduce the cost of bringing in specialist trainers. This session could be supported by a general Health and Safety session delivered under the SWMD South West Museum Skills Programme with participants in the SWaNS project specifically targeted.
- 2 workshops delivered in 3 locations (Bristol, Exeter, and Taunton to attend) in order to maximise participation:
 - a) An in-depth session on 'Preventative conservation with natural sciences collections' delivered jointly by the SWMD Conservation Development Officer and project partners.
 - b) 'Working with natural sciences specimens' to be delivered by the project partners utilising their specialist knowledge and recent training on specimen preparation if appropriate to need. Follow up is required with respondents to establish what 'specimen' type and area they would like support with.

Rationale

As only 37% of respondents have 'a basic understanding of natural sciences collections' an additional 'Introduction to natural sciences' training session will be developed. The purpose of the session would be to provide those who work with natural sciences collections in the south west with a consistent foundation of knowledge and skills before embarking on more focused training specific to natural science collections. As 'Collections care – display' was defined as the highest priority by 70% of respondents and 'Collections care – storage' defined as a high priority at 67% and are complimentary subject areas. These topics will be addressed as part of the 'Basics' session, with storage developed further in the 'Preventative conservation' session alongside additional training sessions within the wider SW Museum Skills programme.

Whilst 'Ethics' was defined by less than half of respondents at 44% as a 'high' or 'medium' priority, this is an area that requires addressing due to the legal and ethical issues which accompany natural sciences collections. With 7.4% survey participants only having 'some training in working with natural sciences collections', survey participants would benefit from having greater knowledge of this area to ensure that changes in legislation and sector guidance are addressed.. It is proposed that this session be supported by a general 'Health and safety' training day under the SWMD South West Museum Skills Programme targeted at SWaNS project participants as health and safety encompasses broader legal issues applicable to museums and heritage organisations with natural sciences collections. It is recommended that if such a session were to occur that this session be held in the

west of England to enable maximum participation from organisations in Gloucestershire and Somerset who on a local level stated that this was their highest priority.

As 'Preventative conservation' was the second highest defined need by respondents it is recommended that repeated in-depth workshops held in different locations are provided to meet this need to maximise engagement. Whilst 'Interventive conservation' featured highly at 62% it has not been included in the proposed training programme recognising that delivering a more diverse training programme would have a broader impact for project participants and their natural sciences collections.

While 'Identifying specimens' featured highly in terms of need at 60%, above 'Handling specimens' at 40% and 'Specimen preparation' at 21% it is recognised that identifying specimens requires specialist skills and knowledge that would not be deliverable within the project timescales. It is therefore proposed that survey participants be contacted with a range of training options specific to collection type to establish how else they could be best supported. The 3 in-depth training sessions proposed have therefore been broadly titled 'Working with natural sciences specimens' until the outcome of the suggested follow-up research is known. In addition it permits the option of delivering 3 different sessions to support demand if required. Supporting the rationale behind this decision is that an important feature of the SWaNS project is connecting the region's natural sciences curators with those who are not subject specialists as part of a network where this type of support can be provided informally beyond the life of the project. Furthermore offering this type of training allows the region's natural science curators the ability to impart other specialist existing skills and knowledge and those newly acquired under the project that those working with natural sciences collections would not have access to beyond the life of the project.