European Marine Biological Resource Centre Biobank (EBB)

WP 5 ABS compliance for collections and fundamental research using MBRs

Action 2
D5.2 Registry request

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Executive Summary

This deliverable defines the actions taken in the framework of EBB project in order to facilitate the inclusion of EBB culture collections and biobanks in the EU register of collections.

The document explains the requirements that a collection needs to comply with to be included in the EU register of collections and the difficulties that the EBB project found in its initial idea to include all the partners collections as a single collection named European Blue Biobank.

Because the registration of the collections must be done at national level, the deliverable also describes the steps to be taken by each partner of EBB project to register their collections individually, should they wish to do so. The process of register requires several steps, where the previous implementation of Best Practices in the collections will support it. In order to know the degree of implementation of Best Practices in ABS compliance in each individual collection, this deliverable also presents a survey that was launched to each EBB member hosting a collection, the type of questions that were collected in it and analyses the answers provided by the different participants.

Finally, the present document shows how the registration of the "Handbook on implementation of EBB Best Practices and Sample Identification System", developed on the framework of EBB Deliverable D5.1 and endorsed by EMBRC[1], will serve as a launching pad for the registration of some marine EBB collections.

[1] The endorsed version of the EBB deliverable D5.1. by EMBRC is "The EMBRC guide to ABS compliance: Recommendations to Marine Biological Resources, Collections' and Users' Institutions".

Introduction

The European Marine Biological Resource Centre (EMBRC-ERIC[2], hereinafter referred to as EMBRC) is a distributed pan-European research infrastructure that provides access to coastal marine ecosystems and marine biological resources for both fundamental and applied research. Providing access to marine genetic resources is one of EMBRC's primary services.

The EMBRC is committed to facilitating access to and supply of marine biological and genetic material to users in compliance with international, European and national legal frameworks regarding Access and Benefit Sharing (ABS). The European Blue Biobank (EBB) project, under the umbrella of EMBRC, supports this aspiration by promoting compliance with ABS regulations derived from the Nagoya Protocol and implemented in Europe through the EU ABS Regulation, that came into force in 2014, as well as Member State's access legislations, where applicable. This regulatory framework, although effective in protecting the rights of the provider country, puts burden on the user to demonstrate lawful utilization. In this context, research infrastructures, facilities, biobanks and collections may play a role by facilitating legal compliance and lawful use of the genetic resources they provide.

Culture collections and biobanks are powerful tools for the preservation of marine biodiversity. The performing of traditional in-situ conservation techniques, with reproducible and feasible ex-situ novel methods, become them in the main actors for the conservation of many marine biological resources (MBRs).

Biobanks are important providers of MBRs to industrial and academic researchers, making them key pieces for regional economic development and employment through blue biotechnology and thus to contribute to growth and cohesion.

One of the main aims of the EBB project is establishing a centrally curated biobank operated by EMBRC and to the enhancement of ecosystem services by facilitating biotechnological valorization of MBRs, thus promoting the bio-based blue economy. For that, a prior effort on the part of the collections is necessary to put into practice the applications of procedures to comply with the EU Regulation (EU 511/2014[3]) on access and benefit sharing (ABS), whose general objective is to promote the conservation and sustainable use of biodiversity.

[2] http://embrc.eu/ EMBRC has the legal status of a European Research Infrastructure Consortium (ERIC), which was awarded by the European Commission on 20 February 2018.
[3] Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union Text with EEA relevance.

In this deliverable we will describe the actions put forward in the framework of EBB project with the aim to provide each individual collection of the required knowledge to be included in the European registry.

The European legislation

The EU Regulation No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and Fair and Equitable Sharing of Benefits Arising from their Utilisation[4] in the Union, aims to implement in the EU the international rules derived from the Nagoya Protocol about how comply with the rules on ABS established by the countries providing genetic resources.

With regard to the register of collections, the Commission, in its Article 5 of the EU Reg N0 511/2014, establishes some requirements that the collections must comply with. The required conditions are listed as follow:

a) Collections must apply standardised procedures for exchanging or supplying samples of genetic resources and related information with other collections or third persons for their utilisation.
b) Collections must provide evidence that all the genetic resources and related information supplied to third parties for their utilisation has been previously accessed in accordance with applicable access and benefit-sharing legislation and, where relevant, with mutually agreed terms.
c) Collections must keep a record of all genetic resources and related information that they provide to third parties for their utilization.
d) Collections must establish or use unique identifiers, where possible, for samples of genetic resources supplied to third persons.
e) Collections must use appropriate tracking tools for exchanging samples of genetic resources and related information with other collections.

The inclusion of a collection (or part of it) in the register is something that must be done at the national level. It is the Member State hosting the collection under its jurisdiction, which upon a request from the holder of the collection, must consider its incorporation in the registry. The Member State must verify that the collection (or a part of it) meets the required conditions to be included (listed as above) and it shall notify the Commission the name and details of the collection and of its holder, as well as, the type of collection concerned. After that, the Commission shall include the received information in the register. The Member

[4] 'Utilisation of genetic resources' is defined as 'to conduct research and development on the genetic and/or biochemical composition of genetic resources, including through the application of biotechnology, as defined in Article 2 of the Convention' (Article 3(5) of the Regulation).

States must regularly verify that the registered collections under its jurisdiction continue to meet the required conditions. In case of not meeting the established criteria, the collections could be removed from the registry.

The EBB collections

One of the main aims of EBB project is facilitate access to a common registry of MBRs. Related to this, the initial idea was to unify all the collections into one and try to register it at the European level, as a simple collection called European Blue Biobank. However, current legislation (described above) indicates that the registration process is carried out by each of the Member States that owns a collection interested in being registered.

Therefore, since the registry as a simple collection formed by the sum of all the collections present in EBB, was not possible, within the framework of the current deliverable D5.2 and related to D5.1 (Handbook on implementation of EBB Best Practices and Sample Identification System) we have worked to advise each one of the collections to implement a manual of good practices that helps to comply with all the requirements that the EU requires of the collections that want to be registered. The Best Practice Guidelines, entitled “The EMBRC guide to ABS compliance: Recommendations to Marine Biological Resources, Collections’ and Users’ Institutions”, describes the steps and procedures that the collections must conduct to comply with the ABS regulations and so, meet the previous requirements to be registered.

This manual, endorsed by EMBRC, will be presented to the European Commission in order to register the best practice guideline described on it.

Brest Workshop (2018) Partner Engagement on Collection Registration.

A workshop was held on Implementing Best Practice Guidelines (BPGs) for Access and Benefit Sharing (ABS) at Le Pôle Mer Bretagne Atlantique (Brest, Brittany), 17th of May 2018. The aims of this one-day workshop were to ensure all EBB project partners were familiar with Best Practice Guidelines and could discuss the process of implementing procedures within their institutions and the process for retrospective ABS compliance for existing genetic resources in collections. The workshop also identified differences in national legislation and discussed the ramifications of including collections in an EU registry. The event was attended by representatives from EBB project partner institutions, as well as National Contact Points (NCPs) on ABS from France, Spain and Portugal and other experts.

The workshop opened with introductory presentations on BPGs and EU registry, by Anne-Emmanuelle Kervella (EMBRC-France) and Robert Yarlett (MBA, UK), respectively. After the talks, the workshop followed a series of open discussions to decide on the next steps towards implementing BPGs and the practicalities and benefits of including the collections in an EU registry. There were also short discussions on retrospective ABS compliance and traceability of genetic resources.

Implications of collection registration with the EU registry that were discussed in the first workshop were further debated with input from the National Contact Points. From a collection owner's point of view, registration means that the collection assumes liability for ABS compliance. For an unregistered collection the user assumes liability for ABS compliance. A collection will, therefore, have less legal liability when making an unregistered collection available to a user and institutions may not wish to register all or parts of collections. Therefore, a change in emphasis of WP5 from registration to aiding institutions/ organisations was discussed.

It was agreed by project partners' that the key group focus should now be on collating BPGs into a handbook for EBB partners and implementing those best practices set out in the handbook in order to meet the legal obligations as stated under the Nagoya protocol (2014).

The MiRRI (Microbial Resource Research Infrastructure[5]) and CETAF (The Consortium of European Taxonomic Facilities) guidelines are a good basis for developing Best Practice Guidelines as a deliverable and everyone should be aware of them. Most attendees agreed that a step by step, guide to implementing BPGs would be helpful and partners made various suggestions about the form and content of the handbook.

Feedback was collected at the end of the workshop to gather opinions from attendees. This was analysed and made available on the project Basecamp. In brief, there was a general consensus that the workshop had aided partner's understanding of implementing BPGs within their institutions and most believe these to be feasible to implement and a priority. An overview of the analysis is presented below.

On the basis of workshop discussions, collection registration was no longer seen as a desirable aim for most collections (due to legal liability remaining with the collection). Following the workshop, a paper was circulated which summarised

[5] Microbial Resource Research Infrastructure (MIRRI) Best Practice Manual on Access and Benefit Sharing can be visualized at https://www.mirri.org/wp-content/uploads/2021/02/ABSbestpracticemanual.pdf and The Consortium of European Taxonomic Facilities also has its handbook online (https://cetaf.org/sites/default/files/final_cetaf_abs_coc.pdf).

the opinions, benefits and challenges which institutions face under the new ABS legislation. This was made available on Basecamp along with a brief report on the feedback received at the workshop from delegates.

Brest Workshop Survey and Results

The following sections provide the WP5 (ABS compliance for collections and fundamental research using MBRs) feedback. For most questions we received 8 responses.

Q1 Do you have a better understanding of how to implement Best Practice Guidelines for Access and Benefits Sharing in your institution, and do you think they are feasible to implement?

The majority of respondents (7 out of 8, see Figure 1) had a better understanding of how to implement best practice in their institution and thought the guidelines were feasible to implement. Respondents provided a variety of feedback comments. Attendees that provided feedback generally had a good understanding of what Best Practice entails but feel they would benefit from clearly outlined procedures on how to implement it. There are still questions and disagreements around the role of resource providers, and whether legal representatives need to be involved in the process of obtaining genetic resources.

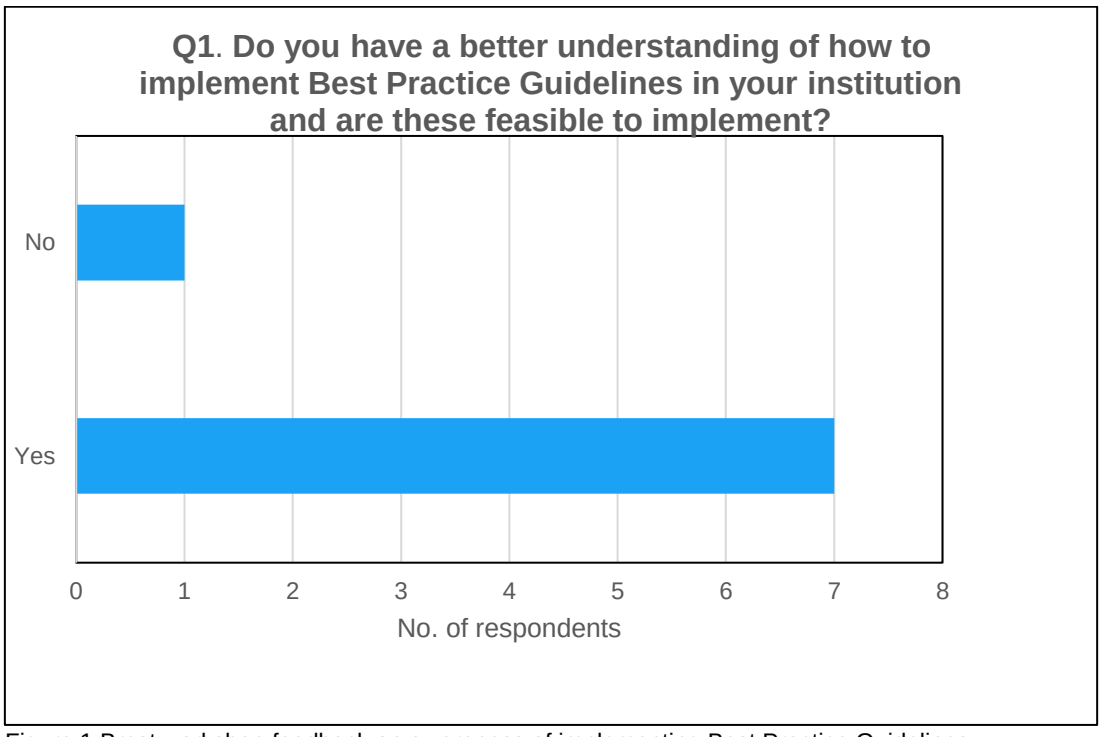

Figure 1 Brest workshop feedback on awareness of implementing Best Practice Guidelines.

Q2 Are you aware of what is required and how to send requests for inclusion of your institution in the EU register of collections, and do you think the requirements are feasible

The majority of respondents (6 out of 8, see Figure 2) understood what was required to register a collection and considered it was feasible. Most respondents considered that registration was feasible (Yes-7/ Maybe-1). However, the feedback comments indicated there were concerns around collections adopting liability for compliance with ABS and it was not considered desirable to register the collections in the near future. It was previously thought that using a registered collection would reduce the administrative burden for researchers, but it would appear that this would not necessarily be the case and that simply liability would be transferred to the collections. Registering the collections was thought to be a way to remove the need for users to fill out “due-diligence” forms, contact Competent National Authorities (CNAs) and apply for Prior Informed Consent (PIC) / Mutually Agreed Terms (MAT). However, users will still have to do this when using a registered collection. Users may be able to avoid contacting CNAs for PIC/MAT if uses are the same as negotiated by the original collector. In practice, this would require a very broad MAT, which may not be granted as it defeats the point of negotiating MAT. A registered collection would need to stay on top of any changes to national legislation in the countries of origin of its samples to stay compliant, which in practice isn’t considered workable. Representatives of the collections did not feel that they want to be at risk of receiving penalties for providing resources with out of date national legislation. It was identified that an audit of each national centre – collection is a prerequisite to the feasibility and that this may take some time.

The assessment for inclusion in the EU registry would be performed nationally. The EMBRC national nodes should get in contact with their CNA to discuss their procedures. In view of the discussion with NCPs, each national collection will need to clear the access and use of the national material, which depends on the national law.

The agreed action was that the first step would be to register the code of conduct on best practice as a first step and re-consider registration of collections at a later date. A further option was to register parts of collections only.

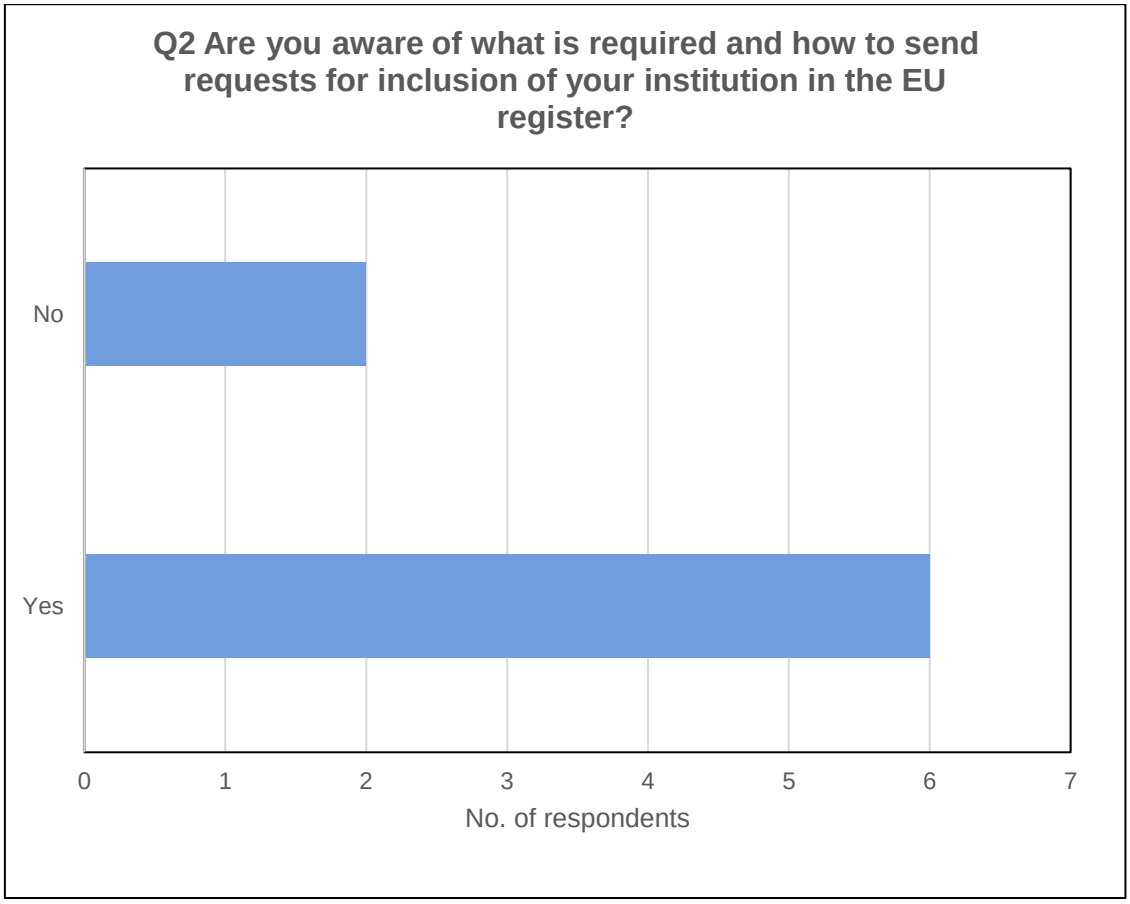

Figure 2 Brest workshop feedback on awareness of process for registering collections with the EU Register.

Q3 Are you aware of how to find out what material in your collections requires retrospective ABS compliance, and do you know how to go about seeking retrospective compliance?

The majority of the respondents answered yes to this question (7 out of 9, see Figure 3). Other than material collected after the enforcement of the Nagoya protocol, retrospective compliance for resources collected before this date is not needed for ABS compliance. It was thought to be a good idea to do this anyway and to check whether material was from countries that have ABS regulations that apply to material collected before 2014. Respondents indicated that clarity was needed on whether collections need to do this for the samples in their collection, or whether this only needs to be done at the time of access/utilisation.

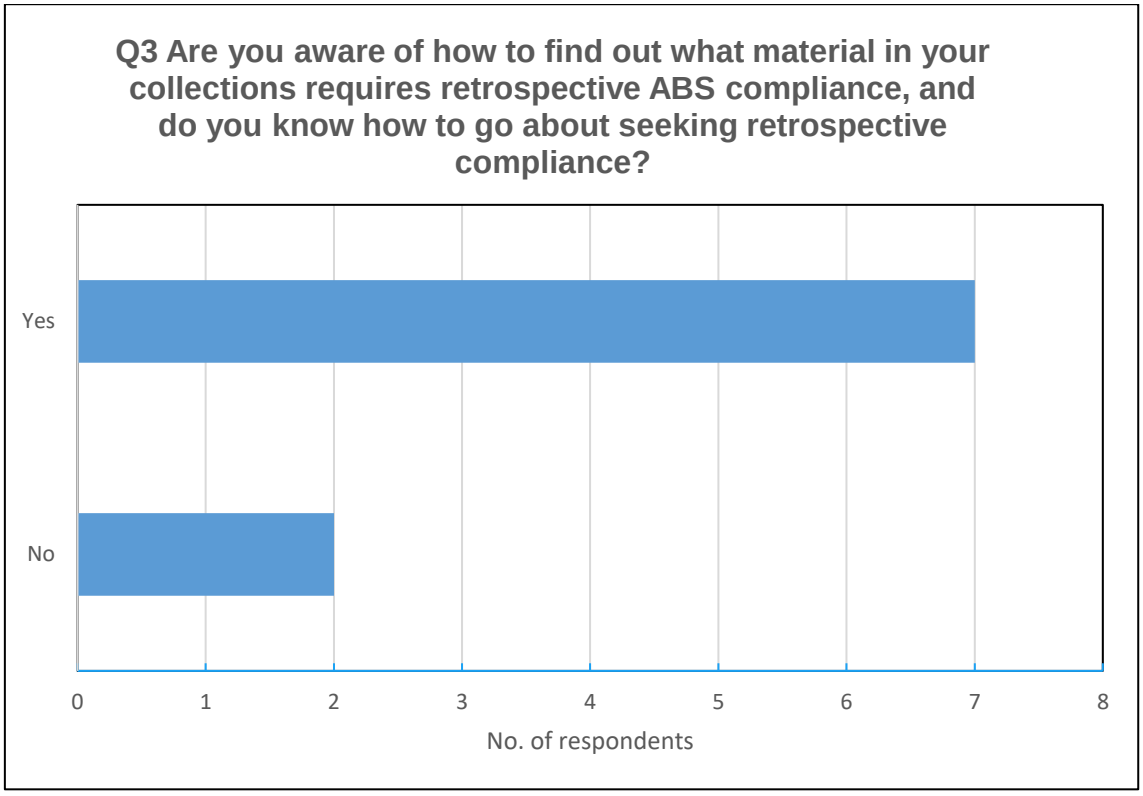

Figure 3 Brest workshop feedback on retrospective ABS compliance.

Q4 Do you have any suggestions for additional content to be included in the current handbook "Best Practice Guidelines on Access and Benefit Sharing for EMBRC"?

Respondents provided feedback on content for the handbook. Those points that were raised by more than one respondent and that were addressed in the handbook are underlined. Some feedback such as a map of national ABS legislation were not considered feasible.

1. BPGs should remain as simple as possible (but some other tools – such as map of national ABS legislations - would be useful)
2. Useful information related to the country of collection (extracted from ABSCH)
3. Step by step guide "ABS for dummies" (academic dummies)
4. I think that the guidelines should encompass the existing reality of (at least) the countries involved in the EBB project (e.g., flowchart to access the genetic resources adapted to each country). I believe it should be advisable to involve and commit the CNAs of these same countries along the creation and establishment of the guidelines. This should be of value both for the institutions (we) and for the users.
5. EMBRC ABS position paper
6. Monetary and non-monetary benefits

7. Practical advice to collection managers
8. MTAs (covering different aspects)
9. Data management
10. Detailed flow charts
11. Develop a “manual for dummies” for common users.

Development of the handbook took these suggestions into account where possible and those we could incorporate are underlined in the list above. Others, such as 1) 2) and 4) a map of national ABS legislation and national examples were considered unfeasible as the situation in countries can evolve so that the guidance could become misleading. Information sources and some national examples were included in the manual.

A paper was produced and circulated on Basecamp on the position on registering collections.

Q5 Can you foresee any issues with implementing these forms in your institution?

Material Accession Form:

Most responded “no”, “already in place” or “we have a team of people that work on this”.

Material Transfer Agreement:
All responded “no”, “already in place” or “we have a team of people that work on this”.

Order Form and Terms and Conditions
All responded “no”, “already in place” or “we have a team of people that work on this”

Q6 Can you foresee any challenges in implementing procedures to ensure traceability of Marine Biological Resources (MBRs) within your institution?

The majority of respondents (5 responses) indicated that they felt that implementing procedures to trace resources would be challenging (see Figure 4).

Comments from respondents are provided below.
1. Maybe not in our specific case because we work with species cultivated in Portugal, but the institution works in several fields and species which could be difficult to obtain traceability for now.
2. For the culture collection no, everything is already in place. For the macro-organism supply service yes – databasing has been much more rudimentary, but

in EMBRC France we recently developed a database/web application for this (this tool needs to be optimised in coming months)

3. It has to be technically set up, but it can be done.
4. Human resources to do the tracking.
5. Currently, challenges have to do with the absence of a management plan for these issues and the lack of human resources.
6. Traceability sure be ensured with digital solutions.

Summary of discussion

Some databasing systems may need updating. Collections were advised to respond to the WP4 (Development of common methodologies for the management of Marine Biobanks) request for databasing info.

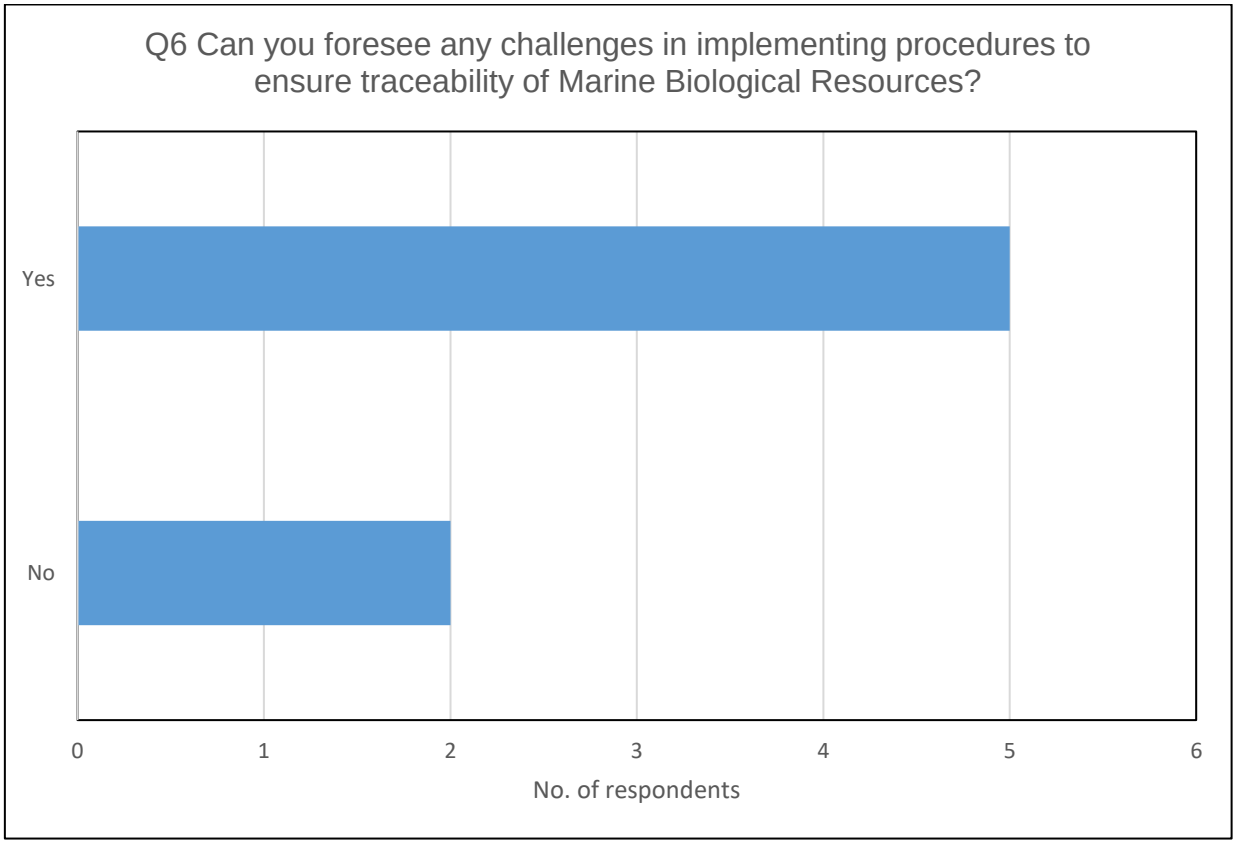

Figure 4 Brest workshop feedback on challenges in implementing procedures to ensure traceability.

EBB General Assemblies

EBB General Assembly-Porto 2018

In addition to the Work Package 5 presentation at the EBB 2018 General Assembly held in Porto, two additional sessions and presentations were of relevance to collection registration. The presentations were made available to all partners (as pdf files) after the event on the EBB Basecamp.

The UK CNA was working on collection registration processes with other Member States to streamline collection registration. In order to share their experience and for them to gain feedback from marine collections they were invited to the General Assembly in Porto. They provided a presentation on collection registration and work that they were working on with other Member States to streamline collection registration. They circulated a sample template of the details required for collection registration and sought feedback from the workshop.

The German Collection of Microorganisms and Cell Culture (DSMZ) was the first collection to be added to the European Register of Collections. Amber Scholz from the DSMZ was invited to present to the EBB project on the work that was undertaken to register the collection and their experience as an institution. Amber discussed the processes involved, what they had to change and benefits and disadvantages which included a 25% reduction in deposits. The presentation was very valuable to participants and there was a question session afterwards which allowed further exploration of issues.

EBB General Assembly –Bilbao 2019

Then, EBB General Assembly held at Bilbao included a WP5 presentation discussing registration of Best Practice Guidelines and the processes around registering a collection. External presentations were provided by Anne Nivart (MNHN) and Juan Luis Gómez Pinchetti (Spanish Bank of Algae). The session included a panel question and answer session to allow partners to raise any points for discussion.

EBB General Assembly Online 2020

The on-line 3rd EBB General Assembly, included a WP5 presentation discussing updates to the European Register of collection and reminding participants on processes for registering and retrospective compliance. The assembly included a presentation from Catherine McCarthy on implementing Nagoya at the Sanger Institute.

The survey of EBB partner collections

To understand registration understanding and progress and collection status, in this deliverable we conducted a survey that was sent to each of the partners of the EBB project hosting a collection. It included questions that assess the level of knowledge that the collections have regarding ABS legislation, the degree of compliance that they have with it or the degree of knowledge of the advantages that being a collection registered at European level provides. Table 1 lists the questions asked in the survey.

Table 1. Survey sent to the contacts of the EBB partner collections.

Number	Question	Answer options
1	Name of institution	
2	Name of collection	
3	Approximate number of genetic resources	
4	Name of collection manager or other appropriate contact and email	
5	How aware are you of EU ABS regulations and how this relates to your collection?	Very basic knowledge
		Some knowledge
		Very knowledge
6	Have you audited your collection for compliance with EU ABS regulations?	Yes: majority of genetic resources not compliant
		Yes: genetic resources partially compliant
		Yes: majority of genetic resources are compliant
		No: not audited
		Collection partially audited only
		Unknown
7	European ABS regulations set out the process by which collections can be entered to the European Register of Collections. Are you aware of the process and/or where you can find relevant information?	Yes
		No- but aware of where we can find the required information
		No and unaware of where we can find relevant information
8	Are you aware of the benefits of registering a collection? If yes, please detail which are important to you.	Yes (please detail below which benefits are important to your collection)
		No
9	Have you started the process of registering all or part of your collection?	Yes- but at an early stage
		Yes- at an advanced stage
		No- but intending to register
		No and not intending to: please give reason below
		Undecided
10	If you answered 'undecided to the question above, please give reasons and indicate what information, resources or circumstances will determine the final decision for registry of your collection.	

The survey monkey can be found at this link, and the first page of the interface is shown as Figure 5. An invite was sent to all collection and unresponsive collections were contacted to request a response. The survey was also discussed at the third (on-line) General Assembly. Eight collections responded and answered all questions

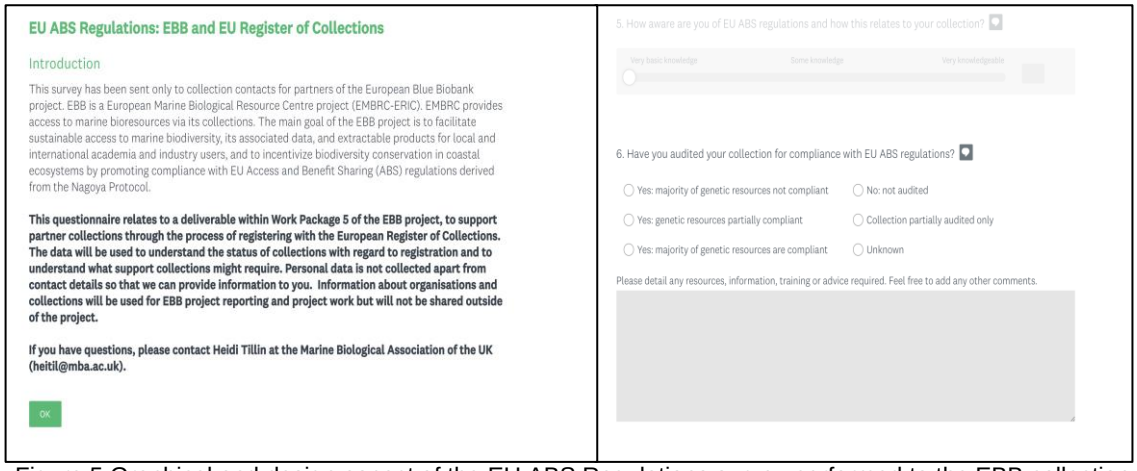

Figure 5 Graphical and design aspect of the EU ABS Regulations survey performed to the EBB collection partners.

The survey results

The survey received a number of responses (See summary Table 2). Questions 1-4 relate to details about collections and personal details and are not analysed here. Collection sizes varied between the low hundreds to thousands of genetic resources.

Table 2 .Summary of responses to the survey monkey questionnaire.

Number	Question	Answer options	Responses
1	Name of institution		
2	Name of collection		
3	Approximate number of genetic resources		
4	Name of collection manager or other appropriate contact and email		
5	How aware are you of EU ABS regulations and how this relates to your collection?	Very basic knowledge	0
		Some knowledge	2
		Very knowledgeable	6
6	Have you audited your collection for compliance with EU ABS regulations?	Yes: majority of genetic resources not compliant	0
		Yes: genetic resources partially compliant	1
		Yes: majority of genetic resources are compliant	2
		No: not audited	4
		Collection partially audited only	1
		Unknown	0
7	European ABS regulations set out the process by which collections can be entered to the European Register of Collections. Are you aware of the process and/or where you can find relevant information?	Yes	3
		No- but aware of where we can find the required information	4
		No and unaware of where we can find relevant information	1
8	Are you aware of the benefits of registering a collection? If yes, please detail which are important to you.	Yes (please detail below which benefits are important to your collection)	3
		No	5
9	Have you started the process of registering all or part of your collection?	Yes- but at an early stage	1
		Yes- at an advanced stage	1
		No- but intending to register	4
		No and not intending to: please give reason below	1
		Undecided	1
10	If you answered 'undecided to the question above, please give reasons and indicate what information, resources or circumstances will determine the final decision for registry of your collection.		1

Q5 (Survey Monkey) How aware are you of EU ABS regulations and how this relates to your collection?

The survey question used a slider bar that respondents could move, guidance was given to positioning this under three categories: very basic knowledge, some knowledge and very knowledgeable. The survey monkey presents information on a scale from 1-100, the average score was 68.

No respondent indicated that they only had ‘basic knowledge’, two had ‘some knowledge’ the rest (6 responses) were ‘very knowledgeable’. The response indicates a high level of awareness among respondents of the EU ABS regulations.

Q6 (Survey Monkey) Have you audited your collection for compliance with EU ABS regulations?

This question asked whether respondents had audited their collection and what the status of the majority of the genetic resources was (compliant or non-compliant with EU ABS regulations). Four respondents indicated that they had not audited their collection and one had only partially audited their collection (see Figure 6). A cross-check against WP4, found that two of these collections had undertaken an ABS audit.

Respondents who had audited collections (3 responses) found that either a majority of resources were compliant (2 responses) or partially compliant (1 response). No respondents had found that the majority of their collection was not compliant with EU ABS regulations.

Some individual responses provided further detail. One collection highlighted that while the source of most strains was known and these were compliant, there were others collected outside of the country of the collection and it was difficult to verify if some strains were compliant or not.

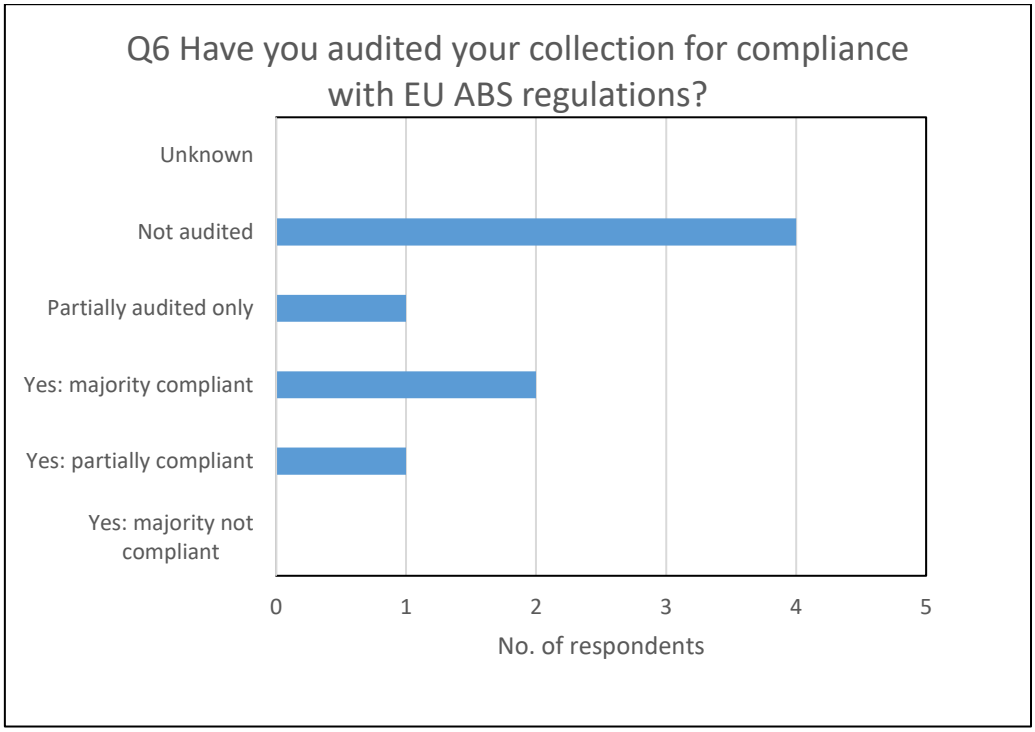

Figure 6 Collection staff responses on whether collections had been audited for compliance with EU ABS regulations

Q7 (Survey Monkey) European ABS regulations set out the process by which collections can be entered to the European Register of Collections. Are you aware of the process and/or where you can find relevant information?

A single respondent was unaware of ABS regulation and unsure of where they could find relevant information (see Figure 7). The others (7 respondents) were either aware of both the process of registration and where they could find the relevant information or if they were unaware of the process knew where to find the available information.

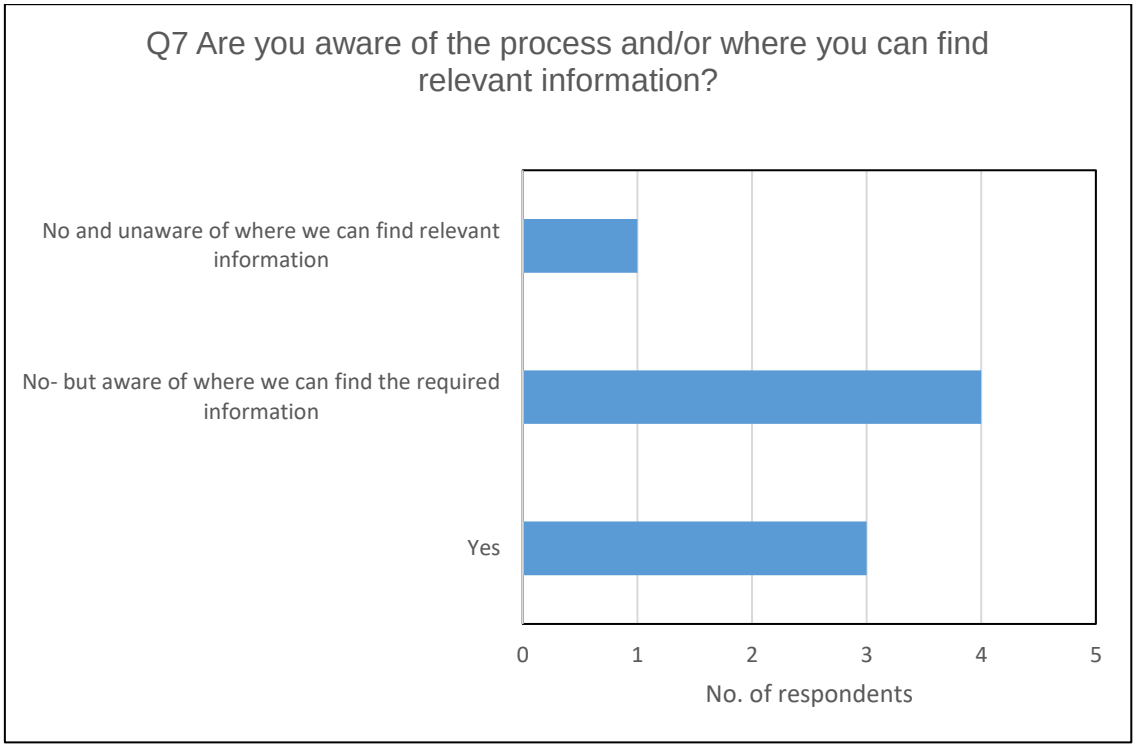

Figure 7 Collection staff responses on awareness of collection registration processes and relevant information

Q8 (Survey Monkey) Are you aware of the benefits of registering a collection? If yes, please detail which are important to you.

Respondents were less certain of the benefits of registering a collection: three respondents answered that they were aware of benefits of registering a collection but the majority of the respondents (5 responses, see Figure 8) were not aware of the benefits of collection registration.

Respondents were invited to comment on which benefits were important to them. The three respondents that commented, highlighted that visibility and competitiveness of collections (against unregistered collections) was important to them and others noted that registration provided reassurance that they were up to date with the regulations and ABS compliance. However, respondents also noted that choosing to register came with large responsibilities and that the responsibility would be on the collection to keep up with changes.

Some of the respondents that were advanced in registering collections did not indicate what benefits were important to them. It is therefore likely that awareness of benefits is greater than indicated.

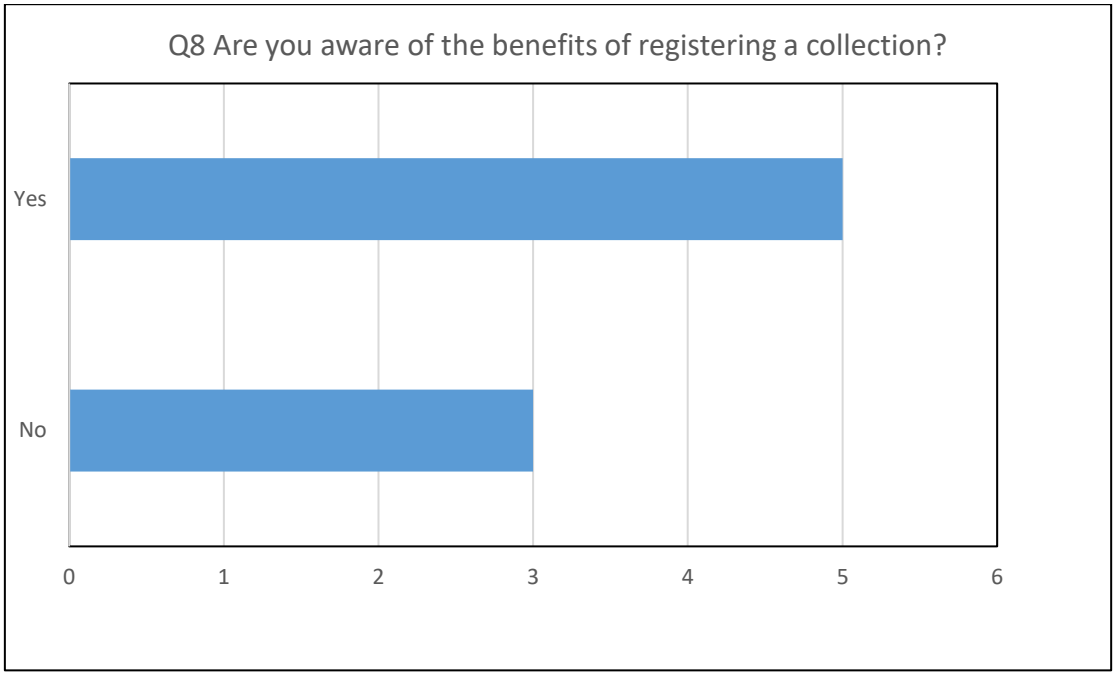

Figure 8 Collection staff responses on awareness of the benefits of registering a collection

Q9 (Survey Monkey) Have you started the process of registering all or part of your collection?

None of the collections who responded indicated that they were not intending to register all or part of their collection, although one respondent was undecided and provided a response to question 10 (see below, Figure 9). The responses were divided between those that had not started the process but were intending to register (4 responses); respondents that had started the process but were at an early stage (1 response) and those that were at an advanced stage of registering (1 response).

UK respondents, intending to register, were aware of the process and waiting for 2021 to be able to register in the UK. For these collections registration has been delayed by the UK leaving the European Union. Both the Scottish Association of Marine Science and the Marine Biological Association of the UK are intending to register.

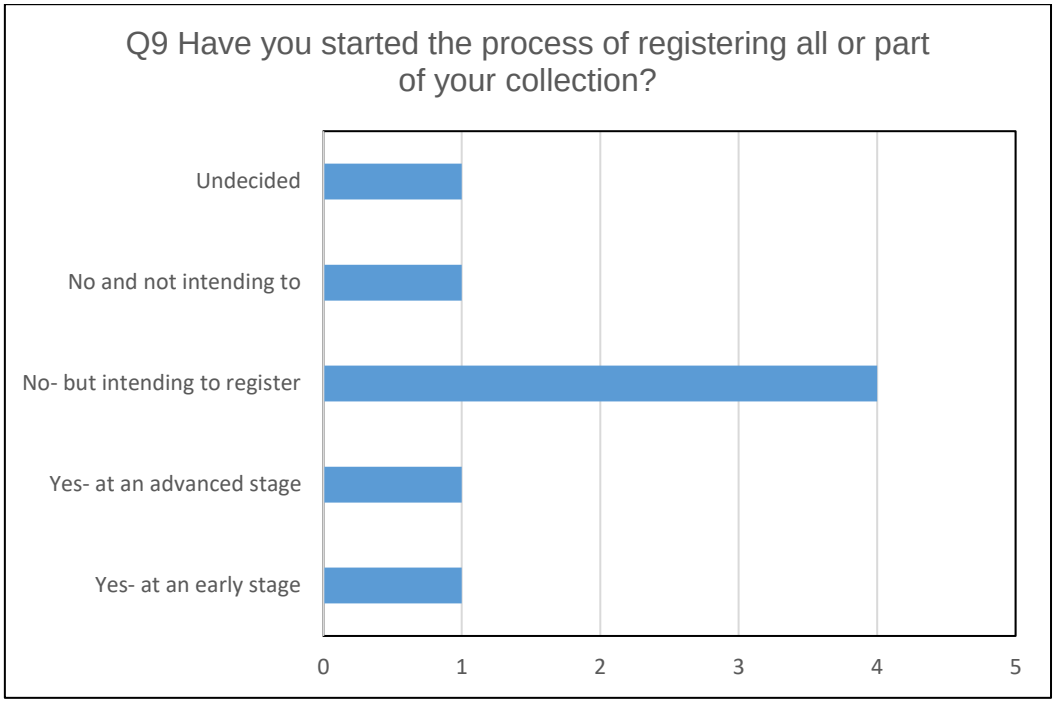

Figure 9 Collection staff responses on status of collection registration

Q10 (Survey Monkey) If you answered 'undecided' to the question above, please give reasons and indicate what information, resources or circumstances will determine the final decision for registry of your collection.

This question was only applicable to one respondent. They indicated that they don't think there are benefits for their collection in registering.

Conclusions and further actions

Summary of survey findings

The survey responses indicate that overall that resources within collections tended to be compliant and that institution staff had knowledge of EU ABS Regulations, how to register collection and/or where to find information to support collection registry. These indicate that there is not a knowledge bar to prevent registration, however, respondents were less certain of the benefits of registering a collection. A number of collections are in the process of registering or intend to register collections soon.

While there was a gap in respondents being aware of benefits of collection registration, this may be due to the lack of commercial supply of genetic

resources by some collections and by the awareness that the responsibility of taking on compliance was onerous.

Further Action

Collections were invited to the final general symposium. Presentations included a Work Package overview with an introduction to ABs and the Handbook. Amber Scholtz of the DSMZ presented an overview of implementing best practices and their experiences, as they have now been a registered collection for three years.

Contact will be made with collection managers to provide the completed EMBRC Best Practice Handbook, ABS Introduction Webinar and a training webinar on the EU Register of Collections, processes and requirements to register and retrospective compliance.