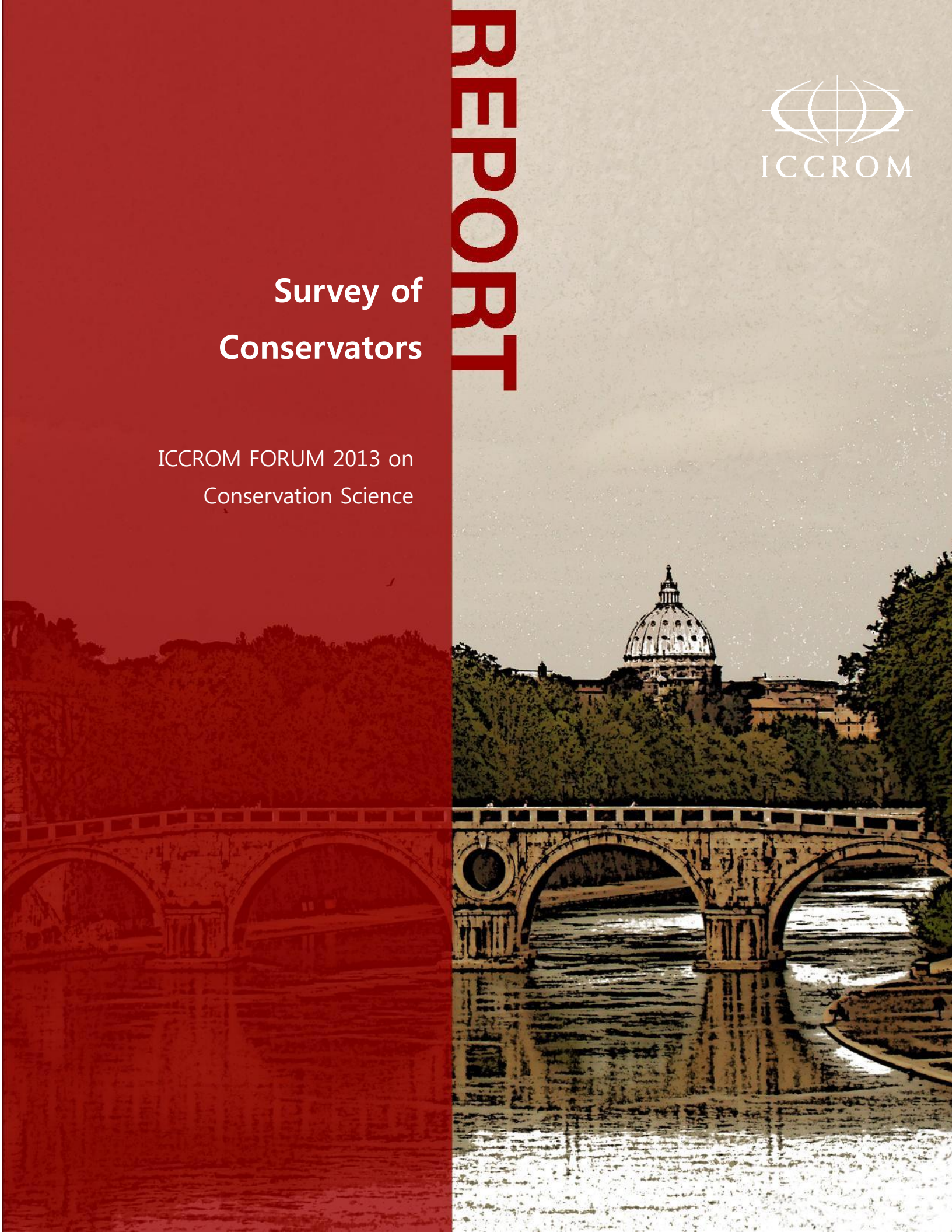
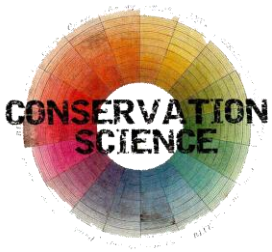
REPORT

ICCROM

Survey of Conservators

ICCROM FORUM 2013 on
Conservation Science





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Survey of Conservators

ICCROM FORUM 2013 on Conservation Science

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Acknowledgements

This online survey was undertaken by ICCROM between 13-27 September 2013, in preparation for the ICCROM Forum 2013 on Conservation Science. Thanks are due to all those who kindly took the time to fill in the online questionnaire; and to the members of the ICCROM Forum Consortium of partners who advised on the objectives and scope of the survey.

Introduction & Background

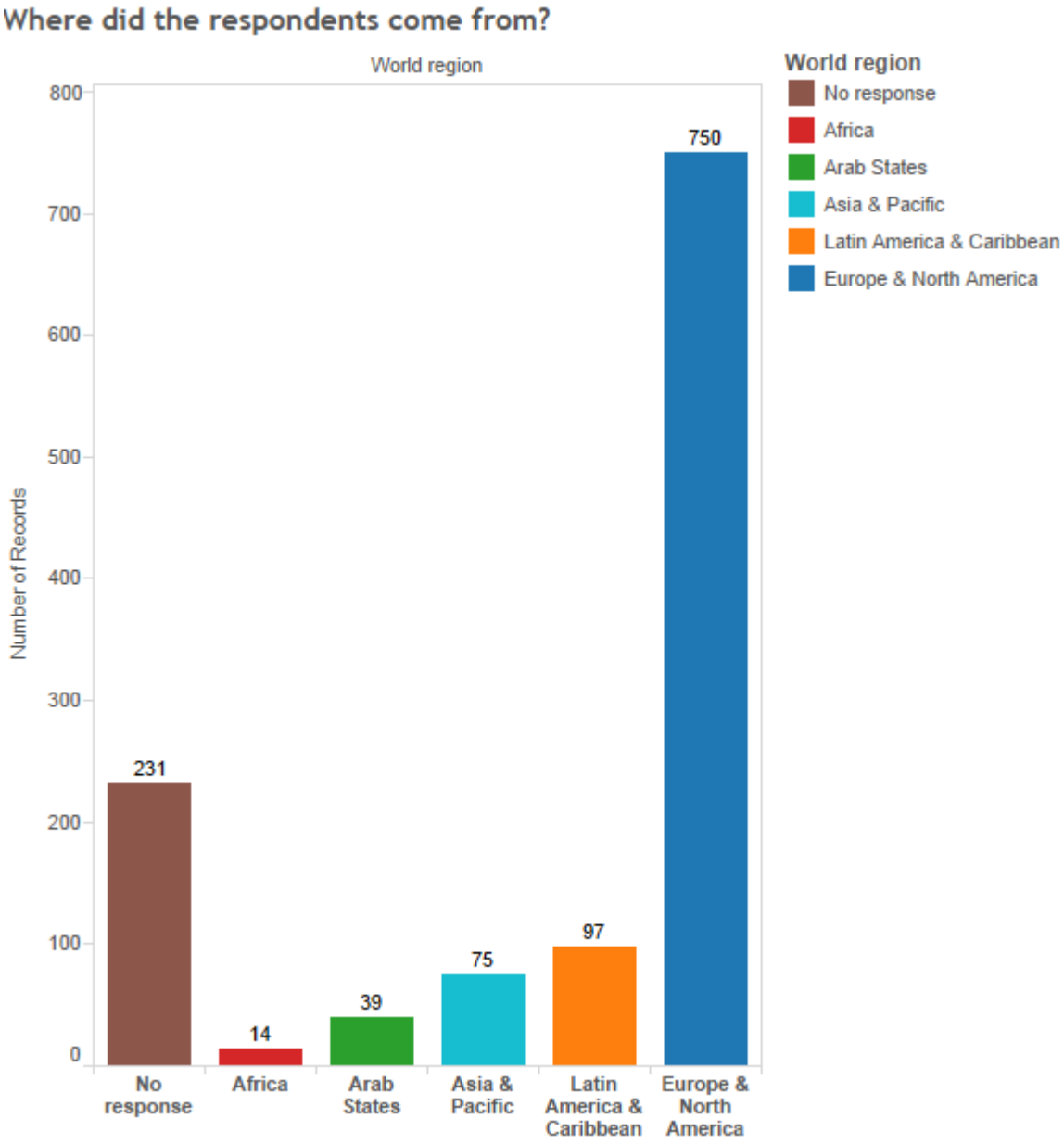
From 16 to 18 October, 80 leading conservation practitioners, scientists, educators and managers from around the world will meet in Rome to engage in critical discussions about how science should serve present and future cultural heritage conservation needs on a global scale.

To support the Forum discussions, ICCROM undertook an online survey of conservators worldwide regarding their access and use of scientific information and services.

The survey ran from 13 September to 07 October 2013. The number of respondents was 1210, from 68 countries (750 Europe and North America; 97 Latin America & the Caribbean; 75 Asia & the Pacific; 39 Arab States; 14 Africa – 231 no response). These are the preliminary results.

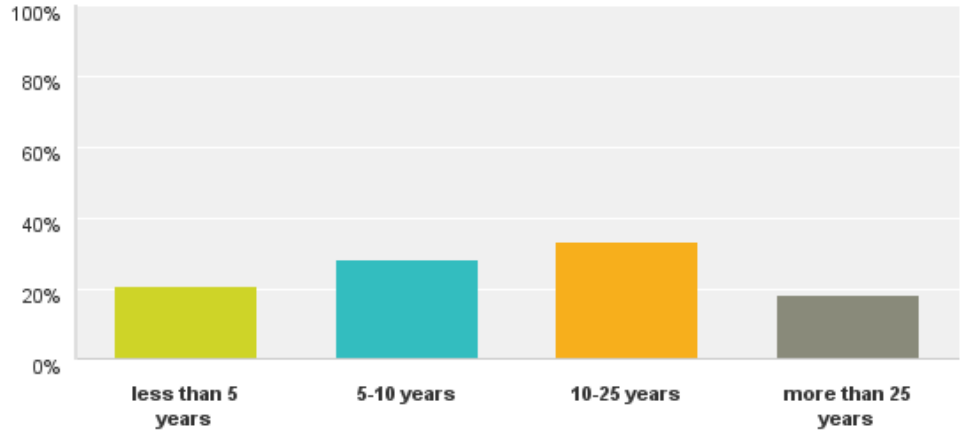
RESULTS

The graph below shows the geographical distribution of the respondents.



Q3 How long have you been in conservation practice?

Answered: 840 Skipped: 175

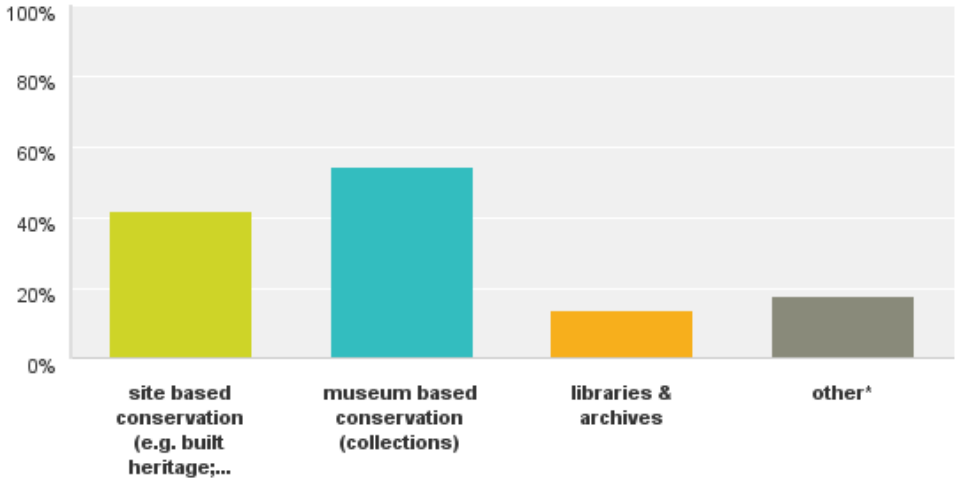


Q3. Table

less than 5 years	20% (197 responses)
5-10 years	27% (267 responses)
10-25 years	34% (335 responses)
more than 25 years	19% (191 responses)
Total Respondents	**990**

Q4 What area of cultural heritage conservation do you most typically work in?

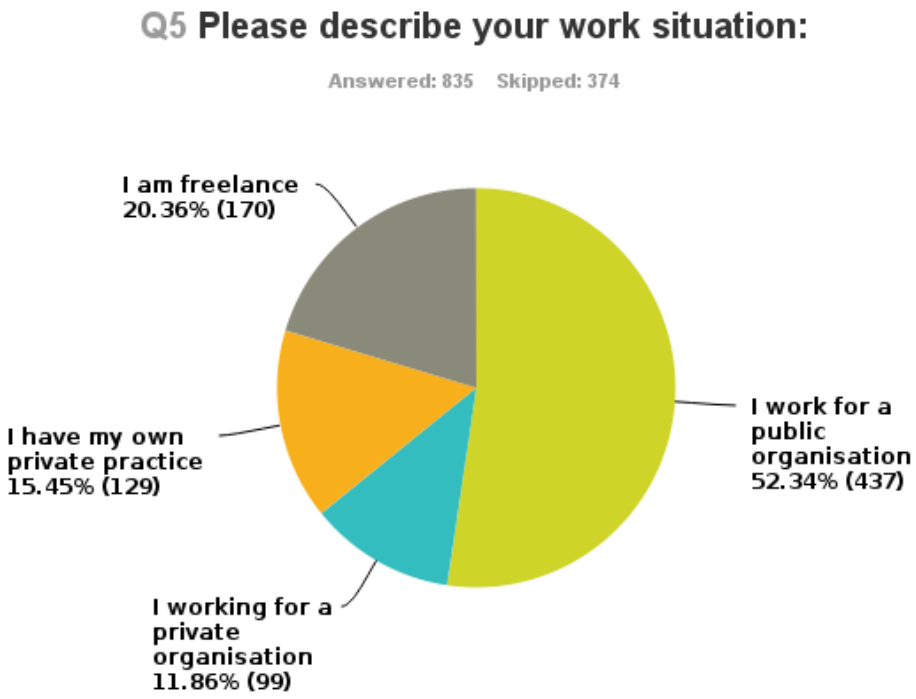
Answered: 840 Skipped: 175



Q4. Table

site based conservation (e.g. built heritage; archaeological sites)	43% (422 responses)
museum based conservation (collections)	55% (542 responses)
libraries & archives	14% (135 responses)
other*	18% (178 responses)
Total Respondents	**990**

*16 respondents say they work within conservation science and research. 25 say they work as teachers or with education.



Comments: 30 respondents say their work situation is a combination of the options in the question. 27 respondents say they are students.

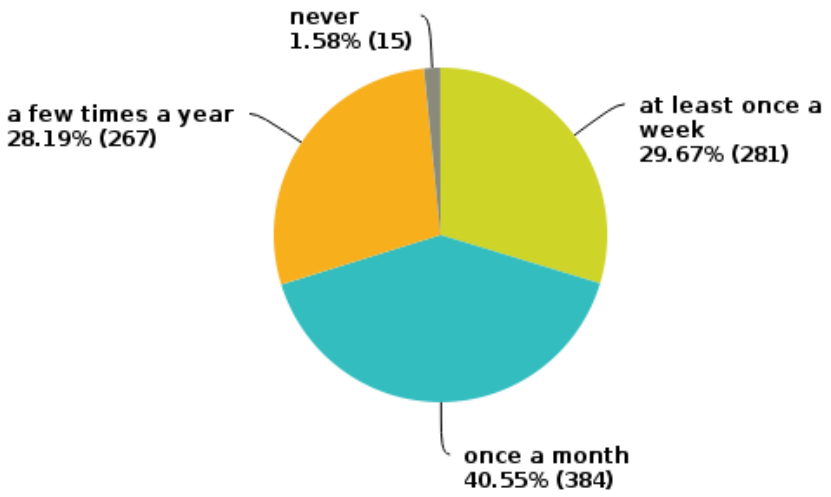
Q6. Where does the scientific knowledge that you use in your work come from? Rank the following sources in terms of your usage (where 1=highest) If a category does not apply to your case click N/A (not applicable)

- Answered: 946 Skipped: 263

	1	2	3	4	5	6	7	8	9	N/A	Total	Average Ranking
Academic training background	59% (561)	11% (102)	7% (64)	6% (53)	4% (37)	3% (27)	3% (25)	2% (20)	1% (13)	5% (44)	946	8.82
Suppliers of products	4% (41)	6% (61)	6% (53)	7% (67)	9% (89)	12% (117)	12% (110)	16% (148)	17% (158)	11% (102)	946	4.94
Internet general information sites (e.g. Wikipedia)	1% (12)	6.% (61)	7% (63)	8% (73)	6% (61)	11% (105)	14% (136)	18% (167)	19% (176)	10% (92)	946	4.65
Internet subject specific information sites	4% (37)	9% (85)	14% (138)	17% (158)	16% (154)	15% (146)	13% (123)	6% (56)	1% (12)	4% (37)	946	6.25
Internet subject specific chats and blogs with membership (e.g. ConsDistList, ICOM, LinkedIn)	1% (13)	4% (43)	8% (72)	9% (88)	14% (132)	15% (139)	15% (143)	13% (120)	11% (102)	10% (94)	946	5.08
Conservation science publications	13% (127)	24% (224)	17% (164)	15% (149)	10% (98)	9% (84)	5% (45)	2% (17)	1% (7)	3% (31)	946	7.53
Other science publications	1% (13)	4% (41)	7% (70)	9% (82)	14% (137)	14% (132)	16% (151)	16% (153)	11% (109)	6% (58)	946	4.95
Conferences/Seminars/Workshops	4% (43)	14% (136)	20% (189)	16% (148)	12% (118)	9% (82)	8% (80)	9% (83)	4% (36)	3% (31)	946	6.51
Direct exchange with conservation scientists	9% (89)	12% (182)	12% (119)	12% (111)	10% (97)	8% (77)	7% (69)	7% (68)	10% (98)	4% (36)	946	6

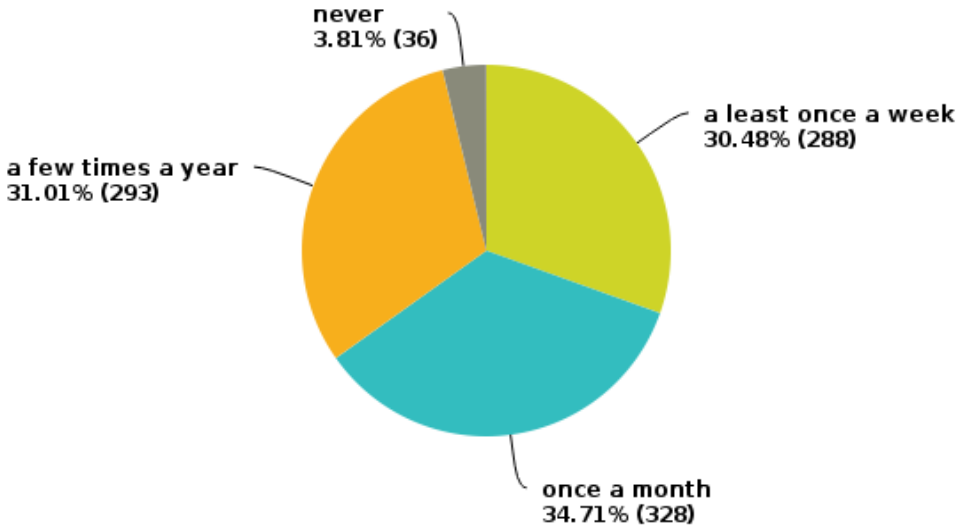
Q7 How often do you read an article from a peer-reviewed print journal?

Answered: 947 Skipped: 263



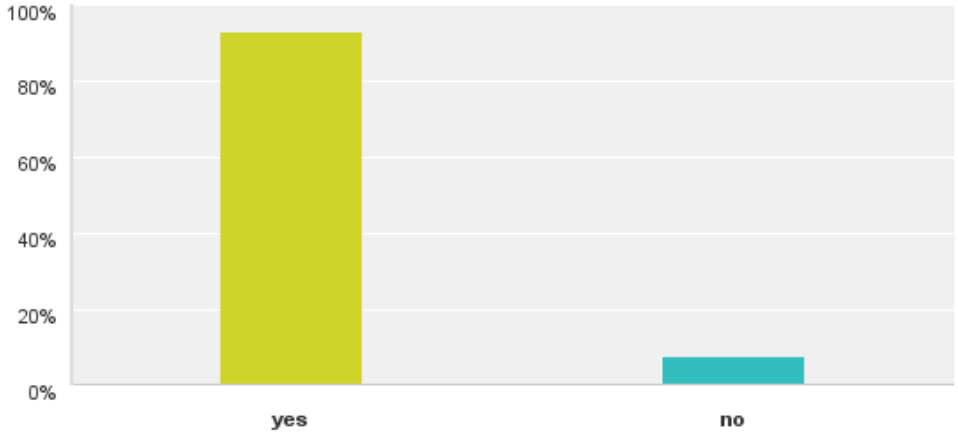
Q9 How often do you read an article from a peer-reviewed online open access journal?

Answered: 945 Skipped: 265



Q11 Have any of the scientific articles you read in the past 5 years influenced your work?

Answered: 942 Skipped: 268

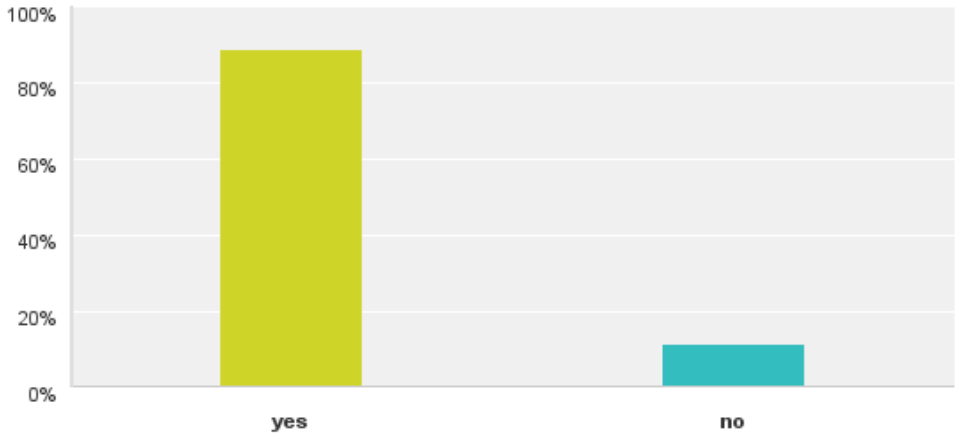


Q11. Table

yes	92% (872 responses)
no	7% (70 responses)
Total Respondents	**942**

Q12 Do you attend professional conferences ?

Answered: 942 Skipped: 268

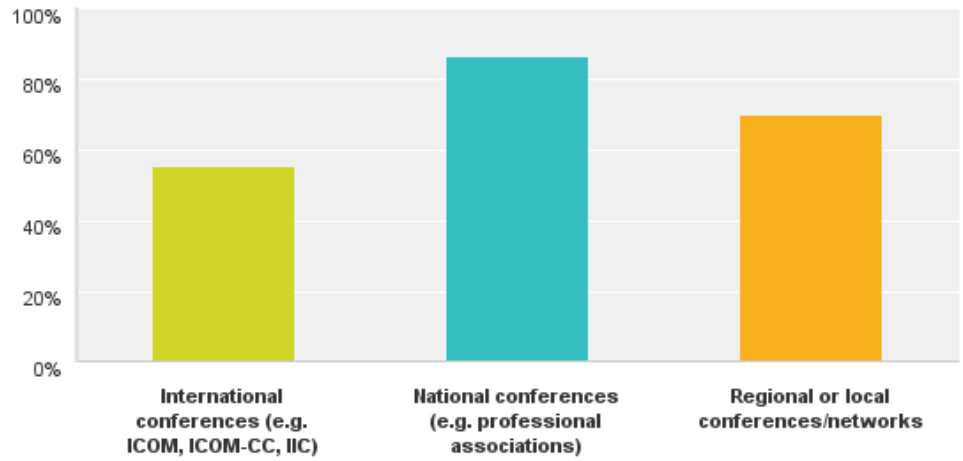


Q12. Table

yes	89% (836 responses)
no	11% (106 responses)
Total Respondents	**942**

Q13 Which professional conferences do you attend?

Answered: 825 Skipped: 385



Q13. Table

International conferences (e.g. ICOM, ICOM-CC, IIC)	55% (457 responses)
National conferences (e.g. professional associations)	86% (711 responses)
Regional or local conferences/networks	69% (574 responses)
Total Respondents	**825**

Q14. What are the main difficulties you encounter to updating your scientific knowledge? Rank the following in terms of your personal experience (where 1=highest difficulty) If a category does not apply to your case, click N/A (not applicable)

- Answered: 929 Skipped: 281

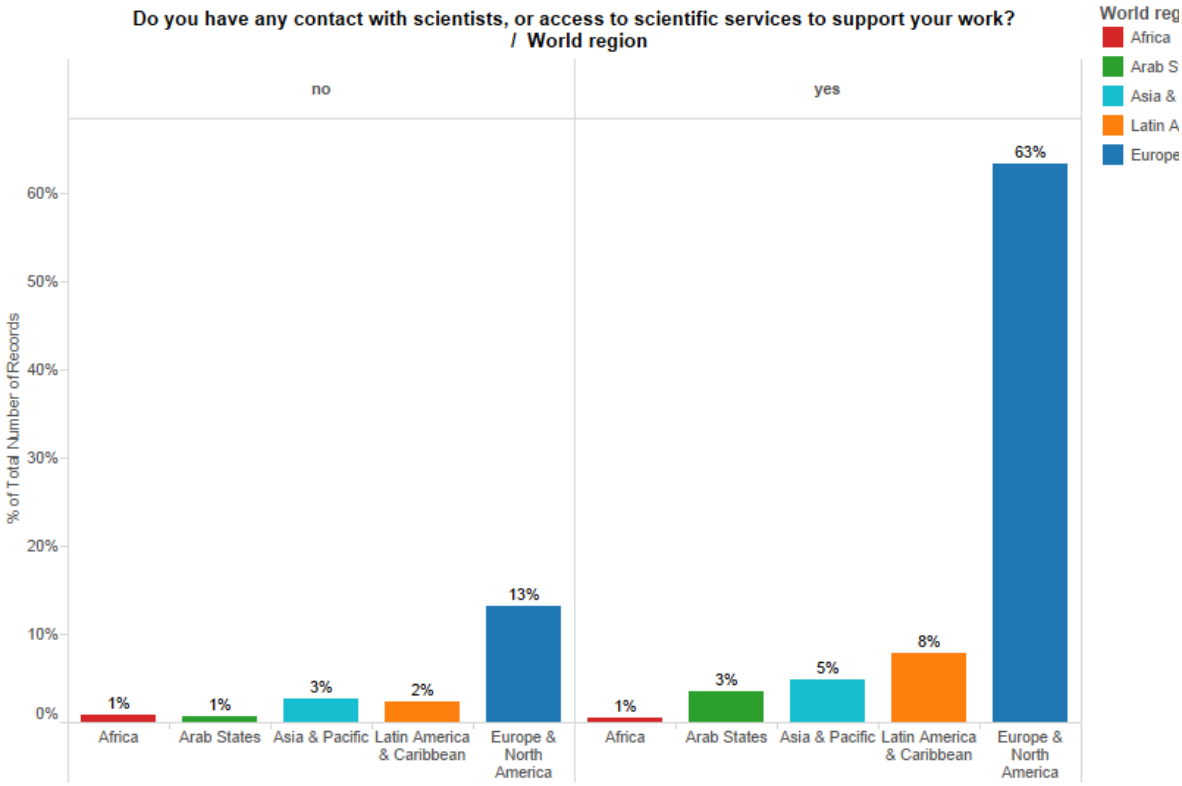
	1	2	3	4	5	6	7	8	9	N/A	Total	Average Ranking
No time to go to the library	20% (183)	11% (101)	12% (115)	7% (63)	5% (51)	6% (56)	4% (41)	6% (56)	9% (83)	19% (180)	929	6.92
Publications not available in library and too expensive to buy	30% (280)	27% (249)	12% (115)	7% (67)	4% (38)	4% (34)	2% (22)	2% (17)	1% (13)	10% (94)	929	8.37
Cannot freely access publications online	21% (197)	26% (246)	17% (163)	9% (86)	5% (50)	4% (35)	3% (30)	2% (20)	1% (13)	9% (89)	929	8.06
Don't know how to find specific information	3% (26)	5% (46)	10% (93)	15% (143)	10% (91)	6% (61)	7% (69)	7% (70)	9% (86)	26% (244)	929	5.73
Disappointed with scientific information provided	3% (32)	4% (39)	7% (69)	10% (95)	18% (172)	10% (95)	10% (93)	7% (70)	6% (52)	23% (212)	929	5.69
Scientific information not intelligible/useful	2% (21)	6% (52)	7% (68)	11% (106)	15% (143)	19% (181)	8% (76)	6% (58)	4% (34)	20% (190)	929	5.78
Not sure how to interpret scientific information	3% (32)	4% (41)	7% (62)	8% (73)	10% (95)	12% (117)	17% (156)	9% (88)	7% (63)	22% (202)	929	5.32
No access to specific courses	9% (82)	7% (65)	13% (119)	12% (115)	9% (80)	9% (84)	9% (84)	14% (132)	4% (40)	14% (128)	929	6.08
No access to individual scientists to ask for advice	6% (57)	6% (57)	8% (72)	10% (91)	8% (78)	8% (76)	10% (93)	10% (95)	16% (149)	17% (161)	929	5.34

Q15. Do you have any contact with scientists, or access to scientific services to support your work?

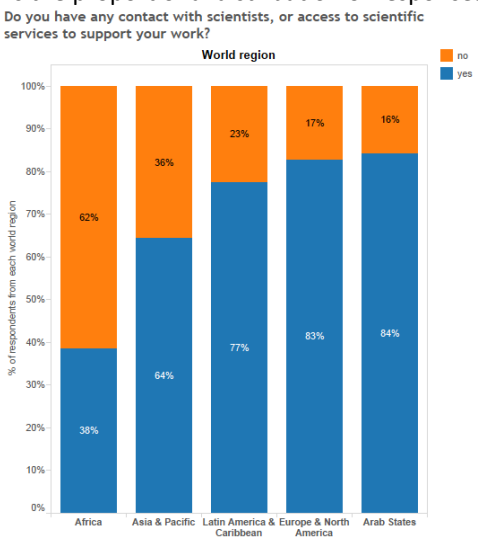
- Answered: 929 Skipped: 281

80% persons (745) respond “YES”, and 20% (184) “NO”.

The graph below shows the number of responses distributed by world region



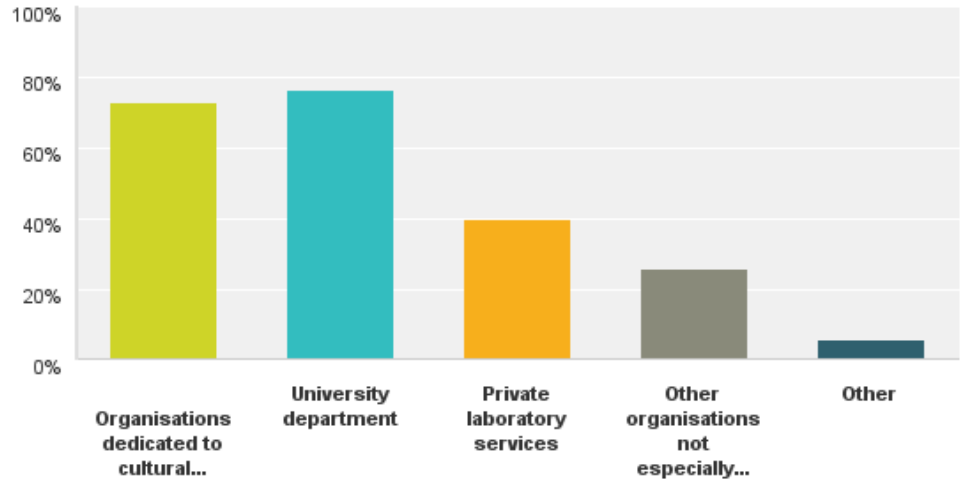
The graph below shows the proportional distribution of responses in each world region



Q15. Comments : 11 respondents comment on limited access, 3 say there is no time or the scientists have no time to help them, 13 say the contact is not enough. 14 respondents say they have contact with scientists but rarely. 12 respondents comment on the costs that are sometimes too high.

Q16 Describe where the scientist(s) you have contacted for advice work Tick as many as appropriate

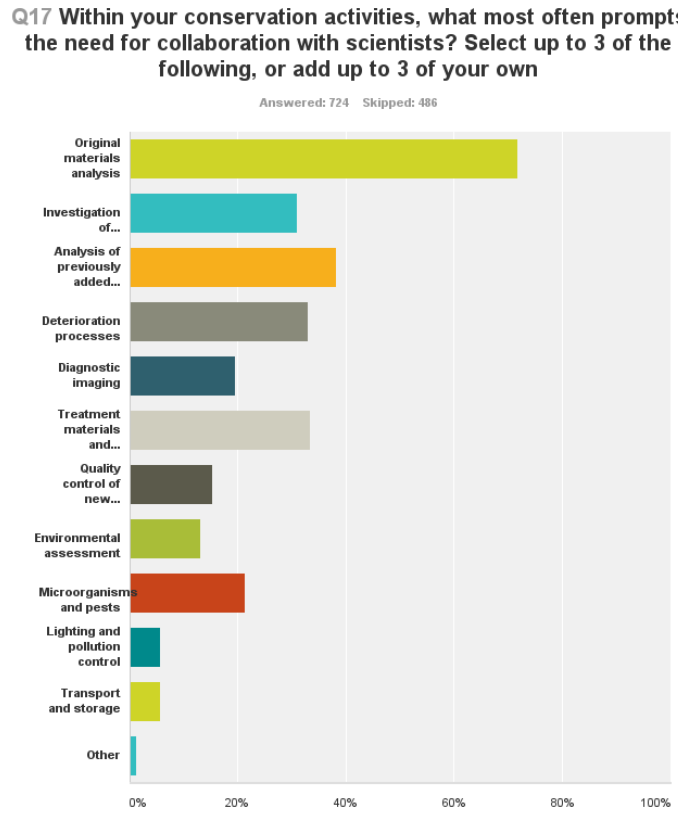
Answered: 724 Skipped: 486



Q16. Table

Organisations dedicated to cultural heritage	73% (527 responses)
University department	76% (552 responses)
Private laboratory services	39% (286 responses)
Other organisations not especially dedicated to cultural heritage	26% (186 responses)
Other*	6% (42 responses)
Total Respondents	**724**

*9 respondents say the scientists they have contacted are colleagues at their workplace, 5 specify that they contact museums and 6 respondents say they use their own private contacts or friends.



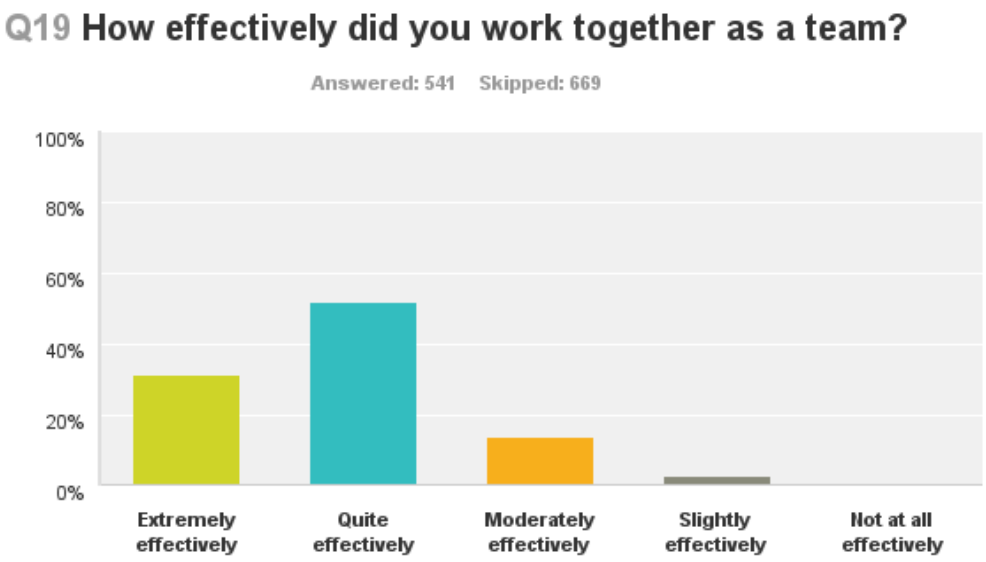
Q17. Table

Original materials analysis	71% (518 responses)
Investigation of attribution, dating, creative process, and other historic studies	31% (224 responses)
Analysis of previously added materials, or products of alteration	38% (277 responses)
Deterioration processes	33% (238 responses)
Diagnostic imaging	20% (142 responses)
Treatment materials and methodologies	33% (241 responses)
Quality control of new conservation products	15% (111 responses)
Environmental assessment	13% (95 responses)
Microorganisms and pests	21% (155 responses)
Lighting and pollution control	6% (41 responses)
Transport and storage	6% (42 responses)
Other	1% (10 responses)
Total Respondents	**724**

Q18. Have you worked together with scientists on the same project?

- Answered: 724 Skipped: 486

77% persons (555) respond “YES”, and 23% (169) “NO”.



Q19. Table

Extremely effectively	31% (169 responses)
Quite effectively	52% (279 responses)
Moderately effectively	14% (75 responses)
Slightly effectively	2% (14 responses)
Not at all effectively	<1% (3 responses)
Total respondents	**540**

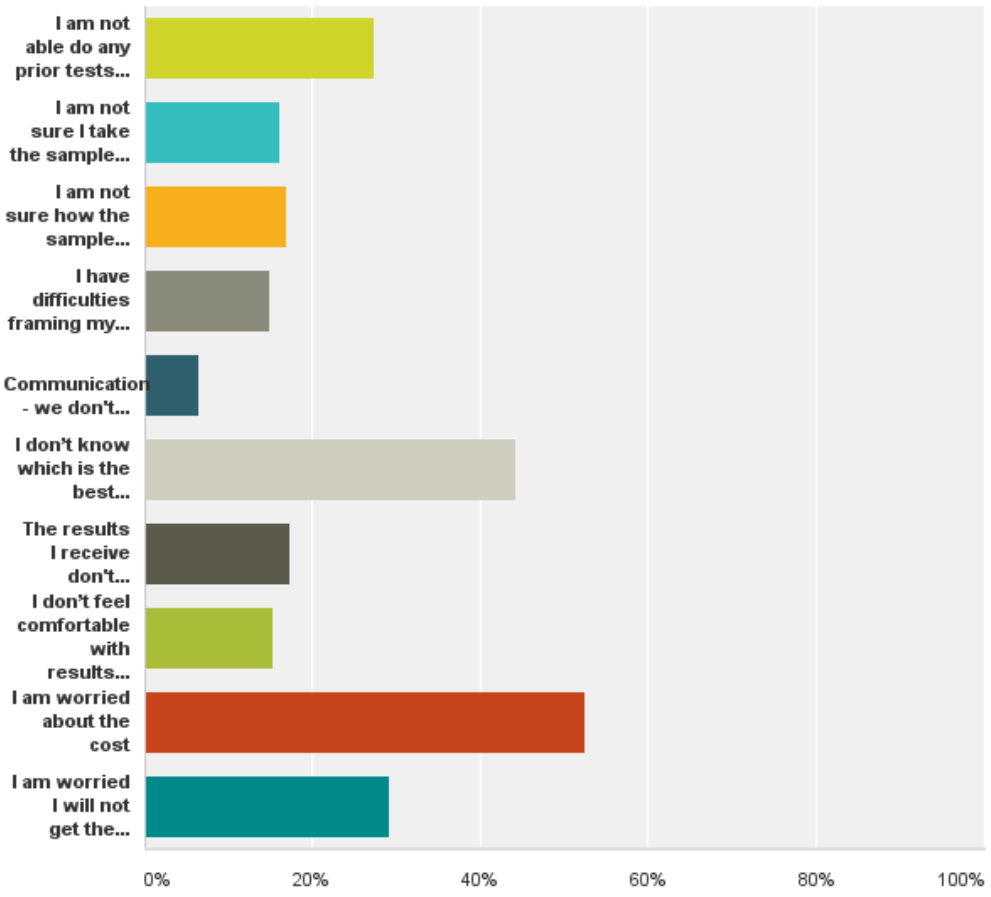
Q20. How would you qualify your interaction with scientists? Rank the following

- Answered: 695 Skipped: 514

	very poor	poor	moderate	good	extremely good	Total	Average Rating
Communication	1% (5)	5% (37)	20% (140)	54% (379)	19% (134)	695	3.86
Time to respond to requests	2% (18)	8% (58)	34% (236)	44% (307)	11% (76)	695	3.53
Time to get results	3% (24)	11% (79)	41% (283)	37% (258)	7% (51)	695	3.34
Efficiency	1% (7)	6% (39)	30% (206)	50% (348)	14% (95)	695	3.70
Peer relationships	1% (10)	4% (29)	28% (198)	51% (356)	15% (102)	695	3.74
Working together as a team	3% (19)	7% (46)	23% (162)	45% (315)	22% (153)	695	3.77

Q21 What issues concern you most when you ask for an analysis? Select up to 3 from the following

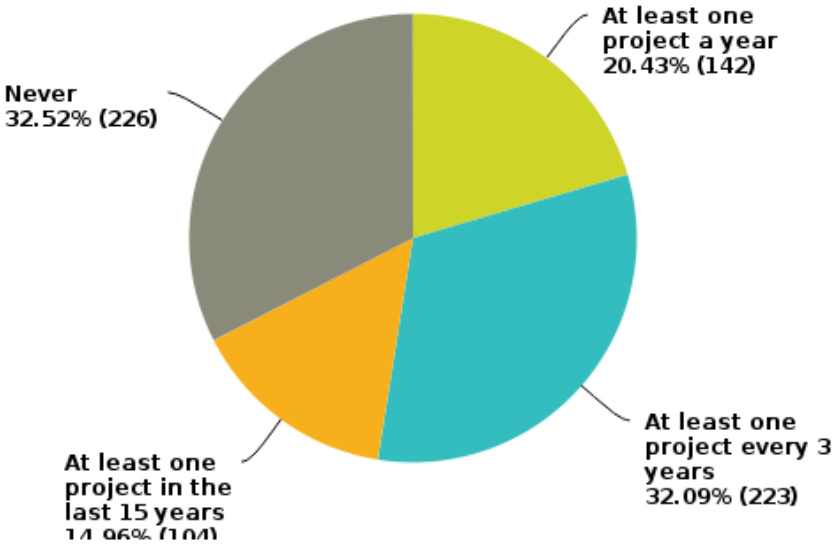
Answered: 696 Skipped: 514

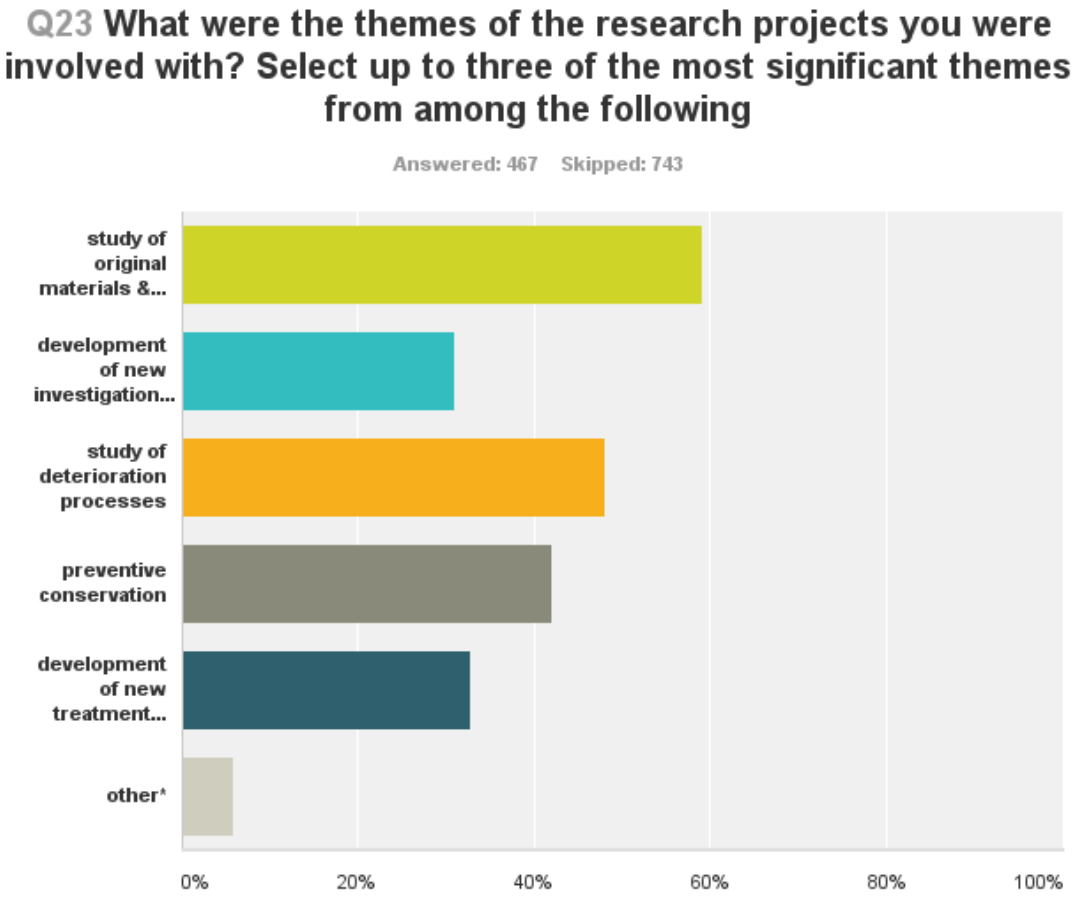


I am not able do any prior tests on my own	27% (191 responses)
I am not sure I take the sample in the proper way	16% (112 responses)
I am not sure how the sample should be treated before the analysis	17% (117 responses)
I have difficulties framing my research question	15% (104 responses)
Communication - we don't understand each other	6% (45 responses)
I don't know which is the best technique of analysis to use	44% (307 responses)
The results I receive don't respond to my questions	17% (120 responses)
I don't feel comfortable with results obtained - I am not sure they are what I need	15% (106 responses)
I am worried about the cost	52% (364 responses)
I am worried I will not get the results in time	29% (203 responses)
Total Respondents:	**695**

Q22 Have you ever been invited to be part of a research project team? Select among the following

Answered: 695 Skipped: 515



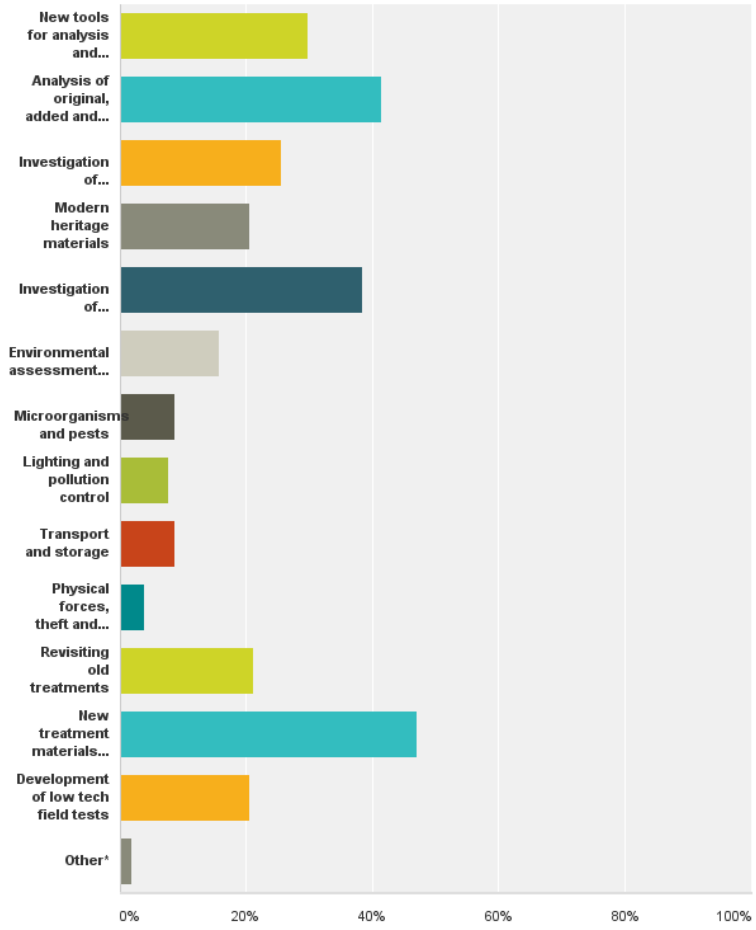


Q23. Table

study of original materials & techniques	59.10% (276 responses)
development of new investigation tools & methods	31% (145 responses)
study of deterioration processes	48% (224 responses)
preventive conservation	42% (196 responses)
development of new treatment materials and methods	33% (153 responses)
other*	6% (28 responses)
Total Respondents	**467**

Q24 If you were given the choice, what science research themes would you be more interested in? Select up to 3 from the following, or add up to 3 of your own!

Answered: 870 Skipped: 340



New tools for analysis and documentation	30% (259 responses)
Analysis of original, added and altered materials	41% (360 responses)
Investigation of attribution, dating, creative process, and other historic studies	26% (223 responses)
Modern heritage materials	20% (178 responses)
Investigation of deterioration processes	38% (333 responses)
Environmental assessment and control	16% (137 responses)
Microorganisms and pests	9% (75 responses)
Lighting and pollution control	8% (67 responses)
Transport and storage	9% (75 responses)
Physical forces, theft and vandalism	4% (34 responses)
Revisiting old treatments	21% (184 responses)
New treatment materials and methodologies	47% (408 responses)
Development of low tech field tests	20% (178 responses)
Other*	2% (17 responses)
Total Respondents:	870

Selection of comments that were submitted during the survey (Qus. 11, 20, 21 and 24)

- **Q11** The influence is often in-direct, a being aware of the 'bigger picture'; but sometimes there is a more direct influence (methods, materials, techniques)
- **Q20:** These results depend on the kind of "scientist" we're talking about. I've been working with conservation scientist not only physicists or chemists. When scientist does not have conservation experience or background, seems to be very hard to communicate with them, or it's not efficiently working along with them because they only see a little part of the problem, missing the whole "picture" which is, from my perspective the most important fact
- **Q20:** The main problem is that scientists who work out of the field of cultural heritage conservation deal mainly with analysis of new materials and don't have much experience about working with samples taken from deteriorated, aged objects.
- **Q21:** The museums I have worked for in Greece do not have labs for analysis. Time is very constraining. The procedure for sample analysis in Greece is very complicated: you have to apply for sampling, send your application to Athens, then it gets accepted, then you get the samples and send them to the one and only designated lab, which is often too busy and it takes ages before you receive results. You have no guidance through the whole procedure so I am not sure whether I frame the correct research question, whether I take the correct sample, I don't know what kind of analysis to suggest.
- **Q24:** developing low tech test methods without usage of analytical equipment is of utmost importance. Many work without any funding or access to any scientific labs.

Final comments

In total 214 comments were made. The comments were categorised according to their content, of which a selection (up to 5 in each category) is given below.

General interest in the survey (30 comments)

- It a good idea to run this survey. I wish that access to published papers in the conservation fields were more accessible.
- Me encantaria hablar ingles .Mi comentario es que es muy enriquecedor tener conbtacto con ustedes, nos parece ser tenidos en cuenta para el resto del mundo Aqui trabajamos en museos, siempre mirando para afuera.
- Thank you so much for this test! it was very interesting. In Perú we dont have proffesional in conservation but we work for love of arts!
- Thanks for doing this! ICCROM rocks.
- Thanks for inviting us to participate in this survey. It is highly positive for conservators to count on collaborative work with scientists, I hope this forum helps to find the way to foster these initiatives

Issues with the construction of the survey questions (16 comments)

- I found q12 difficult to answer. As a conservation manager who occasionally can take part in research projects my main issue is finding the time to do this and the justification, considering museum workloads and pressures.

- I found question 12 a difficult one to answer. Please let me know the results of the survey in due course. The experience I have to date of working with conservation scientists is good, and I need their services as a conservator operating in the private sector. I enjoy the science aspect to my work, and that interest reaches back to when I was at school (o and a levels - although my degree was in 'fine art').
- Question 19 has had no fitting answer for me, but I nevertheless needed to give one.
- Some of the questions which only allow 3 choices seem too limited for a preventive conservator with a naturally very wide remit and varied but consistent areas of interest.
- This input doesn't suit to the French situation. Conservators works for their own and scientific collaboration and research works seem to be very uneasy.

Financial constraints (15 comments)

- Money is THE problem most of the time
- As a self employed paint layer conservator in historic interiors we deal mostly with private owners. They often are not very enthusiastic to spend lots of money on research. However I always do try to get a certain amount of research done. Working together with government based institutions is often not possible because they are too busy. So if I want results within the scope of the project that often is difficult. recently i have been sending my samples to Germany. awareness for research and understanding of materials needs to be raised by private owners. It is a totally different world as a private conservator of historic interiors then when you are a paintings conservator of a museum or other institute.
- Conferences are too expensive to attend when taken in conjunction with travel and accommodation costs. Even one held at a local university was too expensive at £300 for two days. Why so elitist??
- …In Italy, good CONSERVATION/RESTORATION schools are usually very expensive (like the Venaria centre near Turin), and there aren't economical supports by the Government and International Organisations. …There are a lot of fantastic courses, workshops, conferences but usually students can have only a little reduction on the price.
- Freelance conservators need to have better support

Language barriers (11 comments)

- I hope it can help us do a better job and have access here most current scientific information and various versions (English, Spanish, French ....)
- difficulty with English..... many books and conférences are in english with no translation: it is a big difficulty for me....
- I prefer to speak in French. La langue est un vrai problème. Les articles sont souvent en anglais. (Je n'ai pas le temps de passer plusieurs heures à traduire). Les colloques sont aussi un problème. Quand on y est on est pas dans notre atelier. Donc ce sont des frais d'hébergement, inscription et ce sont des journées sans production... C'est compliqué à gérer quand on est indépendant.
- The science of conservation is not well developed in Brazil. One of the difficulties to access updated information on Brazil is the language barrier, a problem that was not considered in the questionnaire, but it is probably one of the main problems in developing countries.
- would be nice if the survey could be in other languages to expand the survey

Access to information and services (8 comments)

- As freelance conservator it's very hard to find answers to practical questions and I feel very isolated when I have a problem to cope with.
- Conservation science dissemination is too closely tied to Institutional bases. As private researchers and practitioners we have almost no access to research materials or funding for research projects. Essentially our participation means we contribute our valuable acquired experience free and/or in our free time. I take days off to go to the library to try and keep up to date. Private individuals never have access to financial assistance to go to conferences which become part of a closed club, an institutional merry-go-round.
- Please analyze my answers in special perspective of Pakistan where a professional conservator has a lot of problems in his professional activities. These include hindrances in participation in international conferences due to visa issues, membership of international conservation organizations due to very high membership fee, money transaction issues due to terrorism etc.
- Conservation can not survive without science researches but most of the third world countries do conservation with out science researches.
- I´d like to learn different conservation techniques for every object or material, but in my country is a little difficult, because there is no a place to practice or learn about this techniques... but the internet publications are a good first step to make it!!

Training needs (18 comments)

- Conservators from Southeast Asia are not trained in deep in conservation science so that we are lack of skill in conservation practiced. All most our skill are gathered from older colleagues and some international workshop. The books of conservation are in English, but our English is limited, that is reason why we can not update the conservation knowledge in over all the world. We would like ICCROM provide to conservator in Southeast Asia the intensive conservation courses in each material to improve our skill. Thanks!
- Conservation science curriculum should be developed and be encouraged in developing countries.
- More webinars and long distance courses would be great!
- A suggestion would be a closer training programs for conservators and scientist.
- In my opinion science really works a huge role in conservation, the problem is that most times scientific education and practice during the university study is not connected with conservation and is an independent study. It is very important that the science was attached during the conservation teaching and practice.

Knowledge Dissemination (9 comments)

- I find that many scientific publications do not meet the needs and questions of conservators. They do not seem to be interested in being useful to heritage preservation and answer to practical issues.
- Please, share free publications.
- Public national libraries usually don't have specialised publications and magazines, and usually they are too expensive to buy or to subscribe! The ICCROM Library in Rome is an exception and a fantastic treasure for me. The on-line forums and Lists like the ConsDistList are always difficult to use if someone is searching something specific…
- Lots of knowledge is gathered by specialists but not very generously shared with colleagues.
- I regret the waste of all information all around the world because of the lack of an unique online database

Contact, collaboration and dialogue (17 comments)

- Conservation Science seems to be a kind of bridge between two banks: On one side, the conservation training and "sensibility" about heritage values for scientist and on the other hand, scientific tools and methodologies for conservators. Following the metaphor, that's why I thought Conservation Science is a core issue and a necessity to achieve a real interdisciplinary practice on the field, not only a "question-answer" play. I also think that without science there is no viable conservation, as there is no conservation at all without the understanding of these materials under the scope of the heritage significance.
- My main observation as a site based conservator is the wide gap between the science research and the practical application / relevance to site - this is compounded by the lack of funding for research within conservation projects where the client has a minimal budget.
- I am unhappy with the blanket term 'conservation science'. We are seeking to answer questions - should we get so hung up on the methods we use to answer these questions. I would make a plea for better communication between parties. Perhaps a sociological survey of boundary disputes would be useful. Sometimes 'non-destructive testing' and all the kit and constraints this involves is not appropriate - especially in building conservation where alterations/demolitions are made to sustain the future use of the site. Could we re-examine sampling protocols - in context.
- Interdisciplinary is necessary for conservators and conservation scientists, but it must be a dialog, everybody has to feel as part of a project
- Years ago it happened to me to hear some "conservation scientists" declaring that archaeology and art history are not sciences. This probably reflects an attitude of approaching conservation with a magnifying lens and not with a holistic view. That means to overtreat a square millimeter of material without understanding the meaning of the heritage and the mechanisms of its future conservation. This also reflects the structures of the allocation of resources in actual conservation and the resulting general state of poor preservation of monuments and sites.

Recognition of conservation skills and knowledge (4 comments)

- What I feel is often the case within the conservation community today is an equal attention to the development of manual skills within conservators. It is as if we are putting all our efforts in the conservation science and forget the manual dexterity. A balance between the two should be the aim.
- In Greece conservators are mainly treated as technicians. You are just asked to "fix", "clean" and "glue" things. There is usually no time for scientific work and the archaeologists, who are either the head of the institutes, or even the head of the conservation department (!!!!) do not understand the scientific work a conservator could do if they were given freedom of acts. The conservation labs are most times very poorly equipped and there is no space, equipment or time for research. There is no access to knowledge-it is not easy to find conservation books or papers in libraries (perhaps only in Athens, and it is not easy to travel there).
- The questionnaire does not take into account the fact that the quality of a working relationship with whoever is not based only on skills, but above all on trust and mutual respect. In France, most scientists are issued from university with a PhD, and have not sufficiently account for the conservators only having their level of Master II. In addition, they have not enough training in art or old manufacturing technologies, and are often "blind" to anything that may be a cultural artifact, not through scientific instruments or vision.
- Conservators must be taken more seriously by the science field!

Lack of resources (trained professionals, tools and equipment, time) (14 comments)

- Mostly I just wish we had a scientist on staff. There are too many questions and opportunities for research, but not the expertise or the money to take them on.
- We have a lack of conservation scientists in France, at least professionals with a conservator's background who would understand conservation issues and be able to SEE and interpret what they see on the object in order to adapt their research of the objects!
- In my opinion in Poland it is important to encourage private laboratories to provide practitioners with easier access to specialists, laboratory tests with lower costs and faster than in university departments. Or make the universities more accessible.
- I have established the first ever Department of Conservation Studies in Pakistan, where Higher Studies including Ph.D are taught. To fulfill the practical need of the students, I have just established an ''Archaeological Teaching Conservation and Research Laboratory', the building is to be completed by the end of October 2013. However, I am in search of equipment, conservation materials, glassware, chemicals, books and research Journals for the same.
- With regards to access to scientific studies, it is not access that is the issue, but finding time to access the studies/publications.

Support and interest from governments (3 comments)

- As national governments propose to take an interest in conservation issues?
- La destruction partielle de la structure d'assistance des laboratoires publics pour le patrimoine protégé a mis entre parenthèse les études ponctuelles et locales pour lesquelles les indépendants praticiens que nous sommes pouvaient oeuvrer dans un rapport de proximité entre scientifiques de terrain et usagers et propriétaires. Les services Monuments Historiques ne sont maintenant qu'associés à d'autres labos, européens si possibles, sous la tutelle d'un temps fortement dilaté pour une mise au point de problématiques toujours intéressantes mais trop peu nombreuses. La multiplicité des chantiers vus, même avec des protocoles quelquefois trop souples, conférait à ces scientifiques une culture vaste, intuitive et statistiquement valable au regard du nombre de cas. Les services privés des labos sont trop chers pour la plupart des commanditaires qui se ferment comme des huîtres quand on évoque l'intérêt indéniable de leur présence sur les chantiers. C'est une lutte incessante, qui conduit à admettre les dépenses pour la connaissance de l'objet (techno, histoire) au détriment des problématiques sur les processus d'altérations encore trop peu nuancés et les réponses en conservation sur le long terme. De quoi alimenter aussi le bon sens!

Other comments

- More research is needed in conservation. Research that makes a difference.
- It would be interested to define a sort of "career path" for a Conservation Scientist with a similar training, timetable and knowledge to assist in breaking the cycle where jobseekers are unable to get a job without experience, either as new entrants to the labour market after education or training or as unemployed workers wishing to learn new skills.
- It would be useful to set up science hubs (may be on a regional level?) that would support smaller museums and freelance conservators, it can be done in collaboration with universities or with science departments in larger (national) museums.
- As a private conservator, clients most of the time do not want to invest in testing and research - this is all done on our own cost. Not having an institution in our back, and without funding, most of us conservators in private practice are not on the radar of researchers and therefore hardly ever included in research teams even though many of us would love to do more research.