Florida Museum of Natural History
The FOSSIL Community
Post-Conference Survey Report

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Executive Summary

This report summarizes the data from an online web survey related to the FOSSIL project. The survey invitation was sent to professional and amateur paleontologists who participated in the 2014 North American Paleontological Conference (NAPC) and FOSSIL project activities (Monday symposium, Tuesday lunch, Wednesday workshop, and Wednesday reception) in Gainesville, Florida in February.

Overall, participants felt welcomed at the NAPC and the FOSSIL Project Activities, and those activities exceeded participant expectations.

Attendees to the conference and FOSSIL project activities had few expectations coming into the events, so their expectations were met or exceeded. They felt welcome within the community, participated in most sessions, and the large majority of the participants said the conference and FOSSIL activities were relevant and useful. The most useful sessions held that week¹ were about education and community outreach, followed by FOSSIL workshop sessions and the NAPC academic sessions about a specific topic.

The combined activities provided a valuable opportunity for networking. This group made productive use of the time networking, with at the time of the survey more than three out of four had already followed up with someone they had met while attending the combined activities. Despite this strong networking outcome, one emergent comment was that the sessions could have been even more relevant if there was more time and support for networking. Participants indicated they felt comfortable in contacting both amateurs and professionals from the meeting.

¹ Although this question asked specifically about the utility of sessions during the conference, responses included items from the conference, the symposium, and the workshop.
**Community Outreach as the next step for participants.** Just as attendees found the community sessions most useful, community outreach was listed by the attendees as the most common thing they would do differently based on their attendance at the combined activities. The overall set of events spurred ideas about different types of content, activities, and partnerships the clubs might undertake in the future.

**Amateurs and professionals continue to have relationship concerns, but developing better relations is one of their main hopes for outcomes of the project.** Amateurs believe that professionals would benefit by the increased access to specimens, as well as the improved relationships between professional and amateur groups. This collaboration was a key interest, as participants named it as the number one benefit to amateurs. Even while the amateurs stated these relationships were the top benefit of participation, their top concern was building trust and relationships between these two groups. As we heard articulated in the symposium itself, the lack of trust between amateur and professional groups causes significant tension. Further comments show there is a core level of respect from and for both amateurs and professionals, at least among the bulk of those participating at this point.

**Despite their uneven previous experiences in amateur-professional endeavors, after attending participants indicated their intention to participate in FOSSIL.**

**Participants hope myFOSSIL focuses on connections between amateurs and amateurs and professionals, and provides them with concrete activities.** Within the survey, participants were asked a series of questions about activities they would prefer to be hosted on myFOSSIL. The ratings and comments are rich, and we encourage the team to read the full results closely. The table below reflects the activities across categories that the majority of participants said were a priority for them in their use of myFOSSIL. While we rarely include tables in executive summaries, we feel this table is worthwhile as the
development of myFOSSIL is rapidly under way. Collaboration and training received high interest for participation.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Professional paleontologists reaching out to amateur paleontologists and fossil clubs/societies</td>
<td>95%</td>
</tr>
<tr>
<td>Collaborating with other amateurs or professionals</td>
<td>90%</td>
</tr>
<tr>
<td>Contributing to fossil digitization / doing citizen science</td>
<td>78%</td>
</tr>
<tr>
<td>Training sessions, webinars, and talks for professional development</td>
<td>78%</td>
</tr>
<tr>
<td>Amateur paleontologists sharing their expertise and accomplishments with professional paleontologists</td>
<td>78%</td>
</tr>
<tr>
<td>Digitizing fossils and adding information</td>
<td>76%</td>
</tr>
<tr>
<td>Discovering information about fossil clubs and professional paleontologists</td>
<td>68%</td>
</tr>
<tr>
<td>Participating in webinars or workshops about a variety of topics, such as safety training, outreach, liability, helping produce and sell publications, etc.</td>
<td>65%</td>
</tr>
<tr>
<td>Photo gallery of fossils</td>
<td>61%</td>
</tr>
<tr>
<td>Learning how to teach effectively about paleontology</td>
<td>55%</td>
</tr>
<tr>
<td>Creating online fossil collections</td>
<td>53%</td>
</tr>
<tr>
<td>Being able to read scientific paleontological content online</td>
<td>53%</td>
</tr>
<tr>
<td>Participating in a Master Paleontologist program</td>
<td>50%</td>
</tr>
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</table>

In conclusion, the survey shows that participants were interested and committed to participating in FOSSIL, even as they were tentative whether the team would be able to win significant support from professional paleontologists. While the amateurs indicated they would participate, they still show signs of a “wait and see” attitude, wanting to see what elements of myFOSSIL activities the FOSSIL team is able to deliver.
INTRODUCTION AND PROJECT BACKGROUND

The FOSSIL project is building a networked community in which fossil clubs and professional paleontologists collaborate in learning, science, and outreach. Based at the Florida Museum of Natural History, on the University of Florida campus, the FOSSIL project is cultivating a networked community of practice in which fossil club members and professional paleontologists collaborate in learning, the practice of science, and outreach. Mediated through online resources and annual meetings, FOSSIL aims to enhance communication between fossil club members and professional paleontologists, engage club members in training and development, allow club members to attend meetings and workshops, and conduct K-12 outreach to underserved audiences. FOSSIL also will facilitate club members’ contribution and access to the growing digitized collections in U.S. natural history museums, and help them create and share personal digitized fossil collections.

METHODS

An email invitation to a web survey was sent to professional and amateur paleontologists who participated in the North American Paleontological Conference (NAPC) and FOSSIL project activities (Monday symposium, Tuesday lunch, Wednesday workshop, and Wednesday reception) in Gainesville, Florida in February 2014. The initial invitation was sent a few weeks after the conference and FOSSIL activities, with a reminder email sent a couple weeks after the initial invitation. A total of 33 of 40 invited amateurs participated, and seven of nine professionals.

SAMPLE

Of those who filled out the online survey, 33 (82%) considered themselves amateur paleontologists and 7 (18%) considered themselves professional paleontologists. A little more than three quarters (77%) of the amateur paleontologists had previously worked with professional paleontologists, while all (100%) of the professional paleontologists had previously worked with amateur paleontologists. Almost three quarters of the respondents were male, and the majority (92%) were White/Caucasian.
FINDINGS: Conference and Symposium

OVERALL NAPC CONFERENCE

Those invited to participate in the Symposium were also invited to take part in both the larger North American Paleontological Conference (NAPC); most of the respondents took part in these opportunities (see Table 1). The majority of respondents took part in each of the four available activities from the symposium on Monday to the reception on Wednesday, which was held immediately after the workshop.

Table 1: Participation in Activities (n=40)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>n</th>
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<tbody>
<tr>
<td>Monday Symposium</td>
<td>100%</td>
<td>40</td>
</tr>
<tr>
<td>Tuesday Lunch</td>
<td>88%</td>
<td>35</td>
</tr>
<tr>
<td>Wednesday Workshop</td>
<td>93%</td>
<td>37</td>
</tr>
<tr>
<td>Wednesday Reception</td>
<td>83%</td>
<td>33</td>
</tr>
</tbody>
</table>

FOSSIL participants reported that their expectations for the NAPC Conference were met or exceeded, with 85% rating the symposium at a 6 or 7 on a scale of 1-7 (see Figure 1). FOSSIL participants reported that their expectations for the NAPC Conference were met or exceeded, with 87% of the amateurs rating the symposium at a 6 or 7 on a scale of 1-7 (see Figure 1). All of the professionals rated the conference a 7.

Figure 1: Expectations of Amateur Attendees (n=32)
We asked attendees an open-ended question to further explain why the conference had met or not met their expectations (See Table 2).

**Table 2: Expectations of Attendees (n=32)**

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informative/Educational</td>
<td>28%</td>
<td>9</td>
</tr>
<tr>
<td>Had no expectations/First time conference attendee</td>
<td>28%</td>
<td>9</td>
</tr>
<tr>
<td>Conference was well-run/organized</td>
<td>25%</td>
<td>8</td>
</tr>
<tr>
<td>Conference was inclusive for Professionals and Amateurs</td>
<td>19%</td>
<td>6</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>19%</td>
<td>6</td>
</tr>
<tr>
<td>Opportunities for Networking</td>
<td>12%</td>
<td>4</td>
</tr>
</tbody>
</table>

*Percentages will not add to 100% because some respondents gave multiple answers.

When asked more specifically why they gave the rating for the previous question, 28% of respondents (n=9) mentioned the informative nature of the conference or that they learned something while attending.

*Expected a highly informative meeting which is what I got.*

*I learned what resources will be available as part of FOSSIL.*

*I did not know what to expect never been to a conference but once I got into the activities it was a great learning experience.*

Another 28% of respondents (n=9), all amateurs, either had no expectations before arriving at the conference, or it was their first time attending a conference.

*I actually had very few expectations for the conference itself. I had never been to an NAPC conference and several professional paleontologists I knew didn’t even realize that NAPC was going on so I assumed it was some rinky dink conference that real paleontologists didn’t care about. I was going for the FOSSIL project.*

*I didn't know what to expect. I was truly impressed on how engaging everyone was, how much opinions mattered, and how organized the meeting was.*

*I had no expectations that I'm aware of. If I did, then I guess the expectations*
A quarter of respondents (25%, n=8) said part of their satisfaction was due to the organization of the conference.

*It was well run and the facility made things very efficient. There were lots of opportunities for networking and the talk were outstanding.*

*As a paleontologist, I have attended many NAPC meetings, and I thought this one was well-run with several really good sessions.*

*In light of weather issues, the conference organizers did a fantastic job in adjusting and making things work.*

Almost one in five (19%, n=6) felt the conference was inclusive for both professional and amateur paleontologists.

*I felt it was a wonderfully inclusive meeting since the amateur community also participated.*

*Pro-avocational atmosphere was great, but there was still a very anti-commercial vibe so I still felt a bit of an outsider. Overall, the conference exceeded my expectations with some room for improvement.*

*It was a first for amateur/avocationals to be invited to join in and to be able to present.*

Another 19% of respondents (n=6) made miscellaneous comments that did not fit into any of these categories.

*All was good except for in-depth ideas/help directly involved with club operations, especially legalities and governmental obligations. Incorp., tax-exempt, etc.*

*I was surprised not to have gotten a list of the professional paleontologists that attended. Some of the attendees appeared to be peddling their wares. I signed up for myFossil then was unable to find it again online. I can see the facebook page which is great.*

*The conference staff was unable to help me find materials I shipped to them until just before the workshop. Otherwise, it was great.*

*More invertebrate sessions than vertebrate.*
And 12% of respondents (n=4) mentioned that there were good opportunities to network with other paleontologists.

_It was much smaller and less formal than the professional associations that I have belonged to over the years (APHA, AEA, etc). Overall, I met a ton of great folks and the conference was small enough to see them a lot over the course of the conference._

_I wasn’t sure what to expect of the conference. I knew that there would be research presentations and that there was to be further material about FOSSIL but I had never attended a conference before. I found that the people were great and the topics were interesting to me. With my current knowledge I felt that I understood about 70% of the presentations, and most of the Ediacaran presentations and geochemical presentations. In addition to the scientific topics, I really enjoyed networking with other Avocational Paleontologists. I gathered many tips and new ideas to share with my club and my community._

**Utility of Sessions**

Participants were asked to explain which had been the most useful of the sessions they attended, and why. Since the respondents had a diverse set of academic and outreach interests, there were a variety of responses. The most common category mentioned was the education or community outreach sessions, with 30% of the respondents stating these to be their most useful session (see Table 3). Six of the participants (16%) found the FOSSIL project sessions to be the most useful, and another 16% found the academic sessions to be most useful. There were no trends among the responses of professionals, or substantial differentiation from the amateurs.

**Table 3: Most Useful Session (n=37)**

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education/Community Outreach</td>
<td>30%</td>
<td>11</td>
</tr>
<tr>
<td>FOSSIL Project sessions</td>
<td>16%</td>
<td>6</td>
</tr>
<tr>
<td>Academic Sessions</td>
<td>16%</td>
<td>6</td>
</tr>
<tr>
<td>Sessions on the paleontology of the Florida region</td>
<td>8%</td>
<td>3</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>30%</td>
<td>11</td>
</tr>
</tbody>
</table>

When asked what the most useful session was for them personally, 30% of respondents (n=11) mentioned those that had to do with education or community outreach.
Innovations in outreach education in paleo.

Citizen science, however was very surprised how many folks really didn't understand what citizen science was.

The sessions on educational and community outreach.

16% of respondents (n=6) said the most useful sessions were those about the FOSSIL Project specifically. ²

The FOSSIL project round tables and discussions.

I loved the technical sessions at the conference but I suppose the FOSSIL workshop was the most to the point for my attendance.

The FOSSIL day-long session.

Another 16% of respondents (n=6) found the academic sessions to be most useful.

The Ediacaran sessions were of most interest to me.

Enjoyed the stratigraphy and paleobotany parts.

I really got a lot out of so many of the sessions, so I am finding it quite hard to pick just one... But I would probably have to pick the one about the evolution of the megalodon shark (Since I have to pick only one).

A few participants (n=3), about 8%, thought the sessions about the paleontology of the Florida region were the most useful for them.

It was hard to rate one there were many good ones. If I have to pick one it would be Dr. Richard Hulbert's presentation on two different sites in Florida - Millenium Park and Rainbow River.

Most of them were fascinating and any that related to Southeastern US fossils were particularly interesting and informative. One of my favorites was given by K. Smith on an archeocete find in south Georgia.

And 30% of respondents (n=11) gave answers that did not fit into the above categories.

There were several.

² While this question was asked in regards to the Conference, participants referenced sessions from the entire suite of events, including the Fossil activities and workshop.
Nothing really stood out for me.

I was not briefed on what to expect at the meetings and got no information on what the group stands for, I came to learn about the group and still know very little about the group. I was two days late because of the weather.

Kirk Johnson's closing speech.

After hours at the hotel. Allowed for interaction with the three other Florida fossil clubs.

When asked for further detail about why their chosen session was the most useful for them, respondents most often cited the session as being relevant to their work (see Table 4).

Table 4: Why the Session Was Useful (n=38)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was relevant to my work</td>
<td>42%</td>
<td>16</td>
</tr>
<tr>
<td>It was interesting</td>
<td>28%</td>
<td>11</td>
</tr>
<tr>
<td>It was a new opportunity</td>
<td>13%</td>
<td>5</td>
</tr>
<tr>
<td>There were opportunities for networking</td>
<td>5%</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>10%</td>
<td>4</td>
</tr>
</tbody>
</table>

Out of professional and amateur paleontologists, 42% of the responses (n=16) were about the session useful because it was related to the work they do.

I am currently working on a fossil flora site in Oregon and it never hurts to see how others are dealing with similar problems.

I learned a great deal about various amateur fossil clubs around the US and what they are doing in their particular geographic location to promote paleontology for the general public. I also got some good ideas about how to improve the amateur fossil group for which I am the professional mentor.

I am extremely interested in the marine mammals, and I have been working for the past 5 years on a restoration of a partial baleen whale that I recovered from the PCS mine in NC. (25 associated vertebrae and skull)

As a long-standing president of a fossil club it was very helpful to meet and listen to what was being done elsewhere by other clubs and professionals. I was keenly
interested in the citizen science aspect. I was happy to hear about all the opportunities that upcoming students will have in the future.

A smaller portion of responses (28%) (n=11) mentioned finding the session interesting.

Excellent speaker. Provided lots of good information. I think he struck the appropriate tone for moving forward.

The keynote speakers were inspiring, and three of the academic lectures were on topics I study, while the sessions on public outreach were very easy to follow (more philosophy than technical).

I can’t really pinpoint a particular session. Some sessions had just one presentation that was particularly useful for me. The presentations I found most useful were any involving the types of fossils found in my home state, stratigraphy, or taphonomy. The presentations involving a multidisciplinary approach were very interesting.

Since I live here in Southwest FL, I think it is the most interesting... I learned a lot of interesting things about what a certain tooth came from, and it is found here "in my own back yard".

13% of responses (n=5) said the session was most useful because it provided them with a new or different opportunity.

There has never been any club interaction in the past.

I often have the opportunity to attend straight, pure paleontological research sessions and conferences. The emphasis of applied paleontological research and interfaces with various fossil clubs and societies was a rare opportunity and one that has never been provided by another conference.

It is difficult to find recent information about Edicaran life since it is changing so fast and typically not open access.

Participants also found sessions with opportunities for networking beneficial, with 5% of responses (n=2) citing networking as a reason for choosing a particular session.

It more directly affected the club and future dealings and help with helpful contacts.

Made connections with several amateur and professional paleontologists

And 12% of respondents (n=4) gave answers that did not fit into any of the above
This is what I came for. Unfortunately, because of the timing of this session I was unable to see many of the NAPC sessions I wanted to though.

Dealt with a main reason for my attendance

I couldn't pick just one, I was running from one session to another throughout the meeting.

**FOSSIL SESSIONS**

Attendees were also asked specifically how relevant the FOSSIL sessions were to them. More than four out of five (83%) rated the FOSSIL sessions as highly relevant, either a 6 or a 7 on a 7-point scale (see Figure 2). Of the professionals that responded, 5 rated the sessions a 7 and 2 rated the sessions a 6.

**Figure 2: Relevancy of FOSSIL Sessions (n=39)**

In addition to asking participants whether the FOSSIL sessions were relevant, an open-ended question was posed about what could be done to make future meetings even more relevant to them. Participants requested more opportunities for networking and changes to the organization of the conference, as well as it being more inclusive and having different formats for the sessions (see Table 5).
Table 5: Making the Meetings More Relevant (n=31)

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>More opportunities for networking</td>
<td>29%</td>
<td>9</td>
</tr>
<tr>
<td>Improved organization of conference or sessions</td>
<td>22%</td>
<td>7</td>
</tr>
<tr>
<td>More inclusive for professionals and amateurs</td>
<td>16%</td>
<td>5</td>
</tr>
<tr>
<td>Different formats for sessions</td>
<td>16%</td>
<td>5</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>13%</td>
<td>4</td>
</tr>
<tr>
<td>Survey should include all club members</td>
<td>3%</td>
<td>1</td>
</tr>
</tbody>
</table>

Twenty-nine percent (n=9) said they would like more opportunities for networking.

I enjoyed having the opportunity to meet and talk with people. I would have loved some sort of opening session to meet people early - that would have given more time to catch up with folks throughout the following days.

Provide more field trip opportunities so that participants from different amateur groups could get to know each other better and share their enthusiasm and interests.

Allow more time for fossil club members to interact. Speakers and posters are not the way to foster relationships amongst fossil clubs or between fossil clubs and professionals. Face to face time, hearing about what everyone else is doing in their club or hearing from professionals how they view clubs and how clubs can help them.

A contact list of everyone attending, with email addresses and possibly phone numbers. This could also include a short Bio on each person. Having this would make networking so much easier than trying to not lose business cards. (For those that even have them.) Also, print the name badges on BOTH sides, so we can actually read them. Most were constantly turned backwards.

Almost a quarter of respondents (22%, n=7) felt that improved organization of the general conference or sessions would make future meetings more relevant.

Allow me to attend all of the workshop breakout sessions. In other words, don’t run so many concurrently. We needed five people from our group to come to Gainesville to attend all of them. Only 3 from our group actually came and only
one received monetary assistance from FOSSIL.

Where FOSSIL gatherings coincide with national meetings have the FOSSIL meeting first so we can meet the fossil club people first and be able to interact with them through the duration of the conference.

I'm not sure I have any suggestions on how to improve future meetings, other than to have a second meeting at another institution in another part of the country. We discussed this at the meeting but didn't reach any consensus on where to hold another meeting of the FOSSIL group. The symposium had a really nice mix of amateur and professional paleontologists and covered a wide range of interesting topics. The Tuesday luncheon and Wednesday workshop provided ample opportunities to meet with other professional paleontologists, such as myself, as well as amateur paleontologists, all of whom shared a common goal of making paleontology more accessible to the general public.

Produce a more detailed agenda in advance so we can research and prepare if there are session involved that we would be interested in participating in.

Some respondents thought the meeting could be more inclusive for all participants, professional and amateur paleontologists. 16% of respondents (n=5) made comments regarding a welcoming feeling for everyone involved.

To be aware of the tremendous variation of the different clubs. Each club, support group, and society has its own mission and direction, and the focus of FOSSIL needs to be sensitive to all of the variations, not just those which serve to focus on FOSSIL’s mission direction. At the workshop Wed. there clearly was bias from some session leaders trying to redirect thoughts into areas that were predetermined, rather than actually listen to comments or concerns that were raised by the participants.

Some participants were overly strong in voicing their opinions. Somehow help insure all participants that want to contribute can.

Increasing participation by professional paleontologists from across the country.

Allow more presentations by amateur/avocational - have a symposium dedicated to them, with awards.

Another 16% of respondents (n=5) suggested that having different formats for sessions might help make the meeting more relevant.

More working sessions.
As an amateur attempt to have a breakout session with the specific professional with which we interact. Obviously that would be easier for Florida people than others.

To discuss ways for scientists to connect with the citizen science community and include them in research. How to engage citizen scientists in ways beyond just being a community useful for obtaining knowledge to sites and material.

Have a sub-group session that focused on fossil-sites that have associated organizations which manage them.

Touch on the possibility of amateur participation in some of the more specialized subdisciplines/sister disciplines of paleontology, such as stratigraphy, collection curation, stable isotope work, etc. The current focus seems to be (appropriately) on amateurs who do basic fossil collecting, but some of us would also be interested to know how to get involved in more advanced hard science. Or hear information from amateurs who have done those things.

And 13% of respondents (n=4) made comments that did not fit into any of these categories.

I must know what you stand for and what you want the clubs to do.

A little less technical speaking. On the amateur side we don't have 8 or 9 years of education and some of the technical use of words was difficult. i.e plenary meetings, no one gave me a satisfactory explanation. I had to look in the dictionary upon my return home.

To focus more on how we are addressing the science and less on membership issues. HOWEVER, if membership issues are to be addressed (such as "Our members are running out of fossil site access"), then it would be useful to mobilize our collective expertise and scientific capacity to address those issues.

Interestingly, one participant responded that the survey administered to attendees should have had broader representation beyond the club leaders.

Survey all club memberships rather than acting on information/guessing what the club leader's opinion may be.
FINDINGS: Integration Into the NAPC

WELCOMING ATMOSPHERE

Attendees were asked how welcomed they felt at the NAPC conference, and the respondents felt very welcomed, with almost 9 out of 10 (88%) rating it a 6 or 7 on a 7-point scale (see Figure 3).

Figure 3: Welcoming Atmosphere (n=39)

RATINGS OF SESSIONS

There was also a question about whether the professional paleontology sessions were too academic or not academic enough for amateurs. A rating of “4” (see Figure 4) would be half way between the two and “just right.” While 2 out of 5 respondents thought the concepts and language was just right, the rest of the responses skewed toward the “too academic” side. While only 8% rated it a 7 on a 7-point scale of being too academic, almost half (48%) rated either a 5 or a 6. So it is reasonable to say that the concepts and language was somewhat too academic for the amateur respondents. Some of the professionals also thought the sessions were too academic. (See Figure 5.)
Figure 4: Concepts and Language of Sessions for Amateurs (n=33)

Figure 5: Concepts and Language of Sessions for Professionals (n=7)
OPPORTUNITIES TO INTERACT WITH PROFESSIONALS

As asked whether there were sufficient opportunities to interact with professional paleontologists during the conference, almost two thirds (62%) rated it a 6 or 7 on a 7-point scale (see Figure 5). Meanwhile, one out of five rated it a 4 or lower, so there may be opportunities to increase the chances for amateur and professional paleontologists to interact during future conferences.

Figure 6: Opportunity to Interact with Professionals (n=32)

![Bar chart showing the distribution of ratings for the opportunity to interact with professionals.]

COMFORT INTERACTING WITH OTHERS

Those who belong to an amateur fossil club were asked how comfortable they would feel contacting another fossil club member they don’t know (see Figure 6). More than half of the respondents (58%) were extremely comfortable, rating it a 7 on a 7-point scale. More than 4 out of 5 (83%) rating it a 6 or 7 on the 7-point scale.
Similarly, those who belonged to an amateur fossil club were also asked how comfortable they would be contacting a professional paleontologist, and they were only slightly less comfortable compared to contacting other fossil club members (see Figure 7). Exactly half (50%) rated their comfort as very high, a 7 on a 7-point scale. Meanwhile, more than three quarters (78%) rated it a 6 or 7.
Figure 8: Comfort in Contacting Professional (n=31)
FINDINGS: Impact of the Participating in NAPC & Symposium

TAKING ACTION

We asked an open-ended question of respondents if they would do anything differently based on going to the conference, and a majority of them (63%, n=24) stated they would. Respondents were given the opportunity to fill in up to five blank boxes with different actions they might take as a result of attending. Table 6 includes all of the responses given by the twenty-two participants who with at least one action they would take as a result of attending. There were a total of 46 actions recorded from those 22 respondents. The number one action participants indicated they would take was to engage in community outreach, followed by networking among like-minded groups.

Table 6: Actions Participants Will Take (n=22)

<table>
<thead>
<tr>
<th>Action</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community outreach</td>
<td>30%</td>
<td>14</td>
</tr>
<tr>
<td>Networking among people doing the same kind of work</td>
<td>22%</td>
<td>10</td>
</tr>
<tr>
<td>Increased collaboration between professionals and amateurs</td>
<td>15%</td>
<td>7</td>
</tr>
<tr>
<td>Application of new information learned at the conference</td>
<td>11%</td>
<td>5</td>
</tr>
<tr>
<td>Continue personal education</td>
<td>6%</td>
<td>3</td>
</tr>
<tr>
<td>Fundraising</td>
<td>2%</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>13%</td>
<td>6</td>
</tr>
</tbody>
</table>

When participants were asked what they would do differently as a result of attending, 30% of respondents (n=14) said they would increase the amount of outreach they do with their organization. Specific comments include:

- *Become more active and focused on outreach.*
- *New ideas about educational outreach to the general public about paleontology.*
- *Look for more opportunities to help with STEM outreach.*
- *Focus on minority membership at the club level.*
- *Increase presence in social media.*
Respondents were also interested in communicating between peers, with 22% of respondents (n=10) saying they would network with individuals doing similar work in different fossil clubs.

*Use some of the contacts for networking.*

*Our club for whom I represent has now activated social networking as a result of what we learned at FOSSIL.*

*Interact more with other amateur societies.*

*Additional communication with other Florida clubs.*

Respondents wrote that they were also interested in collaborations between professional and amateur paleontologists, with 15% (n=7) saying they would take action on that front.

*Try and partner better with the universities and museums in my area.*

*I've also spread a wider net in terms of professionals and am pursuing some projects there as well.*

*I hope to communicate with professionals more.*

*Sharing even more with professionals.*

11% of respondents (n=5) said they would apply new information they learned at the convention to their current work.

*Apply paleobiology techniques into my ecology classes. [sic]*

*We brought up the NAPC FOSSIL experiences with our club, we are working on additions to our program.*

*Using the information I gained to better myself and my club.*

6% of respondents (n=3) were interested in pursuing more personal education, through workshops or classes.

*Revisiting the possibility of part time graduate school for self.*

*Learn more about vertebrates - they are a big draw.*

*Investigate the possibility of getting more field training.*
One respondent wrote that she would do more fundraising within her work.

\[\text{New ideas about fund-raising possibilities for the fossil group that I mentor/sponsor.}\]

Finally, 13% of respondents (n=6) gave answers that did not fit into any of these categories.

\[\text{Bring more hands on examples of what we do as an organization.}\]

\[\text{Include citizen scientists in my research.}\]

\[\text{Participate in the FOSSIL website.}\]

\[\text{Twist arms, pull hair, and in general convince members in any way possible to hold meetings where video-conferencing is possible.}\]

Participants were also asked if they had already taken some form of new action in the two to three weeks following the conference week. Seventeen individuals, or 28%, had already taken some sort of direct action as an outcome of attending the conference. 41% of respondents (n=7) have already taken action to build more community outreach (see Table 7). Others had already done research (18%, n=3), networked (12%, n=2) or increased their access to artifacts (12%, n=2).

<table>
<thead>
<tr>
<th>Table 7: Actions Participants Have Already Taken (n=17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
</tr>
<tr>
<td>Community outreach</td>
</tr>
<tr>
<td>Research</td>
</tr>
<tr>
<td>Networking among people doing the same kind of work</td>
</tr>
<tr>
<td>Increased access to artifacts</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
</tr>
</tbody>
</table>

41% of respondents (n=7) have already taken action by building community outreach.

\[\text{Working with Cincinnati Museum Center to plan a Fossil Festival during National Fossil Week in October 2014. This was inspired by presentations at NAPC and FOSSIL.}\]
Our club for whom I represent has now activated social networking as a result of what we learned at FOSSIL.

Began to think of ways to have fossil clubs work with schools active in the Science Olympiad events to provide specimens for schools with no fossil samples and for the actual Science Olympiad Fossil event. Talked with a regional Science Olympiad Organizer.

I submitted a grant proposal to paleo society for education & outreach

18% of respondents (n=3) have started or continued a research project as a result of attending the NAPC conference and related activities.

I currently working on publishing a paper on amateur contributions because I think they were poorly quantified by the folks who tried to do that. I usually stay away from amateurs, unless we've vetted them. However, the groups that showed up to the conference were exceptional. I've already begun working with the folks from Dallas on a project.

We ordered a number of guidebooks from the Dallas Paleo Society for our members and are discussing setting up a field trip to the North Sulfur River with their group.

I have emailed a graduate student about his poster presentation and the possibility of similar material found in another location.

Two respondents are maintaining relationships and networks they formed at the conference and related activities.

I gave a presentation to the Manasota fossil club. Which is something I have never done before.

Now that I have met some people in other clubs, we are actively communicating and networking.

Another two respondents have implemented programs or avenues to increase access to artifacts.

Collected and donated material to the FLMNH.

We creating a speaker list for our club, regarding festival weekend and we are planning on digitizing collections and making the files available for online educational purposes.
And 23% of respondents (n=4) have taken action that does not fit into any of these categories.

_Funded a preparation workshop with the thought of training a trainer for future training workshops of our own._

_Started the process of educating the club membership on having a larger viewpoint on the hobby. It is not just local, but involves many areas of the country/world._

**CONNECTIONS WITH OTHER AMATEURS**

The conference and FOSSIL project activities were significant in allowing amateur paleontologists to connect with one another. Three-quarters (75%, n=24) of the participants rated the ability to make connections with amateurs at a 6 or 7 on a 7-point scale (see Table 8).

<table>
<thead>
<tr>
<th>Table 8: Extent to Connect with Amateurs (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>Did not make</td>
</tr>
<tr>
<td>Made many</td>
</tr>
<tr>
<td>Percent</td>
</tr>
<tr>
<td>Number of People</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Perhaps even more significantly, 85% stated they were likely to follow up with someone they met at the conference or during FOSSIL activities (see Table 9), and more than three out of four (78%, n=30) had already followed up with someone they had met.

<table>
<thead>
<tr>
<th>Table 9: Likelihood of Following Up (n=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>Not likely</td>
</tr>
<tr>
<td>Very likely</td>
</tr>
<tr>
<td>Percent</td>
</tr>
<tr>
<td>Number of People</td>
</tr>
<tr>
<td>0</td>
</tr>
</tbody>
</table>
FINDINGS: Meeting Sites

Knowing that there would be future symposia for the FOSSIL project, the team gave attendees four choices as the location for a 2015 meeting. Dallas was the leader in this particular question, with 53% of attendees responding they would like to see a future symposium in Dallas (see Figure 8). Denver was the runner-up, with 21% noting they would like to have a meeting in Denver.

Figure 9: Preferred Location of Future Symposium (Likely 2015) (n=38)

Attendees were also encouraged to suggest sites, and Cincinnati and Florida were the top additional suggestions (see Table 10).

Table 10: Additional Locations for 2015 (n=19)

<table>
<thead>
<tr>
<th>Location</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cincinnati</td>
<td>31%</td>
<td>6</td>
</tr>
<tr>
<td>Florida</td>
<td>26%</td>
<td>5</td>
</tr>
<tr>
<td>Pacific Northwest</td>
<td>10%</td>
<td>2</td>
</tr>
<tr>
<td>Arizona</td>
<td>5%</td>
<td>1</td>
</tr>
</tbody>
</table>
Almost half of those surveyed made suggestions of other locations for the 2015 FOSSIL meeting. Of those who offered additional locations, 31% of respondents (n=6) suggested Cincinnati, Ohio as a preference.

Another possibility is the Midwest, since there seemed to be a large number of amateur paleontologists from that area. Cincinnati would be a suggestion, as there seems to be a large and very active group in that area.

The closer to Cincinnati, the better, since that's where I live. We are looking into if we can host the next one at the Cincinnati Museum Center.

Cincinnati was mentioned if no professional conference is available in 2015. Field trips would be easy.

26% of respondents (n=5) suggested holding the meeting at other locations in Florida.

Another site would be in Tampa with additional resources and volunteers provided by my club, the Tampa Bay Fossil Club and facilities most likely available where we have our meetings at the USF campus.

Gainesville.

Two respondents recommended the Northwest as a possible location of interest.

Better that the site for a FOSSIL symposium be near a large city but not in a large city. What about Bozeman, Montana or Spokane, Washington.

Pacific Northwest?

One respondent offered Arizona as a site for the 2015 FOSSIL meetings.

I volunteered Mesa, AZ for any of the upcoming meetings. AzMNH and SPS would love to be host.

Another respondent suggested West Virginia for a future meeting location.

Greenbriar Resort in West Virginia. It's a beautiful state, clean air, good temperatures, friendly people, daily flights in/out from Washington DC/Pittsburgh, very little traffic, enough artisans to choke a horse, and plenty of fossil collecting, outdoor activities, and historic places in the area (including one
of the very few working Cass Steam engines). Most importantly, it's close to me! lol. Just a bit of advice if you ever get here: don't get the condiment known as 'hotdog sauce'. Trust me, it will hurt your soul.

And another four respondents made suggestions for locations that did not fit into any of these categories.

Having FOSSIL be part of the next SVP meeting would be very important if sessions could be setup where professionals put out ideas / projects they would like help with - in the field, in a lab, etc.. or where they need funding - grants from clubs, crowd sourcing (funding).. and where clubs could hold sessions / talks where they go over things that they are doing.

I think that we mentioned Dallas at the workshop, but LA or Washington would be fine as well.

Dallas should be with SVP. Denver, Cincinnati, Los Angeles and Wash D.C. are good for other years.

I favor a central location because it's cheaper for everyone to get to.
FINDINGS: Understanding and Perceptions of FOSSIL

AWARENESS OF FOSSIL

When asked about their familiarity with the FOSSIL project, results were mixed (see Figure 9). Nine out of ten (90%) were at least minimally familiar with FOSSIL, with a little more than one third (35%) very familiar with it. The largest group, at 43%, knew a little about FOSSIL.

Figure 10: Familiarity With FOSSIL (n=40)

PERCEPTIONS OF FOSSIL

When asked about the perceived benefits of the FOSSIL project to professional paleontologists, respondents mostly talked about access to resources and artifacts (60%) and as well as establishing and improving relationships with other paleontologists (47%) (see Table 12).
Table 11: Benefits to Professional Paleontologists Perceived by Amateurs (n=31)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to resources/artifacts</td>
<td>68%</td>
<td>21</td>
</tr>
<tr>
<td>Collaboration and improved relationships between professionals and amateurs</td>
<td>42%</td>
<td>13</td>
</tr>
<tr>
<td>Amateur volunteer workforce</td>
<td>6%</td>
<td>2</td>
</tr>
<tr>
<td>Networking</td>
<td>3%</td>
<td>1</td>
</tr>
<tr>
<td>Increased interest in paleontology</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>9%</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 12: Benefits to Professional Paleontologists Perceived by Professionals (n=7)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to resources/artifacts</td>
<td>29%</td>
<td>2</td>
</tr>
<tr>
<td>Collaboration and improved relationships between professionals and amateurs</td>
<td>71%</td>
<td>5</td>
</tr>
<tr>
<td>Amateur volunteer workforce</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Networking</td>
<td>14%</td>
<td>1</td>
</tr>
<tr>
<td>Increased interest in paleontology</td>
<td>14%</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

A large portion of respondents, 60% (n=23), wrote that the FOSSIL project would benefit professional paleontologists by giving them access to more artifacts and resources.

*It could provide a force multiplier, in allowing professionals to enlist the aid of professionals when working on projects. Professionals should get more information about good fossil localities and interesting finds.*

*Greater access to specimens both already collected or new finds.*

*From an educational point I hope that much of the knowledge that is currently being kept from professionals by omission will be gained by them in the future through a cooperative sharing of fossil information about site discoveries.*

*Professional paleontologists will get to see and study fossils they may not have had the chance to do before.*
Almost half of respondents, 47% (n=18), believe the FOSSIL project will improve relationships and foster collaboration between professional and amateur paleontologists, which would benefit professionals.

*The relationship between the amateur and professional paleontologists is sometimes strained with a lot of suspicion on both sides. If both can work together using FOSSIL as the mediator great things may come of it with more understanding on both sides.*

*The single biggest potential return for professionals is to grow their network of "trusted and vetted" amateurs.*

*Cooperation and collaboration are the keys to sustaining our science. Academics need volunteers for field, lab and research projects. They occasionally need assistants to help in fundraising or museum sponsorship. Good relationships with avocational and commercial collectors provide access to far more specimens, data and collecting locales then they could ever hope to see on their own. It is highly beneficial to academics.*

*If they are sincere it seemed that they were really reaching across the aisle to interact with amateurs. I found that very refreshing.*

Two respondents mentioned the amateur volunteer workforce that professional paleontologists could benefit from through the FOSSIL project.

*Two major ways - by making more private collections available and by providing a ready and willing volunteer work force.*

*Enlist possible volunteers for future projects.*

Another two respondents mentioned the opportunity for networking that could benefit professional paleontologists via the FOSSIL project.

*Show them local allies and potential partners in field collecting, research, and educational outreach.*

*It can provide them with an opportunity to get their names and research out to a larger public, many of whom may not otherwise hear about their accomplishments. Having a relationship with the general public via this type of networking can potentially benefit their careers, research, and funding via traditional sources and also through crowd-sourcing. They will meet people with similar interests but working in other fields, which could give them resources not usually available to them or views/ideas not normally discussed in academic circles that can be of assistance. They might meet another life-time friend or their*
future spouse. Who doesn't want someone to talk with for hours about one's favorite subject but not actually have to compete with professionally?

One respondent felt the project would benefit professional paleontologists by increasing interest in paleontology.

Right now there are geology programs NOT teaching paleontology. I think that the citizen scientists will be key for maintaining a general interest in paleontology. Universities, outside of those with large collections, do not see paleontologists on their faculty as a major source of overhead funds from grants. Research that MAKES money is valued. Paleontologists are valued by the general public and have the potential to engage the general public more than the individual who secures large grants to do highly $$$ profitable research. Science clubs are critical for teaching more and more people natural history. Our college campuses are NOT replacing paleontologists. However, with this being said, vertebrate paleontologists are being hired to teach human anatomy and physiology as a service course. The connection and growth between professional and citizen paleontologists is critical for keeping academic paleontology going. The biggest benefit will be having the "out of the box" thinking and perspective that someone trained outside of paleontology can bring to the field.

And three respondents made comments that did not fit into any of these categories.

I’m not sure yet that it will.. If professional paleontologists don’t reach out to clubs and let them know how the clubs can help then there will be no benefit. When I got back to my club, several members expressed doubt that professional paleontologists care at all about amateurs. I don’t hold that view, but it is out there

Until my questions are answered I can not answer this question Maps has very good contact with my professional in our area.

No opinion.

Another question asked about the perceived benefits of FOSSIL participation to amateur paleontologists (see Table 13). The most common responses were about collaborating with other paleontologists, validation of their work and access to resources and artifacts.
Table 13: Benefits to Amateur Paleontologists (n=38)

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration between professional and amateur paleontologists</td>
<td>55%</td>
<td>21</td>
</tr>
<tr>
<td>Validation of work</td>
<td>29%</td>
<td>11</td>
</tr>
<tr>
<td>Access to resources/artifacts</td>
<td>26%</td>
<td>10</td>
</tr>
<tr>
<td>Networking</td>
<td>16%</td>
<td>6</td>
</tr>
<tr>
<td>Sharing ideas</td>
<td>13%</td>
<td>5</td>
</tr>
<tr>
<td>Building outreach</td>
<td>8%</td>
<td>3</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>5%</td>
<td>2</td>
</tr>
</tbody>
</table>

Over half of respondents (n=21) wrote that increased collaboration between professional and amateur paleontologists via the FOSSIL project would benefit amateurs.

*Hopefully spread information between clubs and list professional paleontologists who wish to interact with amateurs or have a pressing need for volunteers and hope to enlist people from the clubs*

*The amateur paleontologist is passionately interested in fossils, collecting, and identification. I feel that they will gain in their appreciation, respect, and personal knowledge for their hobby. Through cooperation each will gain respect for the other, and as long as the amateur does not feel eliminated or excluded or used, I believe that great strides could be forged developing relationships that will open a lot of doors in the areas of discovery and education for both. The professional is all about educational knowledge and research, while the amateur is more about specimens for their collections. Nonetheless there is a place where both can develop their passions simultaneously, but it all begins with cooperation and respect for each other.*

*Open communication with professionals to 1. report finds, 2. ask questions. 3. volunteer to participate in excavations and research projects.*

Twenty-nine percent of respondents (n=11) felt that the FOSSIL project would benefit amateurs by more prominently validating the work they do.

*Open up channels of communication with the scientific community, making people feel more welcome and willing to share their knowledge and fossils, and especially improve education of amateurs about significance of fossils and appropriate collecting and curating techniques. Promote more collaboration between amateurs and professionals and show amateurs how much they can contribute to*
the science. Should lead to more collaborations and recognition of amateur efforts.

Collaboration, with academics, can help amateurs with fossil identifications, evaluations as to scientific significance and with accurate documentation. Amateurs are benefited when they are properly acknowledged for their finds and discoveries. A strong working relationship with academia may help provide guest speakers for clubs, as well as a variety of learning opportunities/experiences, they might not be able to manage on their own (access to digs, volunteer opportunities, publication opportunities, etc.).

Amateur paleontologists will have more opportunities to connect and do publishable work with professionals. Some amateurs already do this. I think amateur paleontologist will gain a level of respect they deserve.

Make them feel more connected to the science work of paleontology as active contributors.

Increased access to resources, collections and artifacts was a benefit listed by 26% of respondents (n=10).

The ability in increase their knowledge and increased access to the literature and on line collections.

Better access to Museum Records and Collections so the amateur Can Learn More & Share each others Knowledge.

Identification of their fossils, better access to sites that may otherwise be closed to collecting perhaps.

Sixteen percent of respondents (n=6) thought that networking within the FOSSIL project would be beneficial to amateur paleontologists.

I can see the opportunity to interact with other groups across the country and build collaborations, plus connect with the professional community.

By giving us easier access to a greater knowledge base than we currently have. And contacts with others who are also passionate about paleontology.

Five respondents wrote that the sharing of ideas among members of the FOSSIL project was a benefit to amateur paleontologists.

I think FOSSIL project will be a great benefit in bringing new ideas into fossil clubs based on what other clubs are doing. I’m hoping the myFossil web site turns into a
place where all the clubs feel inspired to share ideas about what is working... I haven’t check it lately, but I was told there will eventually be a LIST-Serv type function.. I think that could be very useful.

Amateur paleontologists will be able to learn how to correctly describe the location of important fossils, how to write scientific articles, be able to work with a professional.

Three respondents believe the FOSSIL project will help amateurs by building their outreach networks.

Many groups lack web-based infrastructure. myfossil.com might provide that electronic venue. Also, most amateur groups need help gaining more memberships. A formal and announced alliance with the FOSSIL organization may provide the links to allow more out-of-town members to join these individual fossil clubs.

Give them tools to expand their groups, a better sense of community, suggestions for how to engage and partner with professional paleontologists.

It will help in the identification of fossils... It will also provide a good learning and outreach portal.

And two respondents made comments about the benefits of the project that did not fit into any of these categories.

No opinion.

Until my questions are answered I can not answer this question Maps has very good contact with my professional in our area.

Respondents were given the opportunity to fill in up to five blank boxes with different barriers they felt could impede the exchange and collaboration between professional and amateur paleontologists as part of the FOSSIL project (see Table 14). These categories account for all of the responses given by participants. The most common perceived barriers were building relationships, amateurs not getting trust or respect, and amateurs not getting credit for their work. A total of 36 participants responded with at least one barrier they saw, but some participants gave multiple answers. There were a total of 111 barriers recorded from those 36 respondents. Those answers are split below in Tables 14 and 15 between amateur and professional responses.
### Table 14: Biggest Barriers to Collaboration Perceived by Amateurs (n=36)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building relationships</td>
<td>26%</td>
<td>23</td>
</tr>
<tr>
<td>Amateurs not getting trust or respect</td>
<td>12%</td>
<td>11</td>
</tr>
<tr>
<td>Amateurs not getting credit/validation for their work</td>
<td>9%</td>
<td>8</td>
</tr>
<tr>
<td>Security/legal issues</td>
<td>7%</td>
<td>6</td>
</tr>
<tr>
<td>Concerns about commercialism</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>Logistics</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>Time</td>
<td>6%</td>
<td>5</td>
</tr>
<tr>
<td><strong>(Specifically professionals not having enough time)</strong></td>
<td>2%</td>
<td>2</td>
</tr>
<tr>
<td>Access to resources</td>
<td>6%</td>
<td>5</td>
</tr>
<tr>
<td>Collaboration between professionals and amateurs</td>
<td>4%</td>
<td>4</td>
</tr>
<tr>
<td>Different goals and beliefs</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Funding</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>16%</td>
<td>14</td>
</tr>
</tbody>
</table>

### Table 15: Biggest Barriers to Collaboration Perceived by Professionals (n=23)

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building relationships</td>
<td>17%</td>
<td>4</td>
</tr>
<tr>
<td>Amateurs not getting trust or respect</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>Amateurs not getting credit/validation for their work</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Security/legal issues</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>Concerns about commercialism</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Logistics</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Time</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td><strong>(Specifically professionals not having enough time)</strong></td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Access to resources</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Collaboration between professionals and amateurs</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Different goals and beliefs</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>Funding</td>
<td>9%</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>9%</td>
<td>2</td>
</tr>
</tbody>
</table>
The most common response given when participants were asked about barriers to collaboration within the FOSSIL project focused on building relationships between professional and amateur paleontologists. Almost one quarter of responses (n=27) mentioned issues of trust on both sides of the table.

**Trust.** Some of the clubs are still afraid that the museum will "Eminent Domain" and take fossils away (I don't believe this, it is just what people have been telling me is their concern).

**Unreasonable expectations from both parties.**

**Reluctance to meet new people.**

**Establishing trust.**

**Getting past the bias between amateur and professional.**

Twelve percent of responses (n=13) specifically mentioned amateurs not receiving respect or trust as a barrier to building the FOSSIL project.

**Anti-amateur attitude of certain academics.**

**Professionals don't seem to have a high regard for amateurs.**

**Professionals not understanding the scope of what the amateur community does currently in the areas of outreach, research and publishing.**

**Professionals who don't see anyone without credentials as worth their time.**

Again, respondents wrote about amateur paleontologists not receiving credit and feeling validation for their work. 8% of responses (n=9) said this would be a barrier to collaboration on the FOSSIL project.

**Getting the credit/recognition for a fossil donation.**

**Amateurs are Paranoid that Professionals want our "Good" stuff.**

**Recognition - inconsistent recognition of the contributions by amateurs.**

**Amateurs who want to see themselves as professionals without getting the credentials.**

Seven percent of responses (n=8) perceived issues of security and legality as barriers between professional and amateur paleontologists when working with the FOSSIL project.
Collectors are wary of legislation that would restrict fossil collecting on public lands, especially of very common, invertebrate fossils.

Excessive laws and regulations - fear of specimen confiscations.

Lack of trust of sharing specimens or locations and losing them.

Unable to provide detailed photographs to show needed info.

Six percent of responses (n=7) were concerned about differing views on commercialism between professional and amateur paleontologists.

The elephant in the room - commercial collecting.

Paleontologists advocating against the commercial sale of fossils which ignores the contributions made by commercial collectors to paleontology - without commercial collectors, many new discoveries would never be made.

The problem of commercial sale of fossils.

Controversy over selling fossils - some prof’ls refuse to interact with amateurs because of this issue.

Another 6% of responses (n=7) mentioned logistics as a barrier to bringing professionals and amateurs together to work on the FOSSIL project.

Local availability of professionals, particularly in much more remote areas.

Amateurs and professionals not located in the same places - nearest amateur group to me is 2-3 hours away.

Logistics - when and where to meet in person.

Lack of opportunities for the two sides to be in the same place at the same time to foster getting to know one another.

Along those same lines, 5% of responses (n=6) felt that time might be a barrier to participation and collaboration on the FOSSIL project. About half of those 6 respondents specifically mentioned that it would be difficult for professional paleontologists to devote time to the project.

Time constraints on amateurs – I’m doing this at work right now. It’s hard to find time for Fossil club.
Time constraints on the part of professionals.

Finding the time where they are both available - most amateurs are available after the typical working hours of the professionals.

Time constraints on Professionals - no time to be actively involved.

Professional paleontologists are too busy to network with amateurs. Most have students and deadlines to meet, trips to take, etc. No time for FOSSIL.

Five responses felt that equal or adequate access to resources might stand as a barrier to participation in the project.

Give us readily available info to web sites.

Access to Museum Collections and Vise Versa.

Literature access to support amateur education

Interestingly, 4 responses addressed the general difficulty of collaboration between professional and amateur paleontologists.

Making the connections and having something worth discussing that can benefit both parties.

Amateurs are not use to Communicating with Professionals.

Three respondents made comments about the different beliefs and goals not shared between professional and amateur paleontologists, and suggested that these differences might be a barrier to collaboration.

Different interests and goals-collecting cool fossils (amateur) vs. answering research questions (professionals)

Differing goals. Many of the amateur fossil groups are primarily focused on field trips and their lack of access to fossil sites. In my capacity as a professional paleontologist, access to fossil sites in not a problem since I do permitted field work on State and Federal lands, which are not open to fossil collecting by private individuals.

Another three respondents raised concerns about funding for the project and how that might affect collaboration on the FOSSIL project.
Funding for the project. The only major disagreement during the FOSSIL activities, which occurred during the Workshop, involved a question about the funding for the project. Neither the amateur paleontologist who asked the question nor the professional paleontologist who answered the question handled the issue particularly well.

Lack of money, time, manpower.

And 14% of responses (n=16) gave answers that did not fit into any of these categories.

Amateur fossil clubs are mostly local groups. They are already networking with others and don’t have a need for yet another fossil organization.

The middle ground here may be the educational system K12 and the Universities. This big EDU organizations provide a natural barrier between the amateur and the professional paleontologist. These EDU’s need to provide a visible bridge or they appear as a wall.

Giving up a valuable fossil to the professional.

Training.

Language.

FINDINGS: Interest in Potential FOSSIL Activities

PREFERENCES FOR FUTURE CONTENT AND ACTIVITIES

Respondents were asked to pick three areas of content and information they would like to see included in FOSSIL (see Table 15). Two areas were chosen by more than two-thirds of participants: learning about paleontology projects they could participate in (70%) and discovering information about fossil clubs and professional paleontologists (68%). Being able to read scientific paleontological content online was chosen by 53% of the participants and creating or contributing paleontological content online was chosen by almost half (48%) of participants.
Table 16: Content and Information in Future Activities (n=40)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning about paleontology projects you can participate in</td>
<td>70%</td>
<td>28</td>
</tr>
<tr>
<td>Discovering information about fossil clubs and professional paleontologists</td>
<td>68%</td>
<td>27</td>
</tr>
<tr>
<td>Being able to read scientific paleontological content online</td>
<td>53%</td>
<td>21</td>
</tr>
<tr>
<td>Creating or contributing paleontological content online</td>
<td>48%</td>
<td>19</td>
</tr>
<tr>
<td>Finding out about sites where you can collect fossils</td>
<td>30%</td>
<td>12</td>
</tr>
<tr>
<td>Finding, using, sharing information on the website, via forums</td>
<td>28%</td>
<td>11</td>
</tr>
<tr>
<td>Searching the website by phrase or tag</td>
<td>10%</td>
<td>4</td>
</tr>
<tr>
<td>Access to various kinds of social media (e.g., Facebook, Twitter, etc.)</td>
<td>3%</td>
<td>1</td>
</tr>
</tbody>
</table>

Next, participants were asked to pick the three most important training or professional development activities they would like to see in FOSSIL (see Table 16). The most popular choice was training sessions, webinars and talks for professional development (78%), followed by participating in webinars or workshops about a variety of topics (65%). The next two most popular choices were learning how to teach effectively about paleontology (55%), and participating in a Master Paleontologist program (50%).
Table 17: Training/Professional Development in Future Activities (n=40)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training sessions, webinars, and talks for professional development</td>
<td>78%</td>
<td>31</td>
</tr>
<tr>
<td>Participating in webinars or workshops about a variety of topics, such as safety training, outreach, liability, helping produce and sell publications, etc.</td>
<td>65%</td>
<td>26</td>
</tr>
<tr>
<td>Learning how to teach effectively about paleontology</td>
<td>55%</td>
<td>22</td>
</tr>
<tr>
<td>Participating in a Master Paleontologist program</td>
<td>50%</td>
<td>20</td>
</tr>
<tr>
<td>Organizing visits to institutions/sites via virtual field trips</td>
<td>35%</td>
<td>14</td>
</tr>
<tr>
<td>Earning digital badges or other incentives for certain forms of participation</td>
<td>10%</td>
<td>4</td>
</tr>
<tr>
<td>Playing games that involve classifying and tagging fossils</td>
<td>3%</td>
<td>1</td>
</tr>
</tbody>
</table>

There was also a question about what would be most helpful in supporting the communication and collaboration among FOSSIL participants (see Table 17). By far the two most popular selections were collaborating with other amateurs or professionals (90%) and contributing to fossil digitization or doing citizen science (78%).

Table 18: Communication/Collaboration in Future Activities (n=40)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborating with other amateurs or professionals</td>
<td>90%</td>
<td>36</td>
</tr>
<tr>
<td>Contributing to fossil digitization / doing citizen science</td>
<td>78%</td>
<td>31</td>
</tr>
<tr>
<td>Seeing, updating and sharing events on a calendar</td>
<td>40%</td>
<td>16</td>
</tr>
<tr>
<td>Soliciting the help of the community for solving a problem (crowdsource)</td>
<td>33%</td>
<td>13</td>
</tr>
<tr>
<td>Affiliating with multiple clubs</td>
<td>30%</td>
<td>12</td>
</tr>
<tr>
<td>Chatting online with other amateur and/or professional paleontologists- one-on-one or in group discussions</td>
<td>20%</td>
<td>8</td>
</tr>
<tr>
<td>Blogging about ideas</td>
<td>8%</td>
<td>3</td>
</tr>
<tr>
<td>Using rich media to create personal stories</td>
<td>3%</td>
<td>1</td>
</tr>
</tbody>
</table>

Participants were asked to pick their top choices for future outreach and awareness activities for FOSSIL (see Table 18). By far the most popular choice was having professional paleontologists reach out to amateurs and fossil clubs, chosen by nearly all
the participants (95%). This was followed by having amateur paleontologists share their expertise and accomplishments with professional paleontologists (78%) and fossil clubs identifying experts in certain areas to reach out to (70%).

**Table 19: Outreach/Awareness for Future Activities (n=39)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional paleontologists reaching out to amateur paleontologists and fossil clubs/societies.</td>
<td>95%</td>
<td>38</td>
</tr>
<tr>
<td>Amateur paleontologists sharing their expertise and accomplishments with professional paleontologists</td>
<td>78%</td>
<td>31</td>
</tr>
<tr>
<td>Fossil clubs identifying experts in certain areas to reach out to</td>
<td>70%</td>
<td>28</td>
</tr>
<tr>
<td>Newsletters being distributed to club members and other clubs</td>
<td>30%</td>
<td>12</td>
</tr>
<tr>
<td>Formal and informal educators using lesson plans, workshops</td>
<td>15%</td>
<td>6</td>
</tr>
<tr>
<td>Fossil clubs accessing others’ blog posts and newsletters to share</td>
<td>8%</td>
<td>3</td>
</tr>
<tr>
<td>Fossil clubs discovering information about users</td>
<td>3%</td>
<td>1</td>
</tr>
<tr>
<td>Seeing other members who are online</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

A list of “real world” fossil activities was given to participants and they were asked to pick their top three choices for future FOSSIL activities (see Table 19). The top three choices, all chosen by more than half of participants included the following: digitizing fossils and adding information (76%), having a photo gallery of fossils (61%) and creating online fossil collections (53%).

**Table 20: Real World Fossil Future Activities (n=38)**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digitizing fossils and adding information</td>
<td>76%</td>
<td>29</td>
</tr>
<tr>
<td>Photo gallery of fossils</td>
<td>61%</td>
<td>23</td>
</tr>
<tr>
<td>Creating online fossil collections</td>
<td>53%</td>
<td>20</td>
</tr>
<tr>
<td>Creating virtual fossil exhibits for others to explore</td>
<td>42%</td>
<td>16</td>
</tr>
<tr>
<td>Creating identifying information or tags for fossils</td>
<td>34%</td>
<td>13</td>
</tr>
<tr>
<td>Geotagging fossils on a virtual map</td>
<td>26%</td>
<td>10</td>
</tr>
</tbody>
</table>
Finally, participants were asked if there were any activities or components not listed in the above options they would like to see added (see Table 20). Only a small number of options were submitted, and the categories are listed below. A couple of respondents provided lengthy answers and these are also provided below.

Table 21: Additional Future Activities or Components (n=12)

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Law/best practices</td>
<td>2</td>
</tr>
<tr>
<td>Photography</td>
<td>1</td>
</tr>
<tr>
<td>“Classified”</td>
<td>1</td>
</tr>
<tr>
<td>Lesson plans for teachers</td>
<td>1</td>
</tr>
<tr>
<td>How to write research paper/methods</td>
<td>1</td>
</tr>
<tr>
<td>Content experts</td>
<td>1</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>7</td>
</tr>
</tbody>
</table>

A few respondents made suggestions for additional activities or components that could become part of the FOSSIL project.

Two respondents suggested opportunities to learn about best practices and laws regarding fossil collection.

*From my perspective, first and foremost we need to build the collaboration between the amateur/avocational community and the professional community. A close second to that is enhancing the public’s perception and knowledge of paleontology. There were many good ideas proposed at the workshop. In addition, FOSSIL could help facilitate these goals in the following ways:*

1. Help educate the amateur/avocational community, making them more attractive to the professional side by:
   a. Have the website provide things like: guidelines and best practices for collecting in the field, curation & preparation. Have three categories: basic (the bare minimum standards we should be doing), advanced (intermediate) and professional (the same standards professionals use).
   b. Have a list of the general criteria used when writing technical papers. I know they vary from journal to journal and conference to conference – but come up with SOME sort of standardized version. (various paper outlines, best practices, specimen orientation for photography, etc.)
   c. Post guidelines for ethical collecting somewhere on the homepage as well (ethical collecting rules, specimen donation guidelines and encouragement.).
2. Post a document, or a link to a document, that gives an easy to understand
(layman’s version) of all the current dating techniques being used today – why and what age they work for. We get questions on this all the time and have rather sloppy answers. A good explanation goes a long way to enhancing our credibility to the public.

3. The same for an explanation of basic stratigraphy and understanding strat sections and their importance.

4. AMATEUR/AVOCATIONAL RECOGNITION: Have a section of the website homepage dedicated to highlighting those in the amateur/avocational community that interface with the professional community like:
   a. Have a list (with photos if possible) of everyone in the amateur/avocational community that has been peer-review published and list any awards they have received. That would go a LONG way toward establishing our credibility with the professionals.
   b. Have a list or show the number of individuals impacted by club outreach – rotating pictures work well. (example: the Aurora Fossil Museum interacts with 30,000 people annually at various events, functions and school visits.
   c. List the clubs that are currently helping institutions with big projects (photos good here as well) – again showing our value to the professional side.
   d. The NCFC website, www.ncfossilclub.org has a slideshow picture function that might work well in showcasing photos in this section.
   e. Have a board institutions can post on when THEY need help on a project.

5. We need access to peer reviewed journals to facilitate OUR research and knowledge improvement. If FOSSIL could get licenses to several of the more prevalent journals and allow “members” of the FOSSIL community to log on and access these journals, that would be a BIG help.

6. Provide a list of upcoming Paleontological Conferences and encourage amateur/avocationals to attend. At some point possibly even defraying partial costs – even offering $100.00 would be a big incentive. Lobby Conferences to allow us to attend. There are many that DON’T have a category for us to register to attend even though we would LIKE to go!

7. For Conferences that accept amateur/avocationals – lobby them to have a symposium where amateur/avocational actually PRESENT papers, and have awards for that category. That incent the amateur/avocations TO publish (and publish correctly), and shows the professional community what we are capable of.

8. Clubs only exist if there are fossils to hunt. Regulations are getting tighter and tighter. Use FOSSIL to lobby omnibus laws, etc. wherever needed to help keep fossil sites open to amateur/avocationals. Network with professionals. Also, possibly send form letters to member Clubs that they could have their members send to officials or some other grass-roots like endeavor. Somewhere highlight that 75% of scientifically relevant specimens have been found by amateurs.

9. Encourage professionals to MENTOR amateur/avocationals or perhaps adopt a
9. Club. Possibly partner with the club to write a peer-reviewed paper.

10. Encourage amateur/avocationals to ASK for mentoring from a local professional.

11. Have a data base of a list of where the professionals ARE so members can find them more easily.

12. The words Club and Society are the same in our field.... Possibly Florida clubs are a bit more “club-like”, but elsewhere in the country the terms are interchangeable.

13. Once clubs are up to snuff (get out OWN house in order before trying to change the world – see at least 1, 2, 3 above), have clubs start hosting teacher workshops – to that end, have a basic template for such a workshop available on the website.

One respondent was interested in photography.

I think photographing fossils with scale of peoples/clubs collections is important. Necessary to document findings for particular formations and ages.

One respondent thought a place for “classified” postings would be beneficial.

I love all the ideas in 29! I would also suggest a section on fossil laws (state by state and international) and ethics. I would suggest a "classifieds" section for services, volunteer opportunities, research projects looking for specimen donations, etc.

Another respondent thought information about writing teacher lesson plans would be a helpful addition.

I think FOSSIL should either be or orchestrate the clearing house of lesson plans/lesson sets for teachers and tag lessons that meet common core standards- new paleontologists should be trained early.

One respondent was looking for more opportunities to speak with and learn from content experts.

It may have been alluded to but having specific topic experts that would be available to help club directors be more effective.

Another respondent wanted more information about writing research papers and methods.

Research methods, citizen science and crowd-sourcing are mentioned to some degree. Using the combined expertise of this group we could solve some tough problems!
And 7 respondents made comments that did not fit into any of these categories.

No.

Until my questions about fossil project are answered I can not made suggestions.

None at this time.

**LIKELIHOOD OF PARTICIPATION**

When asked about their participation, the large majority said they were very likely to participate in FOSSIL, with 78% rating it a 7 on a 7-point scale, and 93% giving it a 6 or a 7 likelihood rating (see Figure 10). All seven professionals rated their likelihood of participation at a 7.

**Figure 11: Likelihood of FOSSIL Participation – Amateurs Only (n=33)**

![Likelihood of FOSSIL Participation](image)

Participants were also told that the FOSSIL project would be setting up collaborative working groups for amateur and professional paleontologists to communicate/connect/come together. They were then asked to select the two working groups they thought would be most important to the success of the FOSSIL project. There was not a clear winner, but the three most common options selected were
communication and collaboration (55%), real world fossil activities (45%), and training and professional development (38%).

Table 22: Collaborative Working Groups (n=40)

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication and collaboration</td>
<td>55%</td>
<td>22</td>
</tr>
<tr>
<td>Real world fossil activities</td>
<td>45%</td>
<td>18</td>
</tr>
<tr>
<td>Training and professional development</td>
<td>38%</td>
<td>15</td>
</tr>
<tr>
<td>Future in-person meetings</td>
<td>28%</td>
<td>11</td>
</tr>
<tr>
<td>Content and information</td>
<td>25%</td>
<td>10</td>
</tr>
<tr>
<td>Outreach/awareness of others</td>
<td>23%</td>
<td>9</td>
</tr>
<tr>
<td>Newsletter best practices</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

**FINDINGS: Self-Perception of Amateurs**

Respondents were asked to describe their work, so that the FOSSIL team could better understand the range of activities in the roles of those particular amateurs. Amateurs mentioned research, field work, and outreach as some of their prime activities.

Table 23: Description of Amateur Work (n=32)

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research/Identification</td>
<td>13</td>
</tr>
<tr>
<td>Field Work</td>
<td>13</td>
</tr>
<tr>
<td>Outreach</td>
<td>10</td>
</tr>
<tr>
<td>Involved in a fossil club</td>
<td>8</td>
</tr>
<tr>
<td>Volunteer at museum or university</td>
<td>7</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>4</td>
</tr>
</tbody>
</table>

Thirteen amateurs said their work involved research and identification of fossils.

*Search out, collect, prep and study fossils. I read all I can about my collecting areas. I try to teach others about fossils in our area and their history.*

*Search various sites for fossils. Also do outreach activities for children with the idea of potential new prospects for the hobby.*

*Research, Specimen Acquisition for Public Use.*
Collect, curate. Research important finds including collaboration and publication. Review important finds with professionals. Present educational program talks for my club and the public.

Read natural history. I rarely go on field trips and do not collect fossils (or anything else as I relocate a lot).

I read papers and paleontological news articles to keep abreast of the latest research. I like to investigate older taxa from the late 19th century and early 20th century that have been overlooked. I visit local outcrops on weekends with specific research goals in mind (learning more about the stratigraphy, trying to find some of those overlooked fossils) or sometimes just for general collecting. I also keep on the lookout for interesting specimens or new outcrops and report them to professionals.

I collect fossils for my collection in general and I am documenting a fossil plant site near to my home. Also I have begun an effort to identify petrified wood from a particular formation in Oregon.

Thirteen amateurs said their work involved collecting fossils in the field.

Collect fossils in the field, prepare them with sophisticated micro-abrasive equipment and study scientific papers/books to identify them, sometimes asking professionals for support.

I have fun Digging in the river/Surface collecting fossils.

I am a hybrid. Though an amateur, I also partner with UT and have been published 4 times. I am a field girl at heart and love nothing better than to be out in the field collecting.

Spend thousands of hours and thousands of dollars in gas looking for fossils to share

I am a professional research methodologist. I have translate those skills into paleo pursuits. I explore new sites and specialize in underwater stratigraphy and exploration. I have published several papers on finds (with pros) and am currently working on several paleo research methods papers and a paper on the contributions of amateurs. I've co-founded two amateur/professional collaborative organizations, one of which is an internationally recognized citizen science program. I just recently founded an underwater fossil "rescue group" to save large threatened specimens in difficult underwater scenarios.

Ten amateurs stated their work involved outreach.
I collect for my personal collections, and give away many of my fossils to kids groups, schools, through public outreach. I have displays at schools and colleges that I have set up. I dive and land hunt for fossils and I am interested in a very wide variety of fossils. I research all the time in an effort to learn more.

Underwater stratigraphy, fossil prep, categorizing, publications, national outreach, design field methods, develop school curriculum content.

Search and Rescue (good), preparation and preservation (so so), identification (great), and public outreach (awesome lectures and exhibiting).

Teach the science of paleontology .outreach and education .look for fossils for my personal collection.

Eight amateurs commented their work involved participating in or coordinating fossil clubs.

I am active as a director and officer of the local fossil club. I collect fossils both in my local state and travel a significant distance to hunt fossils in Nebraska’s badlands. I share significant fossils with my state’s museum curators and am always looking to further my knowledge of the fossils I find - both in identifying the specific fossils and learning more about the animal they came from as well as the prehistoric environment in which the animals lived.

Fossil Club Member--collector.

I am a Board Member of a non-profit interpretive center and fossil site. I am frequently involved with public education, fossil identification, and collections management.

Collaborate with professionals, develop drydredgers.org, geofair.org, and xfossils.com, build fossil kits to sell in local gift shops. Educate the local fossil collectors using presentations, fossil ID booths. Identify fossils submitted to me by email photos.

Help with professional project when possible - preparation, facilitate lectures, field trips and symposiums. Help with operations of Dallas Paleo Society.

Seven amateurs said their work involved volunteering at a museum or university.

I mostly am involved through volunteering at a museum doing fossil prep.
Actively research and collect fossils of NJ, volunteer with the NJ State Museum on fossil related projects and field camps. Very active member of the Delaware Valley Paleontological Society.

Support field, curation activities at a Museum.

I prepare fossils for Sierra College as a volunteer. I help professional paleontologists find fossils for their research.

My main love is sharks teeth, and have collected a small fossil collection that I have used thru the years as a school volunteer, I run a small fossil club, with the help of my wife, we do the newsletter, website, etc. done many a fossil talk/lecture. Presently working with the Orlando Science Center on updating fossil displays there. Like to do a lot of drawing, and do artwork for t-shirts and friends.

Weekend fossil hunts for fun, assist in Museum field trips.

Prep vertebrate fossils collected on federal lands, collections management for a Museum. Volunteer paleontologist.

Four amateurs gave responses that did not fit into any of these categories.

PROMOTE FOSSILS.

Paleobotanical interests.

My main goal is to discover something new and Important that I can Share with others. A lot of amateurs would have Loved to have been Professionals, but either Money or Lack of opportunity kept us from the Dream. So this is my way of doing so.

I kinda fumble around, with a general, vague, blank look on my face desperately wishing I was more adept and wondering what exactly is the thing for which I am looking. Sometimes I recognize the object and get overly excited only to be told by someone more experienced that my precious treasure I am holding is nothing special, mostly because it is either poorly preserved, there are literally a million of them scattered around, or I was too enthusiastic in my hammering. At times I become determined to educate myself, only to discover that I must sift through 5000 children's games/stories/apps/web sites to find a few, barely produced items suitable for an adult which happen to all be copies of one page written by some guy in 1998 on an old IBM DOS computer. It's gotten so bad that I've resorted to Wikipedia to search for suitable sources. I thought that would work until I discovered that those sources often source Wikipedia as their source.
Seriously. Mostly I am a glorified appointment secretary for our club. I pretty much define "amateur". I won't insult everyone else by appending "paleontologist" onto that.

**Table 24: Amateur Area of Expertise (n=25)**

<table>
<thead>
<tr>
<th>Area of Expertise</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific type of fossil</td>
<td>12</td>
</tr>
<tr>
<td>Field Work</td>
<td>5</td>
</tr>
<tr>
<td>Outreach/presentations</td>
<td>3</td>
</tr>
<tr>
<td>Lab/prep work</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>3</td>
</tr>
</tbody>
</table>

Twelve amateurs defined their area of expertise in a specific type of fossil.

> I enjoy vertebrate fossils from both Florida and Nebraska. I also am one of the few people I know who enjoys collecting micro-fossils from both of these areas. 
> New Jersey / Atlantic Coastal Plain Invertebrate Cretaceous material

> I have become quite knowledgeable about whale skeletal anatomy through my "project" reconstruction, with the help of Dave Bohaskus (Smithsonian) and Vince Schneider (NC Museum of Natural Sciences)

> Miocene mammals of Nevada.

> Eocene paleoflora of North America and Canada and paleoclimatology.

> Cretaceous vertebrates

> Paleozoic echinoderms; chitons and multiplacophorans; general knowledge of Cincinnatian fossils

Five amateurs defined their area of expertise as field work.

> Underwater fossil recovery

> Excavation and some preparation.

> Stratigraphy, site discovery and development, underwater exploration and recovery, systematic large-scale citizen science based research, Bulk sampling, stratigraphically targeted exploration and in situ recovery.
Three amateurs defined their area of expertise as lab work and/or prep work.

*Dinosaur bone prep.*

*Fossil Id, for the fossils found in my area.*

Two amateurs defined their area of expertise as outreach and/or presentation.

*I am a generalist, and do best at describing new ecosystem fauna (invertebrates) lectures :) *

*President of a fossil society.*

Three amateurs gave responses that didn't fit into any of these categories.

*Hard to define "expertise".*

*None.*

*I am particularly good at hitting everything other than a chisel head, rock face, or nail. Knees, thumbs, fingers, hands, tires, the random bird flying by - I'm great at hitting those with a rock hammer. I'm also very good at trying to get just that last little bit of rock off the specimen which causes the whole thing to break apart. I'm also pretty good at picking the worst place possible to find a fossil, but in spite of all evidence to the contrary (including being verbally told that the fossils aren't there) I still feel like I'm going to hit pay-dirt.*

**FINDINGS: Relationship Between Amateur and Professional Paleontologists**

**Perceptions**

Given that the relationship between amateur and professional paleontologists can be fraught, we asked amateurs to generate words and phrases that they would use to describe professionals. The words were overall positive or neutral, showing a level of respect and understanding for professional roles.
Table 25: Amateurs Describing Professionals (n=23)

<table>
<thead>
<tr>
<th>Response</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledgeable/educated</td>
<td>14</td>
</tr>
<tr>
<td>Accessible/willing to work with others</td>
<td>9</td>
</tr>
<tr>
<td>Negative associations</td>
<td>8</td>
</tr>
<tr>
<td>Dedicated</td>
<td>7</td>
</tr>
<tr>
<td>University or museum-related</td>
<td>6</td>
</tr>
<tr>
<td>Paid and/or published</td>
<td>6</td>
</tr>
<tr>
<td>Friendly</td>
<td>5</td>
</tr>
<tr>
<td>Work-related tasks</td>
<td>5</td>
</tr>
<tr>
<td>Busy</td>
<td>4</td>
</tr>
<tr>
<td>Passionate</td>
<td>3</td>
</tr>
<tr>
<td>Curious</td>
<td>3</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>12</td>
</tr>
</tbody>
</table>

Amateurs were given the opportunity to fill in five blank boxes with five different words they feel describe professional paleontologists. These categories account for all of the responses given by participants.

Twenty-three amateurs responded with at least 1 descriptive word, but some participants gave multiple answers. There were a total of 82 words recorded from those 23 respondents.

Fourteen amateurs used words to describe professionals as knowledgeable and/or educated.

*knowledgeable*
*Educated*

*Very well educated in a number of natural history areas - biology, geology*
*Intellectual*
*Educational background*
*Life-long learners*
*Trained*
*Expert*
*Insightful*

Nine amateurs used words to describe professionals as accessible and/or willing to work with others.
Usually willing to share their expertise
Accessible
Usually willing to share knowledge
Respectful of amateur/public contributions
Willing to educate and inform
Helpful

Eight amateurs used words to describe professionals as having negative traits.

Sometimes too ivory towerish
Sometimes too proud
Eccentric at times - can be a little "weird"
Some seem egotistical and uninterested in non-professionals, but you find that in all disciplines.
Aloof
Crazy
Egotistical

Seven amateurs used words to describe professionals as dedicated.

Hard working
Dedicated
Dedicated to science
Focused
Extraordinarily determined.

Six amateurs used words to describe professionals as being involved with a University or Museum.

Academic
Professors at colleges and universities
Curators of fossil collections at museums and institutions
Museums
Colleges/Universities
Feds - National Parks, USGS

Six amateurs used words to describe professionals as paid and/or published.

Paid employees in the field of paleontology
Published
Paid staff lectures in the area of paleontology
Published
Paid
Five amateurs used words to describe professionals as friendly.

Either very friendly or very unfriendly. doesn’t seem to be a middle ground
Fun to work with.
Friendly
Lots of humor!!!

Five amateurs used words to describe the work-related tasks of professionals.

Some do field work
Some data mine
Not always but often good presenters of their subject matter
Research oriented

Required to do paperwork

Four amateurs used words to describe professionals as busy.

Busy.
Over-scheduled.

Three amateurs used words to describe professionals as passionate.

Love of fossils.
Passionate about detail.
Passionate.

Three amateurs used words to describe professionals as curious.

Adventurou.s [sic]
Curious.

Twelve amateurs used words that did not fit into any of these categories.

Sometimes very particular.
Analytical.
Happy in their profession.
They are doing every little kid’s dream.
They generally like good beer.
That depends on the professional....
Ethical Human.
Losing ground - little funding so they squeeze in what they love in between environmental concerns.
Few and far between in the northwest.
Underfunded.
Hard to describe, apparently.
They want to get out (to collect), but usually can't.

**Prior Work**

Of the amateurs that responded to the survey, 77% (n=24) had previously worked with professional paleontologists.

**Future Opportunities**

When asked what sorts of future work they would like to do with professional paleontologists, amateurs had a variety of interests from working on specific fossil types, to participating in excavations and publishing.

**Table 26: Projects with Professional Paleontologists (n=29)**

<table>
<thead>
<tr>
<th>Project</th>
<th>Percent</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific fossil types</td>
<td>31%</td>
<td>9</td>
</tr>
<tr>
<td>Excavation/dig</td>
<td>27%</td>
<td>8</td>
</tr>
<tr>
<td>Research/publishing</td>
<td>24%</td>
<td>7</td>
</tr>
<tr>
<td>Prep work or lab work</td>
<td>19%</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>19%</td>
<td>4</td>
</tr>
</tbody>
</table>

When amateur paleontologists were asked what kind of project they would like to work on with a professional paleontologist, most often amateurs responded with a specific fossil they would like to investigate. 31% of amateur respondents said they wanted to work on a project about a specific fossil type with a professional paleontologist.

Not sure if you mean in general or an very specific dig. For me, I want to work on some very specific digs going on in the Cretaceous formations of NJ currently in progress.

Micro fossils in Panama

Floristic change during the Eocene and Oligocene in North America

Any project having to do with Miocene mammals anywhere in the world.

Twenty-seven percent of amateur respondents would choose to take part in an
excavation or dig project with a professional.

Finding, excavating and then prepping out a dinosaur.

Camping in the field exploring a really big area that hasn't been picked over - I love to find things....

Go into the field to find specific fossils they seek for study

Almost one fourth of the amateur respondents said they would like to do research or publish findings along with a professional paleontologist.

Survey of fossils/some type of fossil where amateur participants post data about finds in a particular format, data is plotted and analyzed and results posted or published.

Research...learning the correct methods of documentation, collection and preservation of fossil finds.
That is a tough question. I think the work that is being done to integrate the paleobiology database and macrostrat is exciting but I would have to think about this more. I have used GIS/landscape ecology metrics on a Silurian bedding plane surface and would love to do the same with another area such as the Falls of the Ohio. From what I understand this has not been fully mapped out and put into a GIS. I could see doing this and using the data to compare with what I have done.

Looking for fossils on another planet or 3D imaging of an entire plain-old Earth site.

Nineteen percent of amateur respondents (n=4) were interested in doing prep work or lab work with professionals.

I am content with what I have done in the Paleo Prep Lab for the past fifteen years.

I would love to learn how to repair damaged fossils and properly reconstruct broken fossils in the lab. I also would enjoy working with a museum on a site excavation.

Working in the collections.

And another 19% of respondents (n=4) made comments that did not fit into any of these categories.

Doing what I am doing now.
I’ll pick that one when as I find it. The trouble is finding out what pros need help on.

Anything that my skills would be useful.

Citizen science.

**Feedback from Professional Paleontologists**

Professional paleontologists were invited and attended the FOSSIL Symposium and activities, and they were also asked to complete this survey so that we could gain their feedback on the conference and FOSSIL, and also on relationships between amateurs and professional. Overall, the professional paleontologists who were attending had worked with amateur paleontologists, and they held a high degree of regard for amateur paleontologists. This was of course a self-selected group for individuals that were interested in being part of the FOSSIL project.

There were 7 professionals within the sample. As the range of activities for a professional paleontologist is potentially quite broad, we asked these individuals to characterize the work they do.

**Table 27: Professionals Work (n=7)**

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>4</td>
</tr>
<tr>
<td>Field Work</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
</tr>
</tbody>
</table>

Four professionals describe their work as being part of academia.

*I’m a curator, researcher, educator, etc…*

*Professor teaching paleo classes, advisor to amateur group, adjunct curator at Cincinnati Museum Center.*

*Professor of paleontology.*

*Academic.*

Two professionals describe their work as being focused on field work.

*I am a professional paleontologist involved in field work, research, and informal science education, including working with the New Mexico Friends of Paleontology, as well as public lectures and helping with public paleontology exhibits for the New Mexico Museum of Natural History and Science*
Excavation, documentation, tours, fossil preparation, restoration, molding and casting, exhibit design, consulting, remediation, publishing, educational programs.

Two professionals describe their work as being focused on education.

Design fossil collections and associated activities. Purchase fossils and other geological specimens used in the creation of education kits for elementary schools, high schools and universities.

Probing further into the relationship between amateur and professionals, we asked professionals to list words and phrases they use to describe amateur paleontologists. There were 7 professional paleontologists who responded to this question with at least one descriptive word. There were a total of 26 responses given by those 7 professionals. All of the descriptive words used were positive.

Table 28: Professionals Describe Amateur Paleontologists (n=7)

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiastic</td>
<td>10</td>
</tr>
<tr>
<td>Knowledgeable</td>
<td>7</td>
</tr>
<tr>
<td>Dedicated</td>
<td>4</td>
</tr>
<tr>
<td>Hard-working</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous comments</td>
<td>5</td>
</tr>
</tbody>
</table>

Professionals used 10 responses to describe amateurs as enthusiastic.

Enthusiastic.
Eager to learn.
Passionate.
Self motivated.

Professionals used 7 different ways to describe amateurs as knowledgeable.

Knowledgeable.
Well-informed.

Professionals used the word “dedicated” to describe amateur paleontologists 4 times.

Professionals used 4 words to describe amateurs as hard-working.
Ambitious.
Hard working.

And another 5 descriptive words were used that did not fit into any of these categories.

Generous.
Collectors.
Hopeful.
Interested.
Enjoy sharing what they have found and what they know.

Professional paleontologists have had a variety of experiences with amateur paleontologists, and because of the small sample size (n=6) it is difficult to categorize the answers in a meaningful way. Most of the experiences described are focused on outreach, but some have developed close relationships with amateurs who have donated time and artifacts to professionals. The full responses are below.

Currently serve as president of the Rochester Academy of Science Fossil Section. Lend assistance to high school and college outreach courses.

I have multiple experiences. The most close is with an amateur who has collected materials that he donated to our museum, which are now being used for research and education projects of all sorts. He also helped establish new fossil cites and relationships with landowners so we can continue work at the sites. He's hosted scientists and students and has been so important to the community in so many ways.

As mentioned in several other answers in this survey, I am a mentor/liason for an amateur paleontology group (New Mexico Friends of Paleontology) associated with the museum where I am a curator of paleontology (New Mexico Museum of Natural History and Science). I regularly present public lectures on my research and field work, identify fossils and provide other information to the NMFOP members, lead field trips to fossil sites, and provide training in field paleontological methods.

Longtime association and collaboration with amateurs, involving them in my research.

Rewarding.

I have collected, lectured and taught workshops, was a coauthor of a guidebook for a fossil organization, and have advised a group on best practices for collecting and sustaining a fossil site. The amateur paleontologists I work with are not just related to my job, they have become friends and people who energize me.
Similar to the question we asked amateurs about projects they would like to partner with a professional on, we asked professionals to describe projects they would like to work on with amateurs. Because of the small sample size, there were only 6 professional paleontologists participating, it’s difficult to categorize the responses. Most of the responses focused on outreach and helping amateurs identify fossils and learn about best practices in fieldwork.

Most things - field work, research, talks, education, hosting visitors, etc...

Helping amateur paleontologists and members of the general public identify the fossils they collect. On a daily basis, members of the public bring fossils to the museum for me and other curators at the museum to identify. I also receive emails almost daily from amateur paleontologists with photos of fossil they want me to identify. Working with amateur and professional paleontologists to create a digital photo library of fossils would be a very worthwhile project that I would be willing to help create.

Research where they can contribute as citizen scientists.

In the field, training programs on proper excavation and documentation procedures.

A network where fossil clubs partner with university instructors in designing and publishing field trip guides for historical geology and paleontology classes. Furthermore, the average undergraduate student would enjoy interfacing with the amateur paleontologists. Having fossil club members go with you on a class trip would be fantastic. And, the amateur paleontologists could connect and recruit new members. Many geology majors go into the environmental field and consult and stay in the area. Not all majors go to graduate school. These are the folks who want to still do geology, still go collect fossils, and miss doing these things when they take a job. Fossil clubs are a potential way for these graduates, in the workforce, to still do some of the things they loved to do as a geology student.
OVERALL DEMOGRAPHICS

Almost 75% of participants in the post-conference study are male (73%, n=29). Science communities are often composed of more men than women. The FOSSIL project might help make amateur paleontology more accessible and attractive to women, especially programs for students and children, which can raise interest in scientific studies at an early age.

The majority of participants in the post-conference study are white, with one participant identifying as Hispanic/Latino and two identifying as at least part Asian/Pacific Islander. Implementation of the FOSSIL project would likely reach out to amateur groups that have a diverse ethnic make up.

<table>
<thead>
<tr>
<th>Table 29: Ethnic Origin (n=39)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>White/Caucasian</td>
</tr>
<tr>
<td>African American</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
</tr>
<tr>
<td>Native American/Alaska Native</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
</tr>
<tr>
<td>Don’t know/Not sure</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

*Responses were at 39, as one individual selected more than one category.

The majority of respondents who took part in the post-conference survey are members in at least one fossil organization, and many are members in small, regional clubs. So for many of the participants (n=21) they were the sole representatives of that club at the conference. However, there were a few clubs that had representation from multiple individuals (n=5), such as the Dry Dredgers. And 1/3 of the 31 respondents (n=11) were members of more than one fossil club.

<table>
<thead>
<tr>
<th>Table 30: Fossil Organization Membership (n=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Dry Dredgers</td>
</tr>
<tr>
<td>The Florida Paleontological Society</td>
</tr>
<tr>
<td>The Fossil Club of Lee County</td>
</tr>
<tr>
<td>Southwest Florida Fossil Society - Punta Gorda, Florida</td>
</tr>
<tr>
<td>Dallas Paleontological Society</td>
</tr>
<tr>
<td>West Virginia Fossil Club</td>
</tr>
<tr>
<td>Florida Fossil Hunters</td>
</tr>
<tr>
<td>Manasota Fossil Club</td>
</tr>
<tr>
<td>Organization</td>
</tr>
<tr>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Tampa Bay Fossil Club</td>
</tr>
<tr>
<td>Friends of the Aurora Fossil Museum</td>
</tr>
<tr>
<td>Paelo Quest</td>
</tr>
<tr>
<td>MAPS</td>
</tr>
<tr>
<td>Northwest Paleontological Association</td>
</tr>
<tr>
<td>Paleontological Research Institution</td>
</tr>
<tr>
<td>North America Research Group</td>
</tr>
<tr>
<td>Western Interior Paleontological Society</td>
</tr>
<tr>
<td>Delaware Valley Paleontological Society</td>
</tr>
<tr>
<td>Fossils for Fun</td>
</tr>
<tr>
<td>San Diego Natural History Museum, Paleontology Division</td>
</tr>
<tr>
<td>Anza Borrego Desert State Park, Paleontology</td>
</tr>
<tr>
<td>Stonerose Interpretive Center</td>
</tr>
<tr>
<td>Alabama Paleontological Society, Inc.</td>
</tr>
<tr>
<td>North Carolina Fossil Club</td>
</tr>
<tr>
<td>Paleontological Society of Austin</td>
</tr>
<tr>
<td>Society of Vertebrate Paleontology</td>
</tr>
<tr>
<td>SharkFinder</td>
</tr>
<tr>
<td>Paleontological society</td>
</tr>
<tr>
<td>Ecological Society (paleoecology section)</td>
</tr>
<tr>
<td>Southwest Paleontological Society</td>
</tr>
<tr>
<td>Friends of the University of Michigan Museum of Paleontology</td>
</tr>
<tr>
<td>North America Research Group</td>
</tr>
<tr>
<td>Calvert Marine Fossil Club</td>
</tr>
<tr>
<td>Southwest Fossil Club</td>
</tr>
<tr>
<td>Imperial Bone Valley Gem and Mineral Society</td>
</tr>
</tbody>
</table>

Total will not add to 100% as some respondents are members of multiple organizations.
Appendix A

FOSSIL Post-Conference/ Project Kickoff

Email Invitation
Subject: FOSSIL and NAPC conference, important feedback

Dear [name],

We really enjoyed meeting you at the North American Paleontological Conference (NAPC) and the FOSSIL Project activities a few weeks ago in Gainesville. Your thoughts were so rich and valuable as we begin to get the FOSSIL project underway.

At the time, you gave your permission to be contacted about your experiences. Now that you’ve had a chance to reflect, we would like to get your feedback about your experience at the conference and FOSSIL events, and potential future activities. We realize these invitations are quite common, but you were one of a small group of people to participate so each person’s input is extremely helpful.

For the organizers of the recent NAPC and FOSSIL meetings your feedback is invaluable to help us improve future meetings and inform next steps in the development of FOSSIL. It’s important to us that FOSSIL activities reflect the needs of you and your communities.

The survey takes about 15 minutes, and we would appreciate your responses by Friday, April 4.

To access the survey and provide valuable feedback please click here [include individualized link here]

Thank you very much for your time and participation,

Steven Yalowitz
Audience Viewpoints Consulting
yalowitz@audienceviewpoints.com
www.audienceviewpoints.com
Email Reminder  
Subject: FOSSIL and NAPC conference, important feedback

Dear [name],

About 10 days ago you received an invitation to provide important feedback about the FOSSIL Project activities at the North American Paleontological Conference (NAPC) in Gainesville. At the conference, you gave your permission to be contacted about your experiences. Now that you've had a chance to reflect, we would like to get your feedback about these activities, to help us improve future meetings and inform next steps in the development of FOSSIL.

The survey takes about 15 minutes, and we would appreciate your responses by Wednesday, April 9.

To access the survey and provide valuable feedback please click here [include individualized link here]

Thank you so much for your time and participation,

Steven Yalowitz  
Audience Viewpoints Consulting  
yalowitz@audienceviewpoints.com  
www.audienceviewpoints.com
# FOSSIL Post-Conference/ Project Kickoff Survey

[administered online via surveymonkey.com]

Thank you for agreeing to answer our questions, we really appreciate it. Your feedback is very important to us and will help inform decisions about future conferences and activities related to this project.

If you do not feel a particular question is not relevant to you, or you are not able to answer it, you may leave it blank.

By completing this survey, you are giving consent for Audience Viewpoints to use your responses. Your participation is voluntary. There are no direct benefits or risks to you for participating, and no compensation. You may quit at any time or skip any item. You may withdraw your consent to participate at any time without penalty. If you respond via email, your IP address will be registered; however, your responses will remain anonymous. Thank you for your help.

If you have questions about this survey, contact Betty Dunckel, Florida Museum of Natural History, University of Florida, 352-273-2088, bdunckel@flmnh.ufl.edu.

If you want more information about your rights as a research participant, contact the UF IRB Office, 352-392-0433, irb2@ufl.edu.

By checking the box below I acknowledge that I have read the information and agree to participate in this survey. If you do not wish to participate, please close your browser at this time.

[check box] I agree

To start answering questions click “Next” below.

[new page]

## Feedback on the conference

This section focuses on your experience at the North American Paleontological Conference (NAPC), and all related sessions and activities.

1. **How would you rate the following aspects of the conference?** *[single selection]*

| Not welcoming | | | | | | Very welcoming |
|---------------|---|---|---|---|---|
| 1             | 2 | 3 | 4 | 5 | 6 | 7 |
2. To what extent were your expectations met or not met for the conference?

<table>
<thead>
<tr>
<th>Expectations not met</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

2a. For the question above, why did you give the rating you did?

3. How would you rate the sessions you attended, in terms of how academic or technical they were, in their concepts and language?

<table>
<thead>
<tr>
<th>Not academic enough</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

4. What was the most useful session of the conference for you? [open response, single text box]

4a. Why was that one particularly useful for you? [open response]

5. Is there anything you think you will do differently as a result of attending the conference? [single selection]

☐ Yes
☐ No

5a. If Yes, what will you do differently? (list up to 5 answers, each in a separate box) [5 text boxes for open responses]

5b. If you have already done something differently as a result of attending the conference, please explain. [open response]

[new page]

6. There were some activities at the conference specifically about a project called FOSSIL. FOSSIL is forming a networked, national community of amateur and professional paleontologists who will collaborate in learning, the practice of science, and outreach. How aware were you of the FOSSIL project before attending the conference? [single selection]

☐ I had not heard of it
☐ I knew a little about it
☐ I knew a fair amount about it
☐ I was very familiar with the FOSSIL project
7. **Which of the following FOSSIL Project activities did you participate in?**
   - [ ] Monday symposium/speaker/poster presentations during conference
   - [ ] Tuesday lunch at the Florida Museum of Natural History
   - [ ] Wednesday workshop at the Florida Museum of Natural History
   - [ ] Wednesday reception at the Florida Museum of Natural History
   - [ ] None of the above
   - [ ] I’m not sure if I participated

[New page]

**FOSSIL activities and events**

This section focuses specifically on the FOSSIL-related sessions and activities at the conference, mentioned in the previous question.

8. **How relevant were the FOSSIL-related sessions to you, which included the symposium with speaker and poster presentations on Monday as well as activities after the conference including the Tuesday luncheon, Wednesday workshop, and Wednesday reception?**
   - [ ] Not at all relevant
   - [ ] Very relevant

[Response options]

9. **Please complete the following sentence. “Thinking about these FOSSIL activities, the one thing that could be changed at future meetings to make them more relevant to me is…”**
   - [open response]

10. **Were there sufficient opportunities to interact with professional paleontologists attending the conference?**
   - [ ] Not enough opportunities
   - [ ] More than enough opportunities

[Response options]

11. **To what extent were you able to make new connections with amateur paleontologists?**
   - [ ] Did not make any new connections
   - [ ] Made many new connections

[Response options]
12. How likely are you to follow up with someone you met during the conference or FOSSIL activities? [single selection]

<table>
<thead>
<tr>
<th>Not at all likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

☐ I have already followed up with someone I met.

13. If you belong to an amateur fossil club, how comfortable would you feel contacting another fossil club member you do not know? [single selection]

<table>
<thead>
<tr>
<th>Not at all likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

14. If you belong to an amateur fossil club, how comfortable would you feel contacting a professional paleontologist? [single selection]

<table>
<thead>
<tr>
<th>Not at all likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

[new page]

General thoughts about FOSSIL project

This section focuses on future FOSSIL participation, not the 2014 conference. The myFOSSIL website will be further developed to provide opportunities for people to both access and contribute fossil-related content; communicate electronically and socially; attend meetings, webinars, and workshops (in person and virtual); access a variety of resources; participate in projects; and conduct outreach.

15. How likely are you to engage in the FOSSIL project, as described above? [single selection]

<table>
<thead>
<tr>
<th>Not at all likely</th>
<th>Very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

16. How do you think the FOSSIL project will most benefit professional paleontologists? [open response]
17. How do you think the FOSSIL project will most benefit amateur paleontologists? [open response]

18. What do you see as the biggest barriers to increasing the exchange and collaboration between professional and amateur paleontologists as part of the FOSSIL project? (list up to 5 barriers, one per box) [5 text boxes for open responses]

[new page]

Interest in future myFOSSIL activities

As we move forward and make decisions about what to include on the myFOSSIL website, it is very important that these decisions be informed by the people who are going to use the site. This section asks you to help us prioritize which kinds of activities and content we include on the site, broken down into specific areas.

CONTENT AND INFORMATION

19. Which three of the following do you think are the most important for the project to include? Please pick three only. [multiple selection]

- Being able to read scientific paleontological content online
- Creating or contributing paleontological content online
- Discovering information about fossil clubs and professional paleontologists
- Learning about paleontology projects you can participate in
- Finding out about sites where you can collect fossils
- Searching the website by phrase or tag
- Finding, using, sharing information on the website, via forums
- Access to various kinds of social media (e.g., Facebook, Twitter, etc.)

TRAINING/PROFESSIONAL DEVELOPMENT

20. Which three of the following do you think are the most important for the project to include? Please pick three only. [multiple selection]

- Training sessions, webinars, and talks
- Earning digital badges or other incentives for certain forms of participation
- Participating in webinars or workshops about a variety of topics, such as safety training, outreach, liability, helping produce and sell publications, etc.
- Learning how to teach effectively about paleontology
- Organizing visits to institutions/sites via virtual field trips
- Playing games that involve classifying and tagging fossils
- Participating in a Master Paleontologist program
COMMUNICATION/COLLABORATION

21. Which three of the following do you think are the most important for the project to include? Please pick three only. [multiple selection]
- Seeing, updating and sharing events on a calendar
- Using rich media to create personal stories
- Chatting online with other amateur and/or professional paleontologists- one-on-one or in group discussions
- Blogging about ideas
- Collaborating with other amateurs or professionals
- Affiliating with multiple clubs
- Soliciting the help of the community for solving a problem (crowdsourcing)
- Contributing to fossil digitization initiatives / doing citizen science

OUTREACH/AWARENESS OF OTHERS

22. Which three of the following do you think are the most important for the project to include? Please pick three only. [multiple selection]
- Formal and informal educators using lesson plans, workshops
- Newsletters being distributed to club members and other clubs
- Seeing other members who are online
- Fossil clubs discovering information about users
- Fossil clubs finding out about potential members
- Fossil clubs identifying experts in certain areas to reach out to
- Fossil clubs accessing others’ blog posts and newsletters to share
- Amateur paleontologists sharing their expertise and accomplishments with professional paleontologists
- Professional paleontologists reaching out to amateur paleontologists and fossil clubs/societies.

REAL WORLD FOSSIL ACTIVITIES

23. Which three of the following do you think are the most important for the project to include? Please pick three only. [multiple selection]
- Digitizing fossils and adding information
- Photo gallery of fossils
- Creating online fossil collections
- Creating identifying information for fossils
- Geotagging fossils on a virtual map
- Creating virtual fossil exhibits for others to explore

24. Are there any activities or components of the project not included in the lists above that you would like to see added? [open response]
Future in-person meetings

25. Which of the following cities do you think would be the best for the next annual FOSSIL symposium (likely in 2015), where amateur and professional paleontologists learn together and exchange ideas and information? (please select one option) [single selection]

☐ Dallas
☐ Denver
☐ Los Angeles
☐ Washington DC area

26. Also, please feel free to suggest additional locations we should consider for the 2015 symposium? [open response]

[new page]

Setting up working groups

27. The FOSSIL project will be setting up collaborative working groups for amateur and professional paleontologists to communicate/connect/come together. Which two of the following working groups do you think would be most important to the success of the FOSSIL project? (please select two options) [multiple selection]

☐ Content and information
☐ Training and professional development
☐ Communication and collaboration
☐ Outreach/awareness of others
☐ Real world fossil activities
☐ Future in-person meetings
☐ Newsletter best practices
☐ Other - please specify: _____________

[new page]

General information

This section includes questions that will help the FOSSIL project understand which audiences we’re reaching for the project, and include a variety of points of view in our decisions moving forward.

28. What is your gender? [single selection]

☐ Male
29. What is your ethnic origin? Please select as many as apply. [multiple selections allowed]
   □ White/Caucasian
   □ African-American
   □ Hispanic/Latino
   □ Native American / Alaska Native
   □ Asian/Pacific Islander
   □ Don’t know/not sure
   □ Other: ______________________

30. If you live in the United States, what is your zip code? (If from outside the U.S. please tell us which country) [open response]

31. Would you consider yourself to be more of an amateur or professional paleontologist?
   [single selection with skip pattern]
   □ Amateur/Avocational paleontologist [go to next section, then skip to end]
   □ Professional paleontologist [skip next section]

[new page]

General information continued

If you consider yourself an amateur paleontologist (i.e., someone who is not employed in the profession), then answer these questions. If you are employed as a paleontologist, then please skip this section.

32. How would you describe what you do, as an amateur?

33. Please let us know if you have a particular area of expertise regarding fossils? [open response]

34. Which words or phrases would you use to describe professional paleontologists? [5 boxes for open response]

35. As an amateur paleontologist, have you ever worked directly with professional paleontologists? [open response]

   35a. If Yes, please briefly describe the experience and what was like working with professional paleontologist(s). [open response]

36. Do you currently belong to a fossil organization? [single response]
   □ Yes
☐ No

36a. If Yes, which one(s)? [open response]

37. If you could pick any project to work on with professional paleontologists, what would that be? [open response]

General information continued

38. Which institution or organization do currently you work for? [open response]

39. How would you describe your fossil-related activities or responsibilities? [open response]

40. Which words or phrases would you use to describe amateur paleontologists? (list up to 5 answers, each in a separate box) [5 boxes for open response]

41. In your professional capacity, have you ever worked directly with amateur paleontologists? [open response]

35a. If Yes, please briefly describe the experience and what is was like working with amateur paleontologist(s). [open response]

42. If you could pick any project to work on with amateur paleontologists, what would that be? [open response]

THANK YOU!
Thank you very much for taking time out of your day to fill out this survey. We really appreciate your responses, and they will help us improve the FOSSIL project for everyone who participates.