ADBC Summit VII Evaluation Report
Prepared by Shari Ellis, Ph.D.

Summary

An invitation to an electronic survey was sent to 131 individuals who participated in the Summit onsite; 80 individuals responded yielding a 60% response rate. Most (59%) respondents were representing a TCN or PEN with the remaining divided about equally between iDigBio and other organizations. Respondents represented projects funded each year of the ADBC program and they were about evenly split between those attending their first Summit and those who had attended prior ones (45% vs 55%).

iDigBio provided an orientation to those new to the ADBC community, including those attending the oVert TCN kickoff meeting. Most (75%) participants rated the orientation at least "somewhat helpful." Nearly all respondents rated the presentations by iDigBio, NSF, and the TCN representatives to be at least "somewhat informative." The format of the lightning talks was generally viewed as effective with the general scope of the TCNs and lessons learned of greatest interest and statistics related to digitization progress the least. Comments reveal that an interest in greater opportunities for Q&A and discussion during the TCN presentations; organizing the talks on some basis other than year of funding or directing each TCN to focus on a specific area of strength might facilitate that.

All of the working/interest group meetings and discussion sessions as well as Demo Camp and the workshop of collections data and ecological/conservation research were rated positively although ratings varied. The most highly rated sessions were the EAB meeting with TCN representatives, the oVert working group meeting, Legal Issues with Collections, iDigPaleo working group meeting, the ecology workshop, Demo Camp, and the sessions on Symbiota and Specify.

Summit organization was also regard positively with an appropriate amount of time devoted to formal presentations, time for informal interaction, and working/interest group meetings. The Summit venue was rated highly, despite the lack of affordable dining options nearby and the challenges of traveling to Gainesville. Respondents did comment on some issues related to communication about the Summit including delays in having a final program available, last minute changes to the program, the difficulty of reading the wiki, and confusion about the cost of participating in optional activities.

With respect to the impact of participating in the Summit, a majority of respondents from iDigBio, TCNs/PENs, and other organizations reported increases in knowledge of both iDigBio and the national digitization effort and TCNs. A majority of respondents from iDigBio and other organizations reported likely increases in communication and collaboration with TCNs, with 40% or more of TCN representatives indicating the same, including those participating in their first Summit.

Respondents

On-site Summit participants were sent an invitation to complete an online survey (a copy of the survey is available in Appendix A). Eighty of the 131 participants who were sent an invitation responded yielding a 61% response rate. Approximately 60% reported they were representing a TCN or PEN with the remaining participants divided equally between iDigBio and "other" affiliations. About half (51%) identified as a PI, Co-PI, Collaborating PI/Co-PI or Project Manager on a current of past ADBC project, 19% as support personnel, 13% as "other," 11% as faculty, scientists, or other senior personnel, while 5% were students. Participants included individuals who had received funding related to digitization prior to 2011 to members of recently funded TCNs (see Figure 1). Fifty-five percent of respondents had participated in at least one previous Summit, while 45% were attending their first Summit.


Figure 1. Responents by Year of Funding
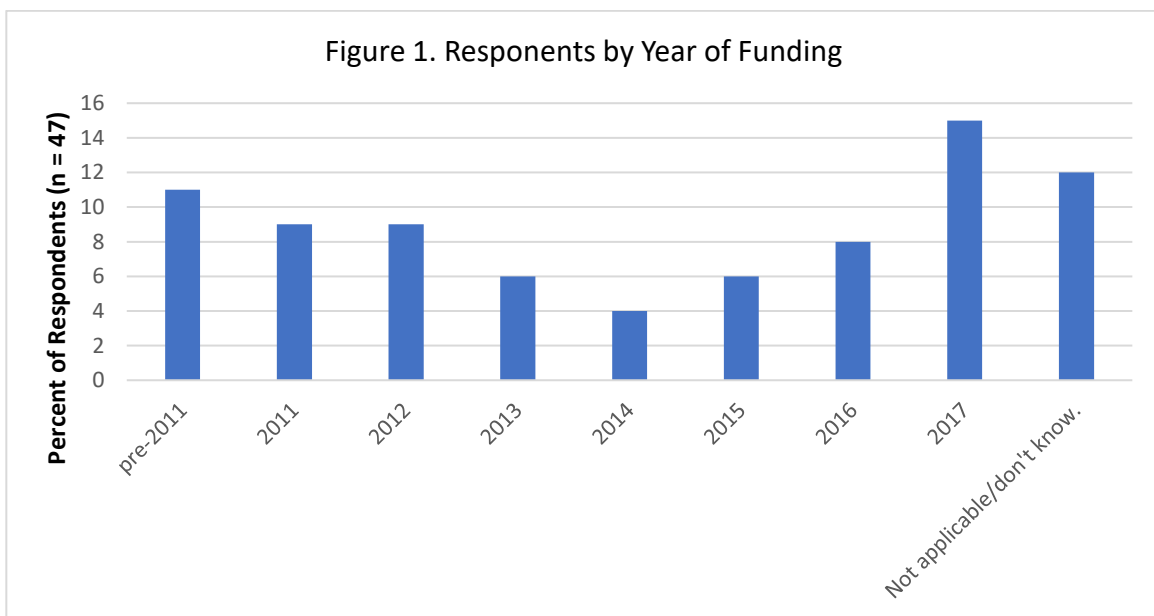
Approximately 50% of the respondents were male, 40% female, with the remaining either not answering the question or indicating that they preferred not to answer. Eighty-three percent of respondents identified as white, 4% as Asian, with 13% not responding. Eighty-three percent identified as non-Hispanic, 6% as Hispanic, with 11% not responding. Eighty-eight percent were U.S. citizens, 2% permanent U.S. residents, 2% non-U.S. citizens, with 8% not responding.

Orientation

The day prior to the Summit, iDigBio staff provided an orientation to members of new TCNs (oVert and SoRo) as well any other interested parties. The orientation covered ADBC and the national digitization effort, iDigBio roles and resources, and the responsibilities of TCNs. The

orientation was generally well-received with 75% of respondents rating it as "somewhat helpful" or "helpful."

Ratings of ADBC Orientation
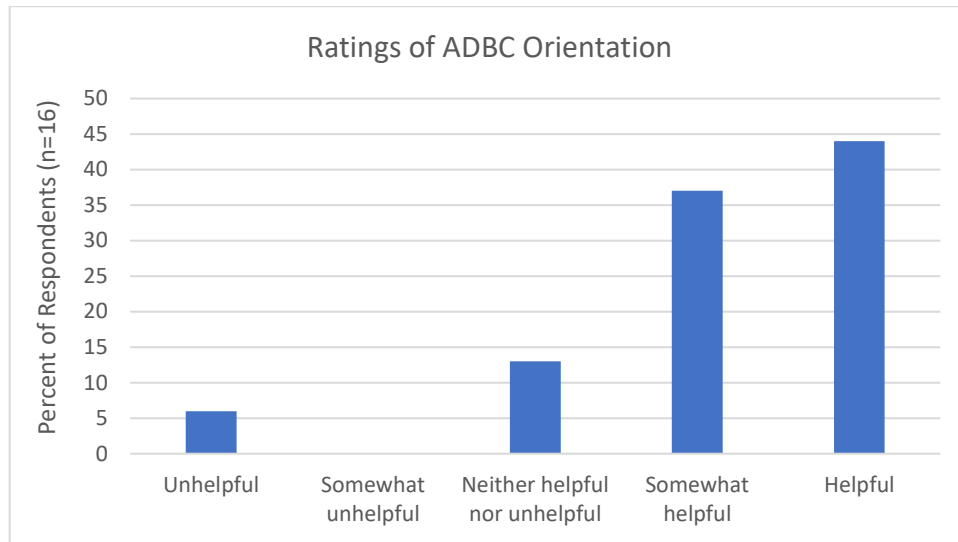
Representative comments:

"I thought that the orientation was extremely helpful, and I wish I could've been involved with one of these orientations sooner!"
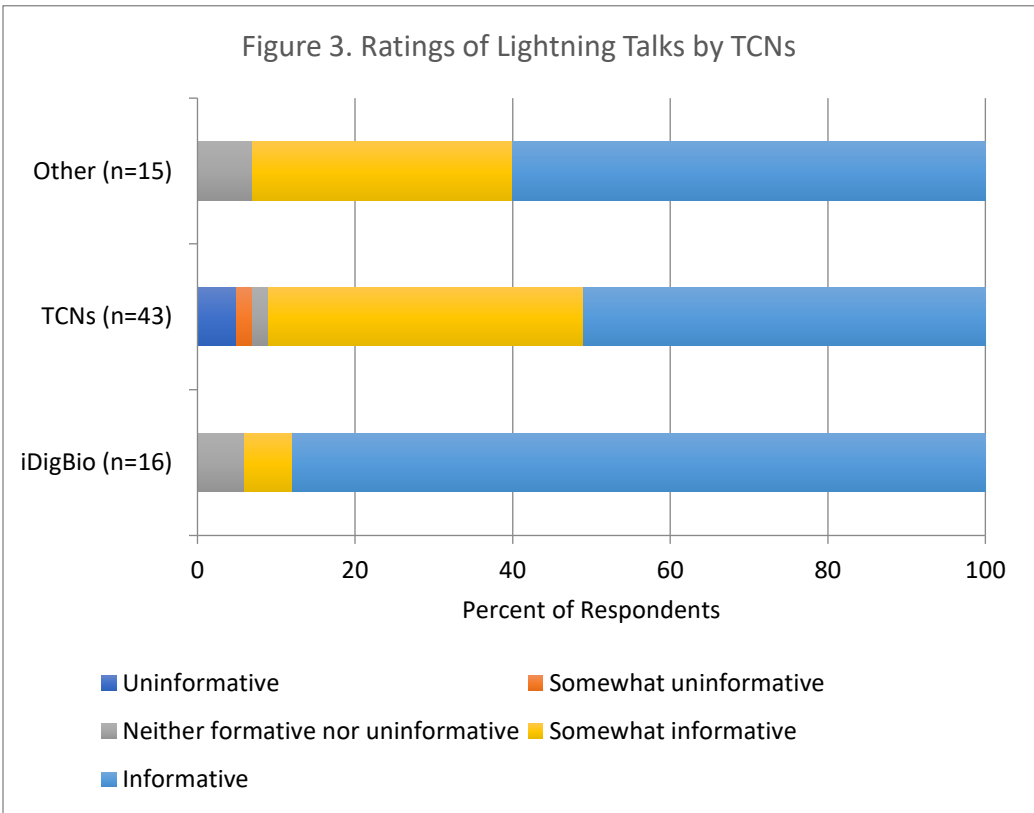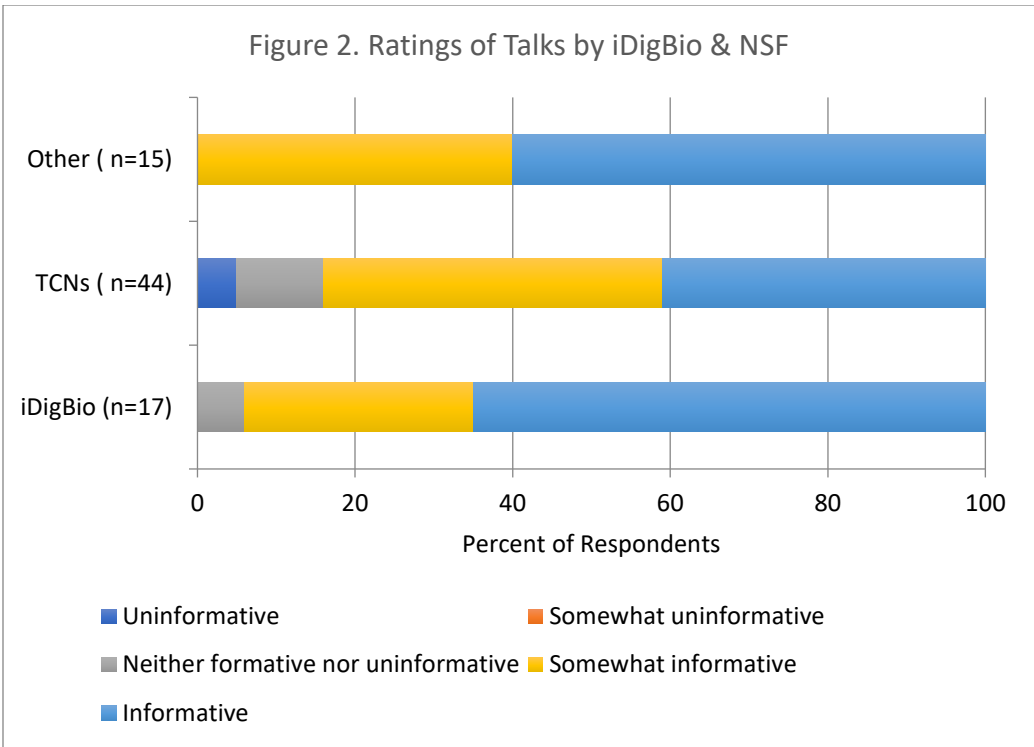
"Most of us figure out how this works by the time we're in a TCN, especially if we participate in online iDigBio video workshops."
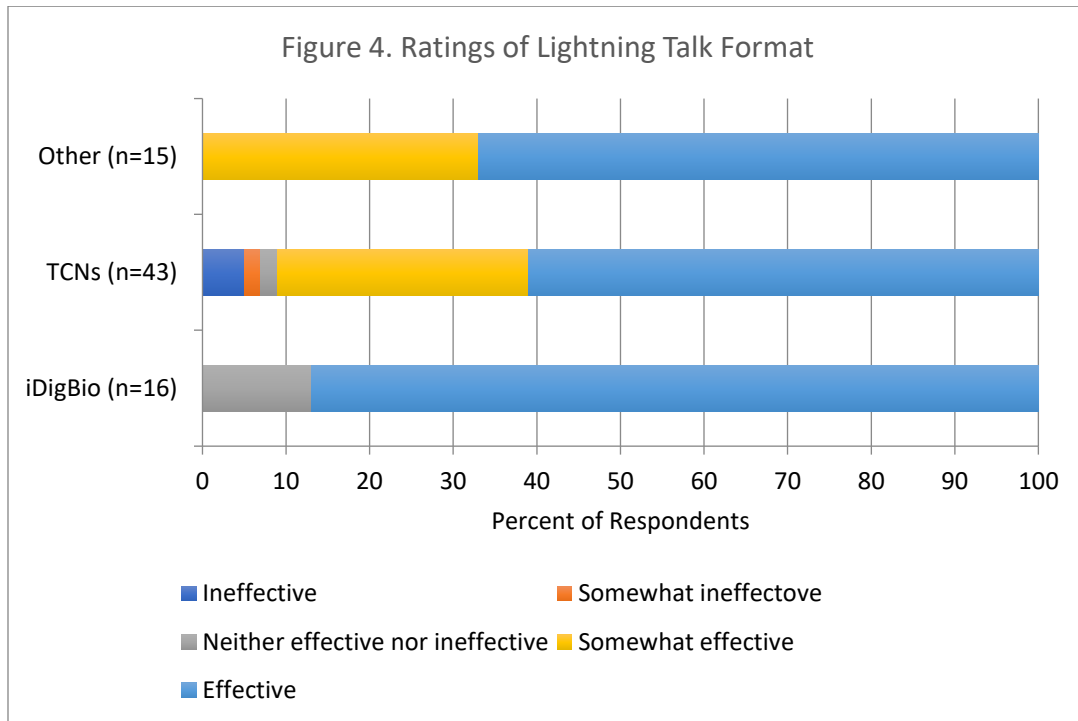
"I chose a neutral answer because I am already familiar with ADBC."

Formal Presentations

The Summit began with brief talks by iDigBio and NSF that focused on the current status of the national digitization effort and future directions. These were followed by "lightning talks" by representatives of the TCNs (https://www.idigbio.org/wiki/index.php/ADBC_Summit_2017)

While all respondents were generally pleased with the content and format of the presentations, representatives of iDigBio were more satisfied overall with TCN affiliates somewhat more critical and "other" affiliates between the two (see Figures 2 – 4).

Figure 2. Ratings of Talks by iDigBio & NSF

Figure 3. Ratings of Lightning Talks by TCNs

Figure 4. Ratings of Lightning Talk Format

Non-iDigBio respondents offered several suggestions about ways to improve the presentations by iDigBio and NSF; not surprisingly, they are interested in knowing specifics about what happens when the funding for iDigBio ends:

> "More emphasis on sticking points. Communicating what is "hard" is perhaps the most useful to all involved. What is iDigBio finding particularly hard to do from a technical point of view. This info, while perhaps difficult to act on by the digitizers, will filter down into their heads, and while they are working they can look for solutions for the ground up, rather than top down."

> "Need more details about what is going away when iDigBio funding ends. Will the iDigBio portal still exist, for example? Will we still be able to use Adobe Connect for videoconferencing? "

> "How will all the resources established under iDigBio and associated TCNs be maintained following the completion of the project?"

With respect to format, TCN presenters were asked to provide a short overview of their TCN, one story highlighting efforts/accomplishments in workflows, sustainability, collaboration, broader impacts, and/or research use of data, and one lesson learned that could help other TCNs/PENs, especially those that are just beginning their projects. The majority of respondents

found this format to be effective, especially when the presenters followed the guidelines and stayed within the time limits. Of particular interest were the lessons learned.

Representative comments:

> *"I welcomed the opportunity to learn about the newer TCNs and PENs that were funded, and the chance to compare and contrast our "lessons learned" with those of other TCNs."*

> *"The least effective aspect of many of the presentations was throwing out a bunch of stats on how many specimens were digitized in what length of time without context. The most affective aspect of many presentations was the sharing of lessons learned throughout the arc of the TCN in question."*

> *"Overview of the progress and the information on how there are always problems that crop up in the processes related to imaging and database work."*

> *"Most effective - introducing the new TCNs; lease effective - updates on how many lots have been digitized."*

> *"Most effective - their lessons learned, successes and challenges with use of data and broader impacts. Least effective - the specifics about numbers / costs digitizing efforts."*

While some respondents found the length of the TCN talks to be ideal, at least one individual thought they could be eliminated entirely and others felt the 5-minute format too constraining:

> *"I liked all of them, especially the length. Don't change a thing!"*

> *"It is least effective when speakers don't follow the required format. I think it is very good to keep them short."*

> *"There was so much of a focus on timeliness that it failed to allow synthesis of ideas or allow the speakers much leniency to convey necessary information (except for those select few that completely disregarded time limits)."*

> *"I wish they could have a been a little bit longer so we could have learned a little bit more about what the actual scope of each project is."*

When asked for ways to improve the TCN-focused session, a number of respondents suggested allowing more time for discussion, grouping the talks differently, or asking each TCN to focus on a particular strength:

> *"More time for discussion by the whole group would be great... I get the most out of talking within a diversified audience and having lots of time for back and forth."*

"Instead of grouping talks by year funded, maybe try some other arching theme. Like put the two fungal ones together, put all the paleo ones together."

"I would allow for more time for conversation and synthesis and organize the talks topically based upon workflow practice, rather than research focus, to maximize effectiveness across TCN groups. For example, if one group were to focus upon their CMS data entry protocols, another on data validation, another on photographic workflow, it may be more beneficial for cross-pollination".

"Instead of a recap of each TCN, invite particular TCNs (not the new ones) to talk about something that iDigBio knows is particularly successful within their TCN. For example, one could focus on iDigPaleo website for educators; one could focus on how to get PENs attached to your TCN, etc. This time through it seemed that I was hearing a little bit about a lot of disparate projects. I'd like to hear a lot about the most successful part of a project, or a lot about problems and how they were solved."

See Appendix B for other comments related to the TCN presentations.

Working Group Meetings, Workshops, and Other Sessions

If the number of individuals responding to the survey accurately reflects Summit attendees over all, the most highly attended sessions were the group discussion on data integration, attribution, and interoperability, EAB-led TCN meeting "Review of iDigBio," the workshop on collections data and ecological and conservation research, the Symbiota Working Group, and Demo Camp. There were no concurrent sessions during group discussion and EAB-TCN meeting which can, in part, explain those attendance figures.

The most highly rated sessions were the EAB-TCN meeting, oVert Working Group meeting, Legal Issues with Collections session, iDigPaleo Working Group meeting, the ecology workshop, Demo Camp, Symbiota Working Group meeting, and the Specify session (see Figures 5 & 6).

Comments suggest that the group discussion on data integration, attribution, and interoperability could have used a facilitator and/or been structured differently; Demo camp would be improved with a hands-on component and better allocation of time; and that the description of the Three Insect session was misleading. All comments related to the sessions are available in Appendix C.

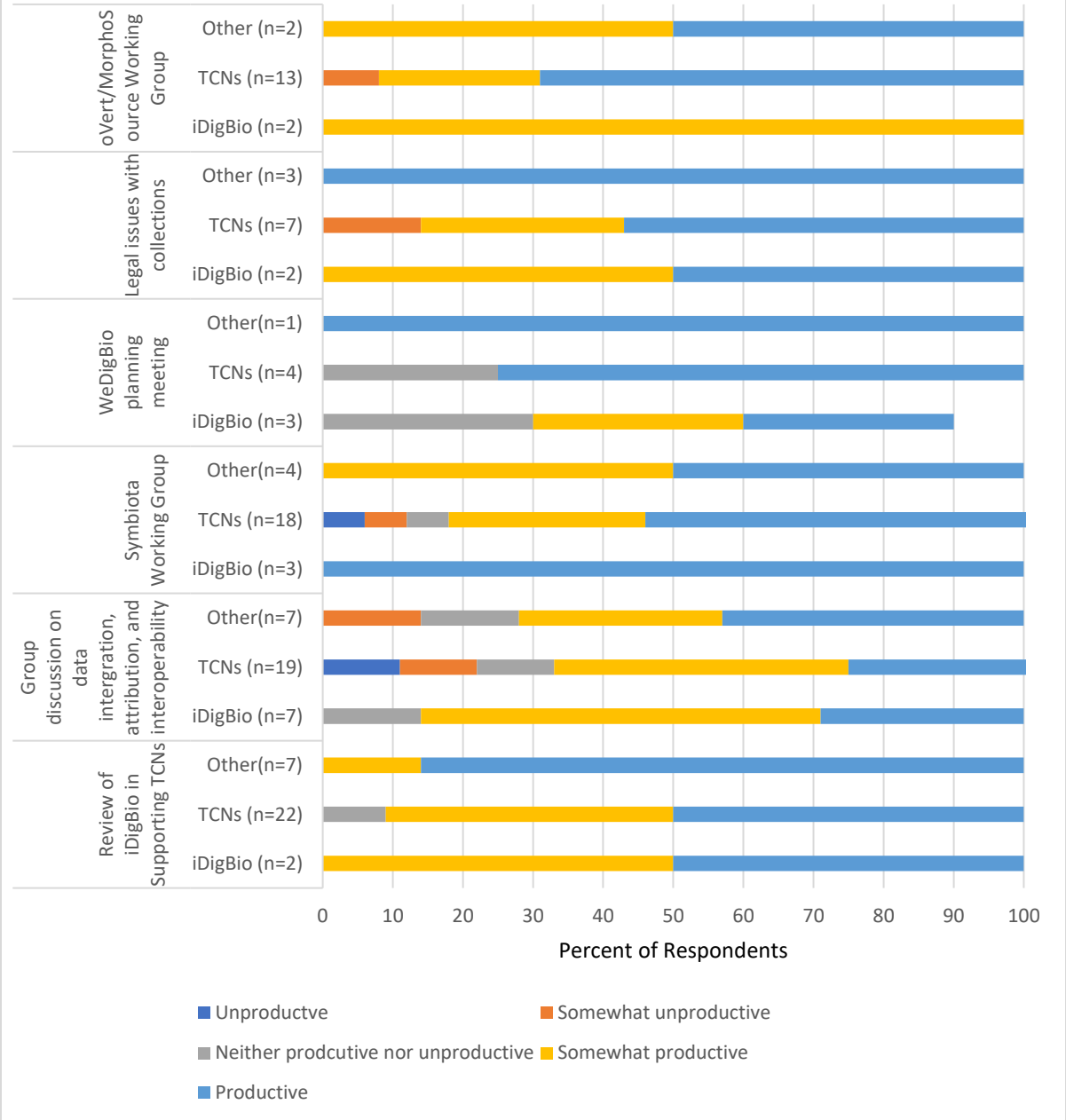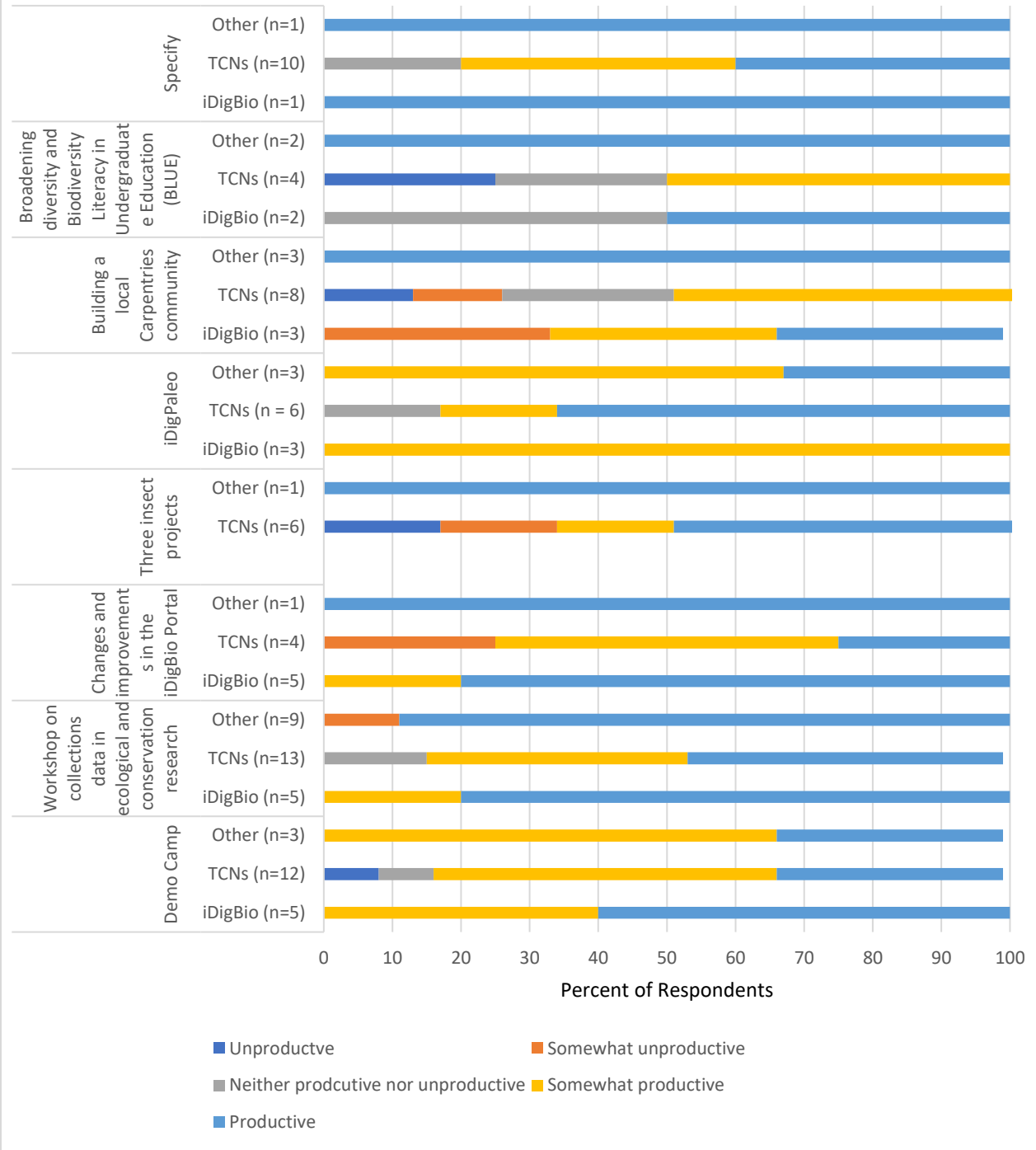Figure 5. Ratings of Sessions: Day 1

Figure 6. Ratings of Day 2 Sessions

Summed across several survey questions, respondents offered a number of suggestions for topics for the 2018 Summit. As in previous years, data standards/quality/cleaning, workflows, and project management were among the topics suggested. Others topics included data use in research and/or education, expanding the reach to broader communities, and the future of collections digitization/sustainability. (see Appendix D for other suggestions and comments).

When asked about other ways to add value to future Summits, respondents suggested presentation by high profile speakers (e.g., Lacey Knowles, Robert Guralnick) and representatives of other digitization initiatives such as Vince Smith or Donald Hobern. Other suggestions were a data blitz, a Demo Camp for downloading and cleaning data, and time dedicated to brainstorming new TCN ideas with new/old colleagues. There was also a request to repeat the workshop on collections data and ecological/conservation research or to offer something similar.

Summit Planning and Organization

A majority of respondents either "somewhat agreed" or "agreed" with four statements related to the Summit organization: the distribution of time across meeting activities was appropriate, opportunities for interaction among those new to the ADBC community to interact with veterans was sufficient, there were adequate opportunities for working and interest group meetings, and the issues discussed were important. As with other survey items, TCN representatives were somewhat less positive than those affiliated with iDigBio or another organization. In particular, nearly 40% did not agree that there were sufficient opportunities for interaction among members of new TCNs and graduate students and more senior personnel (see Figure 6). Note: only 4 graduate students responded to the survey so these results do not primarily reflect their Summit experiences.

Figure 6. Ratings of Summit Organization
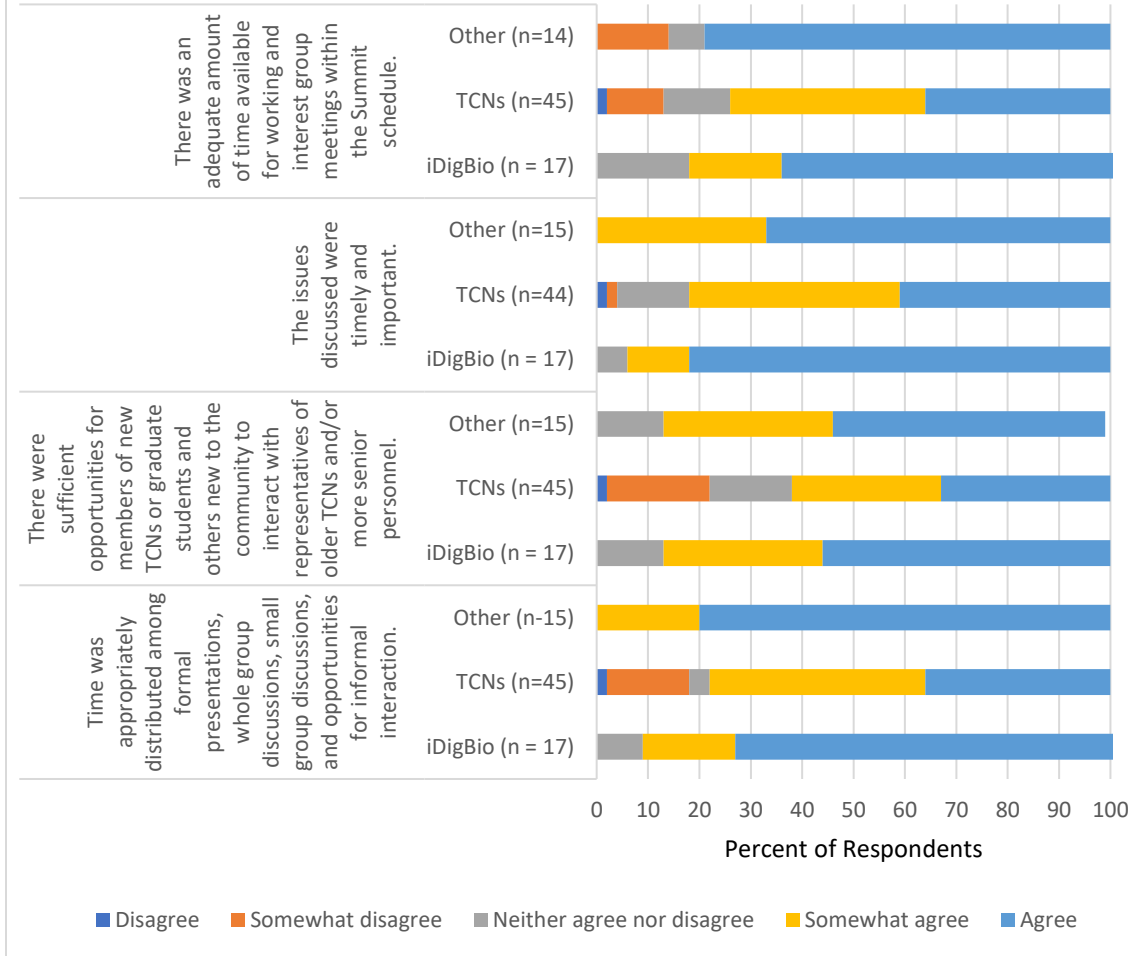
Breaks. In response to comments from previous Summits, the planning team included fewer, but longer breaks in the meeting schedule than in past years. Forty-two of the 45 individuals who responded to an open-ended question about the breaks liked the length. Several commented that they would have appreciated a longer time for lunch, however.

Communication. Communication about the Summit included a "Save the Date" email sent to stakeholders in January 2017, discussion during the bi-monthly IAC meetings, invitations send to relevant listservs in July, personal invitations to members of the EAB in July, personal invitations to members of the ecological and conservation communities in July and August, an email regarding optional activities and field trips in September, and invitations to members of the ecology/conservation community at UF and Florida Museum personnel in October. The Summit wiki was created in January 2017, with continual updates up to and beyond the Summit.

Responses to the survey indicate that most non-iDigBio respondents were aware of and used the wiki at least once prior to the Summit and that it was used during the Summit as well (see

Figure 7). Comments reveal, however, that the wiki was very difficult to read on a mobile device and that proved problematic during the Summit. Several respondents suggested iDigBio adopt a conference app or promote another "device-friendly" version of the program (e.g., a pdf) to use instead of the wiki.

Figure 7. Use of the Summit Wiki
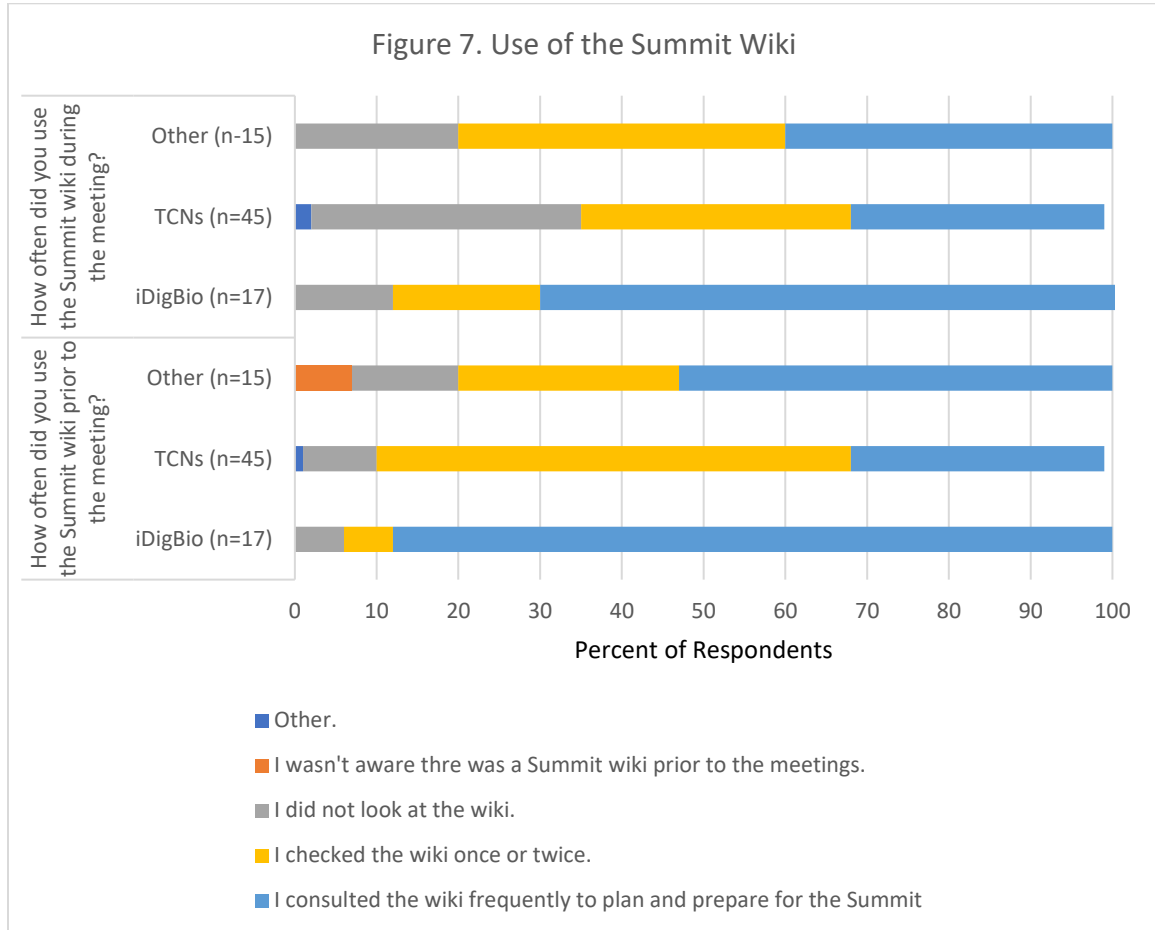
iDigBio also printed a Summit "mini-program" with a skeleton schedule and venue maps. Most respondents found the mini-program to be either "somewhat helpful" (28%) or "helpful" (59%). As noted above, its usefulness was due in part to the difficulty of reading the wiki, especially on mobile devices. Respondents also requested brief paragraphs about each talk and participant photos and bios in the program, as well as having the final program pdf available earlier (see Appendix E for all comments about the Summit program).

Last minute additions to the Summit schedule also created some confusion with at least one participant unaware of an important meeting they would have attended. The lack of clarity about the cost of participating in field trips following the Summit also proved frustrating to one respondent:

> "One thing that threw me off a bit was that when the Summit was initially announced it said there was going to be an opportunity to visit some local fossil sites on Saturday (I

assumed participation in this would be included with the costs associated with attending the summit). I was very excited about this and wanted to participate. However, when it came time to make my travel plans it was said that participants would have to pay the full cost of the extra stay and costs associated with attending any ancillary activities such as these. Because of that, I decided not to attend the fossil collecting event and made my travel plans accordingly. However, subsequently (about a month later perhaps?) it was then announced that participation would be free to all. But by this point I could not change my travel (figured I'd be hit with an airport change fee, would have to rebook hotel, etc.). If I had known it would be free from the start I would have participated. The inconsistency was kind of a problem."

<u>Venue.</u> The meeting venue was rated highly with 60% rating it as "excellent" and 36% rating it as good. Respondents appreciated the university setting, but did note the lack of affordable dining options near the hotel and cultural plaza. Respondents also liked the ability to easily go outdoors for breaks, but holding the sessions in multiple buildings introduced challenges for individuals with mobility issues. Several respondents also commented on the multiple flights required to get to Gainesville.

Summit Impacts

Most iDigBio representatives, members of TCNs, and other affiliates reported increased knowledge of both iDigBio and the national digitization effort and TCNs as a result of the Summit (see Figure 8).

Figure 8. Changes in Knowledge
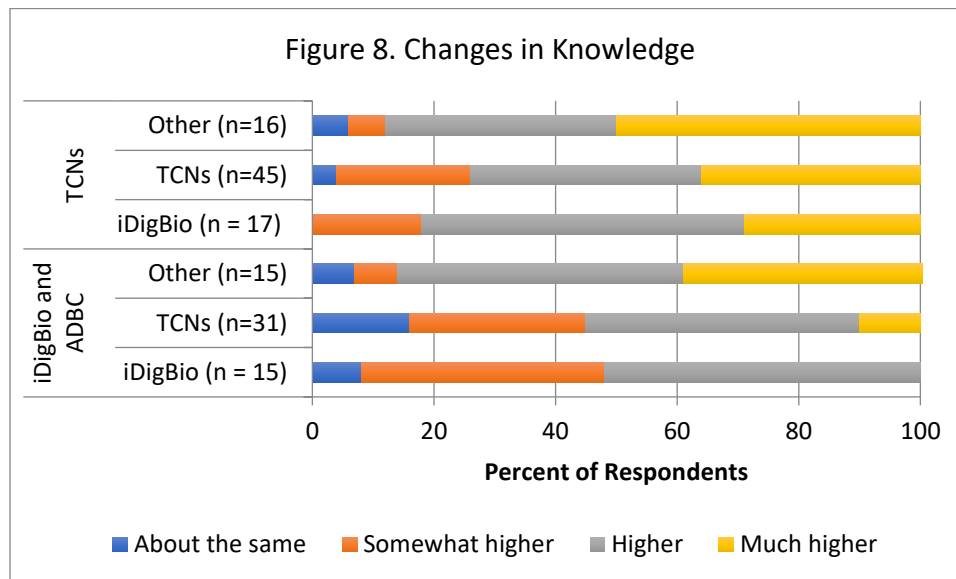
iDigBio representatives also seemed to benefit the most from the Summit in terms of communication and collaboration with TCNs, with 76% and 80% reported likely increases in both respectively. More than half of those with other affiliations anticipated an increase in

collaboration with TCNs and nearly 70% expected an increase in communication. Fewer than half of TCN representatives anticipated increases in communication or collaboration with other TCNs following the Summit (see Figure 9). Interestingly, 50% of TCN representatives attending their first Summit reported it "likely" or "very likely" they would have increased communication with other TCNs while 42% thought it "likely" or "very likely" they would begin a new collaboration as a result of participating in the Summit.

Figure 9. Summit Impact on Communication & Collaboration
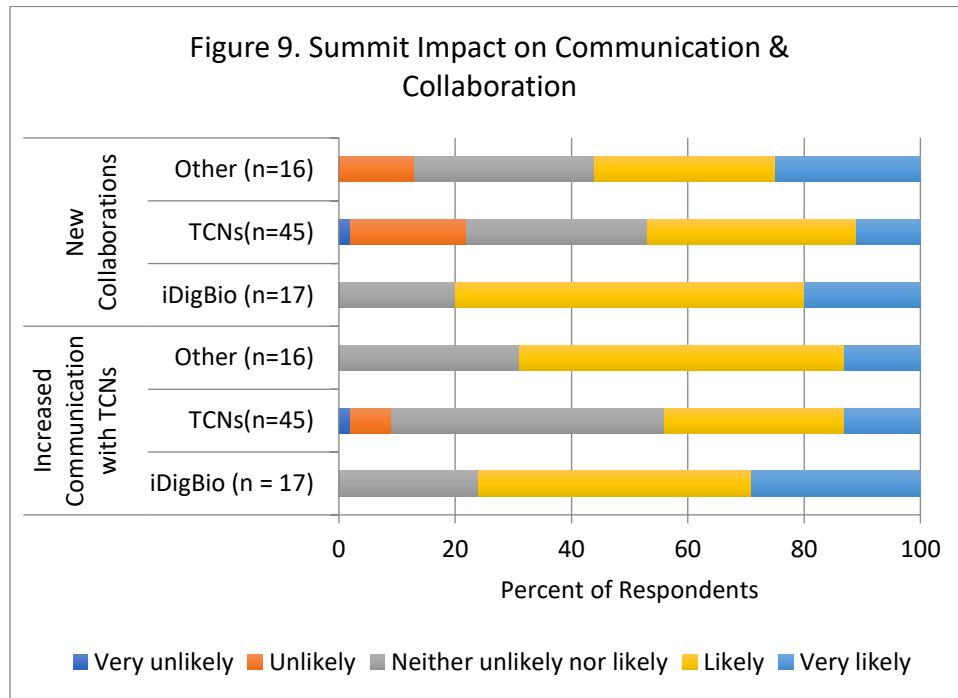
Other benefits gained by participating in the Summit included exposure to new tools and methods and community building.

Representative comments:

> "Super useful to get a birds-eye-view of the tools and methods being used. This is very useful to those like myself who are trying to anticipate software/technical needs."

> "I learned about some techniques, computer software and cool ideas. Some of the discussions will definitely impact my day-to-day work."

> "I think that building collaborations with face time is extremely helpful. As a shy person, this creates a network of people that you can trust."

> "Good opportunity to network and to learn about new directions in the natural history collections community."

> "Meeting several colleagues I had corresponded with but had never met."

"Already working on a couple collaborative projects spawned at the Summit."

Overall Summit Ratings and Comments

Respondents were asked to give the Summit an overall "grade." Those who opted to answer the question gave the Summit a median grade of "A."
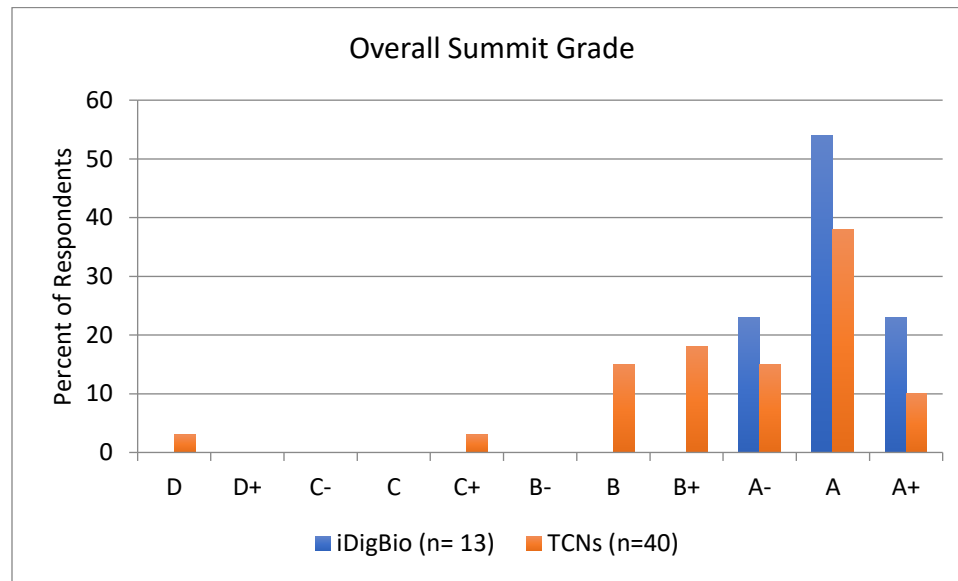
Several TCN representatives commented that Summit VII was the best one to date. A number of representatives recognized that the planning team made the effort to change out content, while others felt that the same information tended to be shared each year and recommended trying an overarching theme.

Those who were less satisfied with the Summit mentioned a variety of complaints. Travel logistics frustrated a number of participants. Indeed, when asked for suggestions for future venues, most were locations west of the Mississippi or at airport hubs. Scheduling the Summit during a Halloween limited some participants' involvement. There were a couple of complaints about the use of acronyms and the sense of the meeting being an "club," although far fewer than in past Summit evaluation and at least one respondent commended organizers for their efforts to create an inclusive meeting.

Others express the sentiment that if they do not learn something that directly impacts their daily digitization activities, attending the meeting is not worth the time and effort. The most unhappy respondents appear to be those who did not see the value in the meeting, but understood it was an NSF requirement that they attend.

Representative comments:

"This was the best to summit that I have been to so far."

"I liked that it differed greatly from 2016 in regards to content. I thought the talks in 2016 were more interesting, but I like that iDigBio is always trying to stay ahead of the field and really think ahead. Definitely gives some space to make some interesting connections."

"Overall, I think this summit was "better" than earlier ones, although there were some things that I thought might have been communicated better before-hand. I first learned of the details of the "optional activities" after I had already booked by air flights - too late to change them."

"Well organized, thoughtful and timely presentations, but [sic - not] necessarily a lot of presentations that I could use in my day to day digitization. But certainly had a great "looking ahead" vision. "

"I've been coming to the summit for a few years now, and it seemed like I've heard the same information each year. Perhaps each year could have an overarching theme? Summit 2018 - Improving data usage in research; Summit 2019 - Broader Impacts; Summit 2020 - The future of digitization. That might help keep focus and make each year a little bit different from the last."

"I know this selfish, but I have two young children and was forced to choose between attending all of the Summit and taking my kids out for Halloween (my kids will always win this decision)."

"The flight connections into Gainesville are not good. I could have taken a direct flight to London in the time it took to get to Gainesville. Several people had to take 3 flights or drive long distances to keep the trip to one or two flights. We are all busy and I know you cannot accommodate everyone, but I would suggest a location with more direct flights available."

"I learned some things, but I still got the impression that this was a club with a limited number of members who are all comfortable with each other and don't necessarily think about what new attendees might not know."

"I think that those who put together the Summit and facilitated meetings were very effective at communicating and at creating an inclusive environment."

"It was well organized but when I spend this long away from work I need to bring something home and I kept waiting for some gem I could share with my collaborators and nothing came of it."

"I didn't want to give you an F after all of your thoughtful organization and enthusiasm. Don't imply that participation is mandatory. That seems to have been disseminated from Reed Beaman but it trickled down to us."

Appendix A. Post-Summit Survey

Summit 2017 Post-Meeting Survey

The organizers of the recent ADBC Summit are very interested in your feedback! The information you share will be used to inform planning of future meetings. The survey takes 5 to 10 minutes to complete. Feel free to skip any questions you prefer not to answer. Please respond by November 17.

 By completing this survey, you are giving consent for iDigBio personnel to use your responses. Your participation is voluntary. There are no direct benefits, risks, and/or compensation for your participation. If you respond via email, your IP address will be registered; however, your responses will remain anonymous. There is minimal risk that security of any online data may be breached, but our survey host (Qualtrics) uses strong encryption and other data security methods to protect your information. Your IP address will remain confidential. Thank you for your help.

If you have questions about this research, contact Dr. Shari Ellis, Florida Museum of Natural History, University of Florida, 352-273-2066, sellis@ufl.edu.

 If you do not wish to participate, please close your browser at this time.

First, a few questions about yourself and your participation at the Summit.

What was your primary role at the Summit?

○ I was representing a TCN or PEN.

○ I was representing iDigBio.

○ Other. Feel free to explain (if you wish).
_____

Which of the following best describes your current or past status with respect to NSF's Advancing Digitization of Biodiversity Collections (ADBC) program?

○ PI, Co-PI, Collaborating PI/Co-PI or Project Manager

○ Faculty, research scientist, or other senior personnel

○ Support staff

○ Student

○ Other. Feel free to explain (if you wish).
_____

When did you first start working on an NSF-funded digitization project?

○ pre-2011

○ 2011

○ 2012

○ 2013

○ 2014

○ 2015

○ 2016

○ 2017

○ Not applicable/don't know.

Have you participated in one or more previous iDigBio-hosted annual Summits?

☐ Yes

☐ No, this was my first Summit.

Did you participate in the "Welcome to ADBC" orientation on Wednesday morning provided by iDigBio staff?

○ Yes

○ No

How helpful did you find the orientation session?

○ Unhelpful

○ Somewhat unhelpful

○ Neither helpful nor unhelpful

○ Somewhat helpful

○ Helpful

If you have any questions or concerns that were not addressed during the orientation, please share below. (Note that questions about the oVert Kickoff are in the next section for those who participated in those sessions).

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Please share any suggestions you may have to improve iDigBio's orientation of new TCNs in the future.

_____

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FORMAL PRESENTATIONS

The TCN speakers were asked to provide a short overview of their TCN, one story highlighting efforts/accomplishments in workflows, sustainability, collaboration, broader impacts, and/or research use of data, and one lesson learned that could help other TCNs/PENs, especially those that are just beginning their projects. How effective was this format in conveying what you wanted to know about the TCNs?

○ Ineffective

○ Somewhat ineffective

○ Neither effective nor ineffective

○ Somewhat effective

○ Effective

How informative did you find the lightning talks by TCNs?

○ Uninformative

○ Somewhat uninformative

○ Neither informative nor uninformative

○ Somewhat informative

○ Informative

What did you find most and least effective about the TCN presentations?

_____

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_____

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_____

If you have any suggestions for better ways to structure TCN talks at future meetings or to foster communication across the TCNs outside of the Summit, please share below.

_____

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_____

How informative did you find the presentations about the national digitization effort by representatives of iDigBio and NSF?

○ Uninformative

○ Somewhat uninformative

○ Neither informative nor uninformative

○ Somewhat informative

○ Informative

Please share any questions or concerns you may have that were not addressed in the presentations by iDigBio and NSF.

_____

_____

_____

WORKING, INTEREST, AND USER GROUP MEETINGS

Which of the following sessions, if any, did you attend?

☐ Review of iDigBio in Supporting TCNs (Cobb)

☐ Group discussion on discussion on data integration, attribution and interoperability (Bentley & others)

☐ Symbiota Working Group (Cobb & Miller)

☐ WeDigBio Planning Meeting (Mast & Ellwood)

☐ Legal Issues with Collections (Ford)

☐ oVert/MorphoSource Working Group (Blackburn)

☐ iDigBio Student Group

☐ Demo Camp

☐ Workshop on Collections Data in Ecological & Conservation Research

☐ Changes & Improvements to the iDigBio Portal (Garand & McCaffrey)

☐ Three Insect Projects (Cobb, Maier, & Zaspel)

☐ iDigPaleo (Karim)

☐ Building a local Carpentries community

☐ Broadening participation and Biodiversity Literacy in Undergraduate Education (Monfils, Phillips, & Ellwood)

☐ Specify

☐ I did not attend any of these sessions.

Skip To: Q55 If Which of the following sessions, if any, did you attend? = I did not attend any of these sessions.

How productive did you find each session you attended?

Review of iDigBio in Supporting TCNs

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Group discussion on data integration, attribution, and interoperability

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Symbiota Working Group

  ○ Unproductive

  ○ Somewhat unproductive

  ○ Neither productive nor unproductive

  ○ Somewhat productive

  ○ Productive

WeDigBio planning meeting

  ○ Unproductive

  ○ Somewhat unproductive

  ○ Neither productive nor unproductive

  ○ Somewhat productive

  ○ Productive

Legal issues with collections

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

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oVert/MorphoSource Working Group

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

----

iDigBio student group

    ○ Unproductive

    ○ Somewhat unproductive

    ○ Neither productive nor unproductive

    ○ Somewhat productive

    ○ Productive

Demo Camp

    ○ Unproductive

    ○ Somewhat unproductive

    ○ Neither productive nor unproductive

    ○ Somewhat productive

    ○ Productive

Workshop on collections data in ecological and conservation research

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Changes and improvements in the iDigBio Portal

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Three insect projects

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

iDigPaleo

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Building a local Carpentries community

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Broadening diversity and Biodiversity Literacy in Undergraduate Education (BLUE)

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

Specify

○ Unproductive

○ Somewhat unproductive

○ Neither productive nor unproductive

○ Somewhat productive

○ Productive

If you would like to explain your ratings or would like to share some thoughts on how the sessions could be improved, please do so below.

_____

_____

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_____

If you have any ideas for session topics for the 2018 Summit, please share below.

_____

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_____

Page Break

SUMMARY ORGANIZATION
 Please rate your level of agreement with statements related to the organization of the Summit.

Time was appropriately distributed among formal presentations, whole group discussions, small group discussions, and opportunities for informal interaction.

○ Disagree

○ Somewhat disagree

○ Neither agree nor disagree

○ Somewhat agree

○ Agree

There were sufficient opportunities for members of new TCNs or graduate students and others new to the community to interact with representatives of older TCNs and/or more senior personnel.

○ Disagree

○ Somewhat disagree

○ Neither agree nor disagree

○ Somewhat agree

○ Agree

The issues discussed were timely and important.

○ Disagree

○ Somewhat disagree

○ Neither agree nor disagree

○ Somewhat agree

○ Agree

There was an adequate amount of time available for working and interest group meetings within the Summit schedule.

○ Disagree

○ Somewhat disagree

○ Neither agree nor disagree

○ Somewhat agree

○ Agree

In response to comments following the 2017 Summit, we offered fewer, but longer, breaks. How did that work for you?

_____

_____

_____

_____

_____

Please list any issues that were not discussed or deserved greater coverage. Were there issues that could have been omitted from discussion?

_____

_____

_____

_____

_____

How would you rate the Summit venue (e.g., city, hotels, meeting facilities) overall?

○ Terrible

○ Poor

○ Average

○ Good

○ Excellent

If you would like to explain your venue rating, please do so below.

_____

_____

_____

_____

_____

Please share any other ideas you may have about ways to improve the structure or organization of the Summit.

_____

_____

_____

_____

_____

Page Break

POTENTIAL IMPACTS OF YOUR PARTICIPATION IN THE SUMMIT

How does your knowledge of iDigBio and the national digitization effort **following** the Summit compare to that **prior** to the Summit?

○ About the same

○ Somewhat higher

○ Higher

○ Much higher

How does your knowledge of the TCNs (with which you are not affiliated) **following** the Summit compare to that **prior** to the Summit?

○ About the same

○ Somewhat higher

○ Higher

○ Much higher

How likely is it that your communication with other TCNs will increase as a result of the Summit?

○ Very Unlikely

○ Unlikely

○ Undecided

○ Likely

○ Very Likely

How likely is it that you will begin a new collaboration as a result of the Summit?

○ Very Unlikely

○ Unlikely

○ Undecided

○ Likely

○ Very Likely

What other benefits, if any, did you gain by participating in the Summit?

_____

_____

_____

_____

_____

What overall grade would you give the Summit? If you skip this question, no response is recorded.
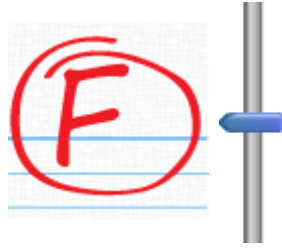
1
2
3
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8
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11
12
13

If you would like to explain your grade, please do so below.

_____

_____

_____

_____

_____

Page Break

SUMMIT WIKI/PROGRAM

When communicating about the Summit, we are always trying to find the right balance between email, the online wiki, and printed materials. We are interested in feedback about our approach this year.

How often did you use the Summit wiki <u>prior to the meeting</u>?

○ I wasn't aware there was a Summit wiki prior to the meeting.

○ I did not look at the wiki.

○ I checked the wiki once or twice.

○ I consulted the wiki frequently to plan and prepare for the Summit.

○ Other. Please explain. _____

How often did you use the Summit wiki <u>during the meeting</u>?

○ I wasn't aware there was a Summit wiki.

○ I did not look at the wiki.

○ I checked the wiki once or twice.

○ I consulted the wiki frequently.

○ Other. Please explain. _____

How helpful was the printed "mini" program that included maps and a condensed schedule during the Summit?

○ Unhelpful

○ Somewhat unhelpful

○ Neither helpful nor unhelpful

○ Somewhat helpful

○ Helpful

If you would like to explain your ratings or suggest ways we can improve communication about the Summit in the future, please do so below.

_____

_____

_____

_____

_____

FUTURE SUMMITS

We are always looking for ways to add value to the Summit especially as we move toward a model where participants will cover some of the costs. This year, we offered a Data Carpentries workshop prior to the Summit, collection tours, and a workshop on using collections data for ecological and conservation research. Please share any suggestions about workshops or other value-added activities we could offer at Summit VIII.

_____

_____

_____

_____

_____

We are also very interested in your suggestions for venues for future Summits! Please share below.

_____

_____

_____

_____

_____

Feel free to share any additional comments about this or future Summits in the space below.

_____

_____

_____

_____

_____

Page Break

NSF and others in the collections community are interested in the following demographic information. Sharing this information is voluntary but greatly appreciated.

What is your current gender identity?

○ Female

○ Male

○ Transgender

○ Do not identify as female, male, or transgender

○ I do not wish to provide.

Ethnic identity

○ Hispanic or Latino

○ Not Hispanic or Latino

○ I do not wish to provide.

Racial identity. You may check more than one.

☐ American Indian or Alaskan Native

☐ Asian

☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander

☐ White

☐ I do not wish to provide.

Disability. Check all that apply.

☐ Hearing Impairment

☐ Visual Impairment

☐ Mobility/Orthopedic Impairment

☐ Other (Enter description) _____

☐ None

☐ I do not wish to provide.

Citizenship

    ○ U.S. Citizen

    ○ Permanent Resident

    ○ Other non-U.S. Citizen

    ○ I do not wish to provide.

Thank you! Your input is highly valued by iDigBio.

End of Block: Default Question Block

Appendix B. Verbatim responses to questions about the TCN presentations

What did you find most and least effective about the TCN presentations?

TCN Responses
- The lessons learned and feedback from the TCNS was very effective and useful.
- Not all TCNs followed the instructions in terms of presentation content. For those that did follow the structure, I found it effective. Otherwise, it is more a chance to brag about all the good things without providing lessons learned/suggestions for other TCNs.
- Acronyms. Everyone expected everyone else to know what things stood for, who people were and what the TCN was about.
- It is least effective when speakers don't follow the required format. I think it is very good to keep them short.
- Most useful were lessons learned; reiteration of these in the wrap-ups was great! (Don't be afraid to reiterate for us)
- They ran a little long and tended to stray from the topic a little...but the ones that were on point, were very informative describing the range of themes, data, methodologies being used.
- Most effective: Getting a general idea of what TCNs are active and their progress. Least effective: Would like more detail on lessons learned and what adjustments have/will be made to improve
- It was a good overview, but I found them too short
- Some of the speakers didn't do a great job at explaining the overarching goal of their TCN.
- There was nothing unexpected. Just stats and promotion of iDigBio and the individual TCNs.
- I thought they were all pretty good, had exactly the right focus, and the time budgeted for them was appropriate.
- Most - wide-range of overviews least - not enough detail
- The format assigned seems like it would've been helpful, though not all TCNs followed this format.
- Overview of the progress and the information on how there are always problems that crop up in the processes related to imaging and database work.
- Least effective was cramming in so much info in only 5 minutes, but made for some good jokes
- Most of the statistics were boring, unless they made a larger point.
- There was so much of a focus on timeliness that it failed to allow synthesis of ideas or allow the speakers much leniency to convey necessary information (except for those select few that completely disregarded time limits).
- I liked all of them, especially the length. Don't change a thing!
- No time for questions or discussion of the individual efforts.
- Nearly all speakers did as they were told and kept their presentation to the proper length.

- Most effective - introducing the new TCNs; lease effective - updates on how many lots have been digitized
- Those presentations with more photos and less numbers were better, showing people in action. And those that had apps and other things that came out of their projects (like citizen science applications) were the better ones.
- I wish they could have a been a little bit longer so we could have learned a little bit more about what the actual scope of each project is.
- I welcomed the opportunity to learn about the newer TCNs and PENs that were funded, and the chance to compare and contrast our "lessons learned" with those of other TCNs.

Responses of "Other" Affiliates
- The least effective aspect of many of the presentations was throwing out a bunch of stats on how many specimens were digitized in what length of time without context. The most affective aspect of many presentations was the sharing of lessons learned throughout the arc of the TCN in question.
- Most effective: the stories about accomplishments. Least effective: n/a
- Most effective - their lessons learned, successes and challenges with use of data and broader impacts. Least effective - the specifics about numbers / costs digitizing efforts
- Metrics and Lessons learned were effective
- I think some standard template for presentations that gave specific topics to be covered would help to convey more information.
- Some of the "applications" talks were repeated or expanded upon the state of the project talks rather than reporting on actual applications.
- Reporting lessons learned was informative for only a sub-set of the TCNs. However, I think that it could be greatly expanded. I thought that the across-TCN summaries were the most insightful, such as the distribution of participating institutions for each TCN.
- I found all of it effective
- Most effective: broad overview of project, status, and (most importantly), lessons learned. Least effective: Nothing

Suggestions for better ways to structure TCN talks at future meetings or to foster communication across the TCNs outside of the Summit

TCN Responses
- I think building in some time for discussion interspersed among the TCN talks would be good. This would enable addressing things like new tools, lesson learned, and other feedback and/or relaying similar experiences and solutions from other TCNs that might not have been included in their own report, but relates to the report of another.
- A poster session would have been just as, if not more, effective.
- Considering the cost of having a summit, please consider not having them and, instead funding a small TCN that wouldn't otherwise exist, or better-fund existing TCNs. TCNs are repeatedly asked to cut their budgets and up the deliverables. I don't know what the

overall cost of a summit is but I imagine it could make a difference if put toward the purpose of the ADBC program. On-line is fine for what was conveyed at the summit - just do it through Zoom in the future.

- I thought the talk format used for this summit was great. I think the communication between the various TCNs kind of develops organically and I think that is okay.
- Perhaps create a one-page handout giving projected numbers and how many actually achieved
- More focus on research accomplishments using the data, how they made connects with researchers for data use, and solutions to challenges that the TCNs encountered (while sharing just challenges is okay, sharing SOLUTIONS is far more useful & positive!)
- I enjoyed the working groups and found them to be informative and timely.
- Instead of grouping talks by year funded, maybe try some other arching theme. Like put the two fungal ones together, put all the paleo ones together.
- I would allow for more time for conversation and synthesis and organize the talks topically based upon workflow practice, rather than research focus, to maximize effectiveness across TCN groups. For example, if one group were to focus upon their CMS data entry protocols, another on data validation, another on photographic workflow, it may be more beneficial for cross-pollination of ideas across this community of practice, rather than discrete research foci.
- More time for discussion by the whole group would be great... I get the most out of talking within a diversified audience and having lots of time for back and forth.
- I'm not sure if this will work, but as I see the ADBC program has matured and some TCNs are 'sun setting' there is a need to address what's next. I don't think the NSF ADBC program creators could have envisioned this next phase, but while TCNs meet their project goals, many new opportunities have become imaginable. I wonder if the NSF ADBC program will consider how existing TCNs can leverage the data they have provided to build synergistic projects/portals that marry existing data sets like LepNet and a Vascular Plant TCN...that is to say in an attempt to answer host-plant/insect relationships, etc.
- More time for the discussions after sets of TCN presentations (after each year?)
- Instead of a recap of each TCN, invite particular TCNs (not the new ones) to talk about something that iDigBio knows is particularly successful within their TCN. For example, one could focus on iDigPaleo website for educators; one could focus on how to get PENs attached to your TCN, etc. This time through it seemed that I was hearing a little bit about a lot of disparate projects. I'd like to hear a lot about the most successful part of a project, or a lot about problems and how they were solved.
- I didn't find the presentations on the second afternoon as informative. I thought we could have ended a bit earlier.
- Probably more "social events" or "organized meals" (dinner, for example) might be helpful to foster communication across TCNs.
- Lightning talks could be omitted.
- The TCN talks at the beginning could be replaced with topic-driven talks instead of just summaries of where the TCN is in their timeline.

Responses from "Other" Affiliates
- There could have been more effort to unify the structure of the slides. For example, having iDigBio provide a template slide(s) that lets TCN fill in pertinent "fixed" details. I'd like to have seen a slide that summarized, in an identical fashion, facts like the software used, the hardware used, the number of people actively digitizing etc. These don't have to be detailed, and perhaps not even discussed, but just having it sit there for 15 seconds would give "observers" a very useful look at the machinations going on behind the scenes.
- I think it would be interesting to ask the TCNs to include a suggestion for increased communication across the TCNs in their 2018 presentations. I also would like to have them speak to what the PIs and Co-PIs have done to raise awareness of the TCN's accomplishments within their host institutions or with important partners.
- I think some standard template for presentations that gave specific topics to be covered would help to convey more information.
- It would be nice to have an opportunity to engage with the data being created by some of the TCNs
- The lightning talk format seems appropriate.

Appendix C. Comments related to Day 1 and Day 2 Discussion Sessions

Comments from iDigBio representatives
- Group discussions require better facilitation
- Whole group discussion did not go as intended?

Comments from TCN Representatives
- Some of the Demo Camp presenters were too technical in their presentations for me to follow and/or to figure out how I would apply the tools they were demonstrating.
- Demo camp would have been better if there had been a hands-on component.
- I was disappointed by the presentation in the iDigBio portal session. By the time the presenter finished introductions, it was almost time to complete the session. I did get a few useful pointers from the session, but not as many as I expected.
- It was so hard to choose which of the breakout sessions I wanted to go to! They all seemed like they would've been great!
- Breakout sessions needed to be longer
- I felt that I got a lot more out of the workshops as the discussions were interesting and I now have some contacts that I did not have before.
- I think there were supposed to be Wikis or Google Docs for these, but I don't know where they are.
- It was interesting to hear about NEON, but I don't see how it's going to be interfacing with iDigBio just yet. I got the sense that iDigBio is just getting started in this regard, and that the ecological research side is further along than the conservation research side.
- The "Three Insect Projects" was "marketed" in the program as "Rapid Digitization of Incoming Insect Material", presenting workflows in KE Emu, Symbiota and Specify, but turned out to be a very informal meeting about unrelated specifics of the Insect projects.
- Given the write up in the program for the three insect program, I was expecting to learn more about techniques etc. I believe that several others who attended were expecting the same thing. Instead, the group immediately started to talk about things that seemed to be integral to them only. It was if they were having a private meeting.
- Barbara Thiers' Index Fungorum talk did not need all the time it got. Other projects were struggling to cram all the information they had into the (little) allotted time, whereas Barbara Thiers was able to take a leisurely stroll.
- I apologize but I know what I'm doing for the most part and could have used the time working on the goals of our TCN. Just having two days together to have discussions might have been an improvement to the structured presentations that didn't allow sufficient participation and exchange of ideas. Everyone highlights the same ideas and no new discoveries are made.

Comments from "Other" Affiliates

- I was interested in many of the topics but limited by the scheduling overlaps. Shorter discussion sessions would have helped.
- There wasn't a whole lot of actionable discussion or concrete ideas on how to better integrate data for ecological and conservation research. Even just having a list of resources for ecological data to better accomplish this task would be great.
- I marked all as productive except for the data integration/interoperability session. That is because, in truth, I don't remember very much about what they covered in that session, so it just didn't stick with me. All of the other sessions that I attended (TCN support, legal issues and ecological/conservation research) included a great deal of discussion and engagement of the participants. They also yielded interesting insights and some concrete next steps.

Appendix D. Ideas for 2018 Summit Sessions

<u>Comments from iDigBio Representatives</u>
- Round table/share fare for educational materials developed by Summit participants.
- Maybe a workshop on E&O that spans TCNS? Or this could be a formal presentation by Molly so we could learn about those efforts in one place rather than piecemeal in individual talks? I think we could also give a presentation sampling research using our and other portal data by students and scientists in the community (not just iDigBio personnel).
- Improving data quality, especially taxonomy.
- Yes, I'd like to see a planning session for those in the community who would like to be part of dreaming up our future ADBC events (e.g., GBIF Governing Board (GB26) meeting and GBIF 15 Nodes Meeting (GNM15); kickoff of DiSSCo).
- Demo Camp was a good idea. Perhaps also do a Research Camp -- spotlight research being done with the tools.

<u>Comments from TCN Representatives</u>
- Workflows (n=3)
  - Research workflows for using digital data
  - A think a discussion of comparative workflows would be useful. As an example, can Specify be used in a botany workflow where collaborative data enhancement is expected???
- Data Standards (n=3)
- I would like a session on project management (n=3). Specifically, how PIs and project managers can better communicate with each other and with other collaborators in the project.
- Hands on tools perhaps?
- Opportunities for Q&A between groups about how certain tasks were handled (especially on the data management, cleaning, standardization side)?
- More sessions that showcase how collections data can be integrated into both teaching and research would be great!
- Digitization sustainability beyond 2020 (post-iDigBio?)
- How to bring the products and broaden the scope of content for the ADBC effort to a wider audience through search engine optimization, partnering with library, archives and museums, working to increase the effort to create links to related content and generally creating an awareness that there is data available that might be of interest to those outside of the traditional communities of taxonomists and ecologists. (I am willing to help organize and work on this if there is an interest to develop this idea further - Larry Schmidt, University of Wyoming, lschmidt@uwyo.edu)
- TCN Synergy! oVert and the VACS networks are already pairing separate parts of collections. I think there are many more opportunities for this kind of work to play a larger role in collections-based research.

- Utilizing digitized data for paleontological research
- I would like to hear suggestions or successful experiences others might have had in convincing their administrators/higher-ups that our Digitization Projects are of value to our respective institutions, and not just a fad. I would also like to see a greater urgency in planning for a post-iDigBio world, now that "the sun is starting to set", as Reed Beaman so eloquently put it.
- I think there is now an opportunity for "what to expect down the road" from a technical perspective. Summarizing specifics as to how your software may change, helps people to anticipate the fact that software/technical aspects will always evolve over time. This means that training, use of new software, etc. never finishes.
- What the future will look like after the ADBC sunset.
- I feel that we need to start looking to build connections outside of usual group of stakeholders and users.
- Have it on Zoom.us or better yet, just have individual TCNs get together for that time. It is more important to talk within than between TCNs, especially for new TCNs funded quite late.

Comments from "Other" Affiliates
- People attending the meeting first and foremost have their own interests in mind- so for example sessions with a general theme felt like they turned to addressing project specifics. How about a session that reflects these needs, something that plays off of the idea of "dating roulette"? The idea is that TCN folk sit for a minute or two with other technical people, quickly describe their problem, and then get instant feedback, then move on to their next data. The intensity focuses ideas/answers into short bursts, that might resolve/address TCN needs. or get quickly to the heart of them. TCN-TCN dating could also be possible, particularly if the split is along new/old.

Appendix E. Comments on the Summit program

- The electronic schedule was nearly impossible to read on iPhone.
- The printed min-program was useful, but I wished I knew which TCNs were in each talk block -- I went to the wiki to get this information.
- A brief paragraph about each of the talks within the program would have been helpful.
- I know it's not as ecofriendly but having a printed schedule (and place for notes and contacts) was helpful. I am still referring to it after the meeting!
- The condensed program was essential!
- The program needs pictures and mini bios next to everyone's name. Especially with the elimination of the printed program (fine by me!), let's get that info back into the program next year.
- Just email everything; no need to print anymore.
- The maps were not designed well--more geographic context would have been helpful.
- The wiki page is almost useful on phones. A device friendly version would be welcome.
- The wiki is extremely helpful, and I used it extensively. The only complaint I have is that, at least in Chrome, the agenda formatting within the wiki is very awkward, with tiny print and too much scrolling to see the information. There are conference apps that present the information in a much more usable format. You might think about using one of them, or at least trying to mimic the way they present agenda info.
- The printed/PDF programs were super helpful. One of the past iDigBio events that I went to did not have a printed program (I think Digital Data in Biodiversity Conference?), and I spent a lot of time fumbling through the wiki to figure out where/when everything was. The wiki doesn't play well with mobile devices. If there is no printed program, even a PDF version is nice and easy to read on mobile devices.
- I found the printed guide to be helpful only because the wiki was not mobile friendly.
- Maybe announcing the best venue for following along at the meeting here and there would be useful. I find that there is so much going on that I don't even check email for many hours at a time.
- I would have like to have had the finalized program (in PDF form) earlier than when it actually became available.
- Mini program could be even smaller, simpler, and just a single double-sided schedule overview.
- I don't know if there was a problem with posting content about the Summit program before the Summit, but when I checked to look for program details, I recall seeing a "coming soon" message - even the week of the Summit. Maybe I'm 'm old school, but an e-mail with a link to the program is still my preference.