# METRICS DISCUSSION GROUP

Facilitator: Reed Beaman

Location: Live Oak

Scribe: Chloe Hough

<https://docs.google.com/document/d/1AC4u6SZhj6MEq_cXw9AKL_7iVmrXMi2sob7GjyKz0PY/edit>

[**http://tinyurl.com/summit2-metrics**](http://tinyurl.com/summit2-metrics)

**Present:** Christiane Wierauch, Corinna Gries, Katja Seltmann, Reed Beaman, Toby Schuh, Matt Collins, Chris Dietrich, Austin Mast, Shari Ellis, Chloe Hough, Patrick Sweeney, Elizabeth Martin, Debbie Paul, Bruce Lieberman, Charles Davis

**Metrics depend on the Stakeholders**

Data collection, project participants, data usage - Multiple, differing types of Metrics involved

Survey to ask people why they are downloading data? - capture anecdotes

Requiring citations- pop up telling how to cite

**Metrics about data capture and Project Management**

How many specimens per hour as a starting point, then ask about other variables/factors.

Benchmarking - language comparison

Being able to track data- accuracy, inaccuracy, precision? Fitness for use

Qualitative vs. quantifiable metrics

Not just the number of collections/specimens and cost that makes it successful but how specimens are used (Bruce Lieberman). Differs across different sorts of collections

Comparative time trials -- comparing results of different methods useful for those planning digitization projects, assesment, etc.

Consistency across TCNs, development of reporting templates for subcontracts (possible working group).

Guidance can really help freshmen TCNs and proposal writers

Toby Schuh: Efficiency of data entry- takes too long? structured format

Varying costs- volunteer vs. paid, subcontracts

Helpful to have a small working group to work on developing templates? Informally?

Efficiency cost per specimen cost

Katja: other projects not used to having to report this sort of data

Reed asks Katja about templates existing for asking for this kind of data?

If people aren’t measuring the same things they can’t be compared (problem with metrics)

**Use of data**

Research uses

How to measure impact-related of records and record sets?

Anecdotes can be really useful

Citations for data and data sets (being used in research/publications)

Community citation of data sets, repository or publication

Need way to consolidate to make it easy to cite data (idea of users creating virtual data sets

Data quality metrics

Accuracy, precision, trust - Katja noted

Tracking creative comments

String matching, defined record sets

Branding - need recognition for those doing the work, the provider institution, the person taking the photography, the person doing the data entry?

Minimal standards for data capture of this type of data?

Toby Schuh - track for database metrics, but not for sharing

Promotion and tenure recognition

**Metrics about collaboration, involvement, citizen science and public use**

NSF likes to know how many students participated, entered records, took photos, etc.,

Katja: Citations - exactly what is the citation we are talking about? Citing the dataset/s different than grad students who entered the data.

Elizabeth: no set standards across the biodiversity community for data metrics

Bruce Lieberman: We should concentrate on usage analytics.

Long term reporting; measuring data access, how data is used and by who

Anecdotal specific uses of data- how data is being used; better than raw numbers?

Collaborations

How people are involved, who’s met at workshops, who’s part of working groups, etc.

Use of computation? Storage resources?

People using portal?

Matt Collins: Access Mechanisms : search for data but no transfer of data

If no download no pop up mechanism? Services to include? Issue with graphical reminders to cite things.

Accessible data for publication, ethics

How to define a data set: data records

Elizabeth Martin: bigger issue -- involves BISON, GBIF, etc - this issue of citing datasets,

how to do it in a standard way.

Reed mentions: BioCode Commons- possible solution to create list of global unique identifiers assigned to datasets...

Working with genomics community

Reed adding that Corinna’s comment paraphrased is as “paradigm shift for people citing their datasets”

Katja / others: sounds like another working group.

Reed: what are the metrics on this?

Can still be searched if not formally cited.

DRYAD- will store data sets involved in publication; credit?

(earlier - Shari Ellis asking, when do these usage analytics / metrics need to be ready?)

Charles Davis: Relying on people being honest and citing; citations for websites

User can create collection of objects they would like (virtual collections) with identifiers,

list of people that should be cited (can copy and paste)

Reed asks about Collaboration Metrics? are TCNs keeping these?

NSF interested in knowing who works with who

network interaction maps

List of participants/logistics of past workshops

How is money being used to get additional support?

Students (undergrad, grad), volunteers (varying levels of opportunity), web-based volunteerism

Matt Collins: Capturing volunteer metrics

Toby: need these metrics to prove to administrators to show value

Toby Schuh ~ Data quality- how to evaluate quality of the data? Multiple criteria, precise data and georeferencing, multiple types of data; notion of completeness

Accuracy vs. precision

Katja’s example of coming up with a Ratings system by different categories: completeness (georef is part of completeness), who and when determined (most recent), language digitizers used in notes (about their confidence of ability to read the label, for example).

Matt Collins Misc trying to look at this.

Completeness as well as quality

Using criteria to eliminate data

How to apply criteria? Trust Metrics? Trust depends on who’s using data. How much do end-users trust data?

Austin Mast: Quality control metrics should be used by data providers to assess sources of data (making sure there aren’t errors); accuracy of identification, fidelity of data in database to label

Comparisons within data record

Notes from digitizers about decision making; verification status, georeferencing remarks, etc. (trust metrics- is determiner a good determiner?)

Metrics from who’s hitting site/web stats: everything is logged, but analyzation of logs?

searching data by taxon, locality, etc. - indexes? what are people interested in?

How much academia vs. government use of data? (sectors)

log in ID in order to do searches

tracking searches? what are most popular?

Austin asking Chris Dietrich about InvertNet: Are there Legal considerations that would limit use of site for K-8? Recording personal information? Anonymous? Filling in as much information as you want to give up, not required

Build up user base

Citing use of data in publications, who’s downloaded; end-user have to be trained by outreach/TCNs how to use data- follow up with who’s using data via person to person contact

Is there going to be outreach?

Consultants using data on regular basis

Separate portal for teachers, etc? Common names?

Being able to search by common name is the gateway for non-scientists.

Trying to figure out how data is being used (education?), research into.

Help email- gives feedback to who’s using

Being about to share use-cases.

Public access to what’s in drawers- what is metric for public using the resource?

Page views or data downloads?

Different audiences download data vs. look at images.

How to track use by non-scientists? (Pop up surveys, comment field- how to do plan to make use of data) Ability to like or make comments? Surveys, asking for feedback.

Portal isn’t only way to get data out- access through APIs rather than website directly.

Badges to track how the general citizen-scientists use data. Collection cards?

What is the metric beyond downloads, page-views, citations? Is there value in it?

**Project Management:**

Idea of having templates, potentially having working group develop templates for metrics.

Metrics about quality of groups, how to communicate that tactfully. Shown through reports?

Depends on resources, cost estimates; reason for failure is underestimate of costs- failed to manage project effectively

Generalized workflows- which methods are more effective? Multiple participants?

Working group to specify metrics?

Wiki comments? How to spread conversation.