Engaging Public Participation in Collections Digitization

Austin Mast, iDigBio, Florida State University
Katie Pearson, California Phenology TCN
Outline

- Why engage the public in collections digitization?
- How are collections doing it?
  - Overview
  - Project Management
  - Public Engagement
    - California Phenology Project
    - WeDigFLPlants
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Why engage the public in collections digitization?

Public participation in digitization is a value-added activity.
Public participation as a value-added activity:

- Decreases time (and money) spent on certain tasks
An example from Notes from Nature and the California Network

1 year
9 expeditions
13,729 specimens transcribed
An example from Notes from Nature and the California Network

13,729 specimens = 2288 hours = $34,320
An example from Notes from Nature and the California Network

In reality, we only spend:

54 hours

$1,620
$34,320 - $1,620 = $32,700 saved
Public participation is a value-added activity

- Decreases time (and money) spent on certain tasks
- Increases awareness of natural history collections and their importance

“You can’t love what you don’t know much about.”
- David McCullough
After participating in a digitization event, 70% of participants indicated “higher” or “much higher” level of awareness of the value of biodiversity specimens. 91% of participants agreed that biodiversity collections merit public funding.
Public participation is a value-added activity

- Decreases time (and money) spent on certain tasks
- Increases awareness of natural history collections and their importance
- Builds pool of potential dedicated volunteers...
Public participation is a value-added activity

- Decreases time (and money) spent on certain tasks
- Increases awareness of natural history collections and their importance
- Builds pool of potential dedicated volunteers...
  - ...and even scientists and collections professionals
Outline

- Why engage the public in collections digitization?
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How are collections engaging the public in digitization?

- **Online**, at a diversity of platforms, such as Zooniverse, Digivol, DoeDat, Les Herbonautes, Die Herbonauten, and Smithsonian Transcription Center.
- **Onsite**, during “blitzes”, classroom activities, and museum exhibits.
- **Blending both** during WeDigBio (now in April and October) and sustained collaborations with amateur enthusiast groups.
How are collections engaging the public in digitization?

https://www.zooniverse.org/organizations/md68135/notes-from-nature
How are collections engaging the public in digitization?

WEDIGFLPLANTS

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<thead>
<tr>
<th>id</th>
<th>accessURI</th>
</tr>
</thead>
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<tr>
<td>0f24819b-4214-4062-bfa5-6e882d2f640ce</td>
<td>a University of Florida Herbarium Florida Museum of Natural History</td>
</tr>
<tr>
<td>75b50218-541b-4703-a37f-899474a94c03</td>
<td>Examined for rare University of Florida Herbarium Floridan Wildflowers</td>
</tr>
<tr>
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<td>University of Florida Herbarium rida Museum of Natural History</td>
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<tr>
<td>5662b034-1f1b-4b3b-9047-3e3f2ea29291</td>
<td>R. K. Godfrey Herbarium (FSU)</td>
</tr>
<tr>
<td>43628787-c5c9-49a6-bd4c-a82d2b372718</td>
<td>Florida Herbarium (FSU) ajoog (t) 771221 HERITABLE</td>
</tr>
</tbody>
</table>

https://biospex.org/
What is Zooniverse?

- *The world’s largest and most popular platform for people-powered research.* [https://www.zooniverse.org/about](https://www.zooniverse.org/about)
- A large community of **participants**.
- **Cyberinfrastructure**, including the public engagement interface, progress dashboard, Talk forum, project builder, and APIs.
- A project **team** of 30+.
- **Experience**, from which policies and best practice documents have been derived.
What is Zooniverse?

https://www.zooniverse.org/lab/
What is Notes from Nature?

- An **organization** of projects on Zooniverse, benefitting from what Zooniverse provides.
- A group of enthusiastic **participants**.
- Field Book **cyberinfrastructure**.
- Reconciliation **code** for typical output.
- A support **team**.
- **Experience**, especially as captured in Zooniverse’s Talk forum and tutorials.
What is BIOSPEX?

- Cyberinfrastructure for **project management**, including expedition creation, engagement statistics, implementation of NFN reconciliation code, and expert review interface.
- Cyberinfrastructure for **public engagement**, including a project dashboard, event manager, and game generator.
- A support **team**.
- **Experience**, especially as captured in Resources page.
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- Why engage the public in collections digitization?
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How does the cyberinfrastructure fit together?
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Build the historical baseline for plant diversity and distribution in Florida.
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?

May-09-2019
Launch Date

888
Registered Volunteers

178
Classifications Yesterday

Live Workflows

WeDigFLPlants' Pines, Cedars, and Cypress
of Florida

Retirement limit: 3
Images retired: 883 / 932
Classifications: 8,743 / 2,796
ETC* 1 days

98% Complete

*Estimated time to completion is based on the classification rate for the past 14 days and may be incorrect due to the way we currently report the data, or unavailable for some workflows.
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?

HEAT MAP DIGITIZED SPECIMENS
How does the cyberinfrastructure fit together?

### Participant Summary

Use shift + click to multi-sort

<table>
<thead>
<tr>
<th>User</th>
<th>Exploits</th>
<th>Digitizations</th>
<th>Last Date</th>
</tr>
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<tbody>
<tr>
<td>Alex</td>
<td>27</td>
<td>40584</td>
<td>2020-09-14</td>
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<tr>
<td>Ben</td>
<td>39</td>
<td>19391</td>
<td>2020-11-18</td>
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<tr>
<td>Emma</td>
<td>31</td>
<td>12758</td>
<td>2020-11-17</td>
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<tr>
<td>Grace</td>
<td>22</td>
<td>6532</td>
<td>2020-11-14</td>
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<tr>
<td>Henry</td>
<td>16</td>
<td>4318</td>
<td>2019-06-17</td>
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<tr>
<td>Ian</td>
<td>14</td>
<td>2780</td>
<td>2020-08-28</td>
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<tr>
<td>Jennifer</td>
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<td>2020-08-02</td>
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<tr>
<td>Kate</td>
<td>13</td>
<td>2163</td>
<td>2020-10-24</td>
</tr>
<tr>
<td>Logan</td>
<td>25</td>
<td>1692</td>
<td>2020-11-08</td>
</tr>
<tr>
<td>Michael</td>
<td>19</td>
<td>1424</td>
<td>2020-07-19</td>
</tr>
</tbody>
</table>

Showing 1 to 10 of 2,908 entries

### Digitizations

- Number of Participants
- Digitizations
- 1 to 956

Previous: 1 2 3 4 5 … 293 294 Next
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?
How does the cyberinfrastructure fit together?

Your expert opinion of Location:

Participants entered for Location:
- Gainesville
- participant left blank
- Flarbanks.

Once you have submitted your expert opinion for each page, go to the last page and click "Publish Reconciled."
How does the cyberinfrastructure fit together?
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Public Engagement

Growing your participant community can be challenging and time-intensive (but also rewarding)
Who might be interested in the **subject matter**, the **task**, or the **perks**?
Who might be interested in the subject matter, the task, or the perks?
Who might be interested in the **subject matter**, the **task**, or the **perks**?
How do we get new users involved?
How do we get new users involved? (some ideas)
How do we get new users involved? (some ideas)

- Online talks, presentations, and announcements
  - Long presentation example: [https://www.youtube.com/watch?v=2slQ4YKpq4Y](https://www.youtube.com/watch?v=2slQ4YKpq4Y)
  - Short announcement example (during the “Open Announcements” part of this program): [http://www.sci.sdsu.edu/plants/sdb5/Meetings/2020-10/index.html](http://www.sci.sdsu.edu/plants/sdb5/Meetings/2020-10/index.html)
- Digitization events
Want to HELP SCIENCE study California WILDFLOWERS?

COME EARLY to the next CNPS-SLO CHAPTER MEETING and LEARN ABOUT HELPING CALIFORNIA HERBARIUM USING NOTES FROM NATURE

6:00 PM, THURSDAY, NOV. 7 SAN LUIS OBISPO VETS HALL BRING A LAPTOP OR TABLET IF YOU CAN!

DO YOU DIG BIO?

Join the Hoover Herbarium for an international volunteer event, without even leaving campus! Fisher Science Hall (33) Room 258 Friday, October 18, 2019
12:10 PM
1:10 PM
2:10 PM
3:10 PM
Stay as long as you’d like!
Games | Prizes
RSVP online at https://tinyurl.com/wedigbio
Space is limited!
Help the Robert F. Hoover Herbarium make vital biodiversity data publicly available by transcribing plant specimen data

About this Event

Herbarium specimen (dried, pressed plant) data is critical to our understanding of plant life on Earth, but having these data locked away in cabinets greatly reduces their availability for research. The Robert F. Hoover Herbarium at Cal Poly is working toward creating digital images and specimen records for all 80,000 specimens in the collection. You can help! In this event, we will learn a little bit about the herbarium before diving into transcribing data from specimen images using Notes from Nature, a user-friendly online platform.

Date And Time
Sat, April 13, 2019
10:00 AM – 12:00 PM PDT
Add to Calendar

Location
Fisher Science Computer Lab, Room 33-258
1 Grand Ave
San Luis Obispo, CA 93407
View Map
WeDigBio 2020 with the California Phenology Network: WeDigBio Happy Hour

by Robert F. Hoover Herbarium

Free

Date And Time
Thu, October 15, 2020
7:00 PM – 9:00 PM PDT

About this Event

Help us "digitize" the plants of California online!
What’s in store for today:

- Introductions (poll)
How do we get new users involved? (some ideas)

- Online talks, presentations, and announcements
  - Long presentation example: https://www.youtube.com/watch?v=2slQ4YKpq4Y
  - Short announcement example (during the “Open Announcements” part of this program): http://www.sci.sdsu.edu/plants/s dbs/Meetings/2020-10/index.html

- Digitization events

- Stay engaged with new users
  - In Notes from Nature, via “Talk”
Notes from Nature - Capturing California's Flowers Talk

Notes

General comment threads about individual subjects

Unsubscribe  You're receiving notifications because you've subscribed to new discussions in this board (daily email)

Moderator Controls

Subject 51277337

am.zooni 12 hours ago [CalStLA4 expedition] The verbatim date is "28 Feb. 1973 (flowers)"
may...

1 Participant 1 Comment

Subject 51277507

am.zooni 13 hours ago [CalStLA4 expedition] I selected Coconino #county, based on "Oak Creek Can....

1 Participant 1 Comment
I tried to find San Ysedro CA and found nothing. I live in San Diego County where there is San Ysidro CA. I'm guessing it was just a misspelling.

I'll bet it was a misspelling of San Ysidro! [https://en.wikipedia.org/wiki/San_Ysidro,_San_Diego](https://en.wikipedia.org/wiki/San_Ysidro,_San_Diego)
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- Digitization events

- Stay engaged with new users
  - In Notes from Nature, via “Talk”

- Celebrate “wins” and user contributions
Your Help Matters: A Threatened Plant Discovery
4/17/2020

Notes from Nature volunteers may not have known it at the time, but while they transcribed the label of this small and unassuming plant specimen, they were documenting the occurrence of a rare, threatened species.

*Phacelia mustelina,* comically called "weasel phacelia" or more elegantly "Death Valley round-leaved phacelia" is an uncommon annual herb of eastern California and western Nevada. The California Native Plant Society ranks this species as rare, threatened, and endangered in California and elsewhere, and indeed, in our database (CCH2.org), only 39 herbarium specimens exist from the past 100+ years.
We would not be able to reach our digitization goals without our hard-working and dedicated volunteers.
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What does public engagement look like for WeDigFLPlants?
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**SCOREBOARD**

WeDigFLPlants' Gators v Noles

489 Transcriptions

<table>
<thead>
<tr>
<th>#</th>
<th>Team</th>
<th>Transcriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gators</td>
<td>387</td>
</tr>
<tr>
<td>2</td>
<td>Noles</td>
<td>102</td>
</tr>
</tbody>
</table>

Completed
What does public engagement look like for WeDigFLPlants?

Rate Chart

Estimated Records Per Hour

America/New York Timezone

Gators  Noles
What does public engagement look like for WeDigFLPlants?

HELP BEHIND-THE-SCENES AT A MUSEUM AS A CITIZEN SCIENTIST

Grades: 9-12

Aligned Standards

Florida State Standards
The Practice of Science: SC.912.N.1.4: Identify sources of information and assess their reliability according to the strict standards of scientific investigation.
A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation.

Evaluation of digital information resources: SC.912.CS-PC.3.4: Analyze and evaluate public/government resources and describe how using these resources for communication can affect change.

Next Generation Science Standards
HS-PS4-2. Evaluate questions about the advantage of using digital transmission and storage information.

Summary
Students will learn about the importance of biodiversity research collections (specifically, herbaria), the types of data that their specimens hold, the process of digital data creation about the specimens, and the online publishers of that digital data. Students will act as citizen scientists and transcribe labels of plant specimens then explore the research value of the data that they create.
What does public engagement look like for WeDigFLPlants?

| A Florida community type with an open overstory of pines and a characteristics shrub understory. | Scrub | Dry |
| Swamp | Flatwoods | Pesty | Lake | Bog |
| Canal | Open | Disturbed | Roadside |
| Wet | Hammock | Edge | Loamy | Shaded |
| Forest | Ditch | Sandy | River | Pond |

![World map with locations indicated]
Acknowledgements

Notes from Nature, BIOSPEX, and WeDigFLPlants have involved many collaborators, such as Rob Guralnick, Michael Denslow, Julie Allen, and Rafe LaFrance (UF), Laura Trouille and Mark Bouslog (Zooniverse), and Robert Bruhn, Erica Krimmel, Greg Riccardi, Libby Ellwood, Katie Pearson, Jeremy Spinks, Monika Arora, Shiva Krishna Immimi, and Jillian Goodwin (Florida State University).

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References