

DATA PROGRESS SEE TABLES BELOW

1) Share and Identify Best Practices and Standards (including Lessons

We found the best workflow in data entry begins with staff researching nomenclature before volunteers are given the specimens. This reduces extra time spent proofreading and correcting later. The workflow is now: pull specimens from collection → research nomenclature and add new names to database → volunteers enter data → (volunteers photograph specimens → we export to iDigBio) → proofread data entry → add any annotations to database → import to main internal database → export to Symbiota.

2) Identify Gaps in Digitization Areas and Technology

We are continuing the transition from our old database to BRAHMS. An export from BRAHMS to Symbiota was made in late April 2016 with some fields not being populated correctly in the migration. We are working with the developer to correct these problems.

3) Share and Identify Opportunities to Enhance Training Efforts

Continual volunteer training as issues arise is necessary to maintain data quality. One dedicated volunteer has now been trained to help proofread data entered by other volunteers. This will help ease the bottleneck between data entry and import to Symbiota.

Native and invasive look-alikes identification materials' first draft is almost complete. The guide includes line drawings, herbarium specimen images, and in-situ photos. The ID guide will be included in the Experience Boxes and will be available online. As collections were made for the Experience Boxes, we took more photos in-situ to use in the ID guide.

4) Share and Identify Collaborations with other TCNs, Institutions, and Organizations

We are continuing work with The Field Museum in creating an aquatic invasives Experience Box. We collected over 200 specimens for use in the boxes. Target species included AIS and their lookalikes. Collections will be finished by the end of September 2016. Volunteers at MOR are beginning to mount the specimens. Teacher evaluations of the lesson plans will be scheduled for later this fall.

The Outreach Coordinator is attending iDigBio Education and Outreach working group webinars and is collaborating with other members of the working group to plan a workshop scheduled for Dec 5 and 6, 2016 at Q?rius, The Coralyn W. Whitney Science Education Center at the Smithsonian National Museum of Natural History, Washington, D.C.: "Incorporating K-12 Outreach into Digitized Collections Programs." This workshop will bring together educators and collections personnel. Participants will collaborate to

write a white paper outlining best practices for scientists looking to engage with K-12 students and educators.

The Outreach Coordinator is collaborating with iDigBio along with other institutions in a working group entitled “Biodiversity to Explore Applied Statistical Techniques.” The group is developing a module for undergraduate educators to incorporate natural history records into statistics curricula. Invasive species in the Great Lakes will be used as a case study in this project. The Outreach Coordinator will serve as an expert on Great Lakes AIS and will bring a botanical perspective.

5) Share and Identify Opportunities and Strategies for Sustainability

We found digitization volunteers are happiest when they have some variety in the taxa they are using. When a one genus is very large and photographing specimens takes weeks, volunteers seem less engaged. We receive more positive feedback when they can work with diverse taxa. This is similar to feedback previously reported about diversity in data entry.

6) Other Progress (that doesn't fit into the above categories)

The Outreach Coordinator will be presenting her outreach progress and plans at the Upper Midwest Invasive Species Conference in October 2016.

Several participants attended the Annual Botany2016 Conference in Savannah, GA where we attended symposia and workshops on herbarium data use and outreach

Ken Cameron, PI presented a poster on the TCN at the Society for Conservation Biology North American meeting, Madison, WI

GREAT LAKES TCN DATA visible in Symbiota Portal as of 9/15/2016

Herbarium	Specimen Records	Georeferenced	Imaged
New York Botanical Garden	147009	57219	141829
Total Illinois	57391	5076	29432
J. F. Bell Museum of Natural History Herbarium	83762	11552	41259
Field Museum of Natural History	62462	55158	53497
Wisconsin State Herbarium at UW-Madison	93661	15000	91174
University of Michigan Herbarium	75829	7788	67808
Michigan State University	18175	0	18066
New York State Museum	0	0	
Morton Arboretum	15907	1773	14141
Willard Sherman Turrell Herbarium, Miami Uni	18188	1	18152
Robert W. Freckmann Herbarium at the Univer	0	0	
Greene/Nieuwland Herbarium, University of N	0	0	
Friesner Herbarium, Butler University	3312	2	3166
Ohio State University Herbarium - Plants	394	0	394
University of Wisconsin-LaCrosse	5261	2372	3464
University of Wisconsin-Milwaukee	7525	793	7300
Bartley Herbarium, Ohio University	4924	0	4924
Central Michigan University	3742	289	3711
Albion College	1232	16	1223
Andrews University Herbarium	0	0	
Calvin College	0	0	
E. C. Smith Herbarium	0	0	
Eastern Michigan University Herbarium	2395	560	2272
Grand Valley State University	4336	12	4277
Green Plant Herbarium	18906	9832	0
Harriet Irving Botanical Gardens	0	0	
Herbarium, Biodiversity Centre of Ontario	10230	0	10230
Herbier Louis-Marie (QFA) - Collection de plant	13321	9895	0
Herbier du Quebec (QUE) Collection de plante:	504	504	0
Hillsdale College Herbarium	3635	15	3616
Hope College	0	0	
Jardin Botanique de Montreal	1286	37	0
Marie-Victorin Herbarium	35383	13491	394
Seney National Wildlife Refuge	207	0	207
University of British Columbia Herbarium	26521	14165	3654
Illinois Natural History Survey	48010	5076	20124
University of Illinois Herbarium	9381	0	9308
University of Manitoba Vascular Plant Herbari	5745	5566	0
University of Toronto at Mississauga Herbariur	10920	4014	0
Universite de Montreal Biodiversity Centre	0	0	
Western Michigan University	0	0	
Plant Totals	789554	220206	551645

Fish	Specimen Records	Georeferenced	Imaged
Field Museum of Natural History - Fish	4855	94	1497
Illinois Natural History Survey - Fish	29371	8325	12846
J. F. Bell Museum of Natural History - Fish	10685	9077	3298
Ohio State University Museum of Biological Di	9033	0	9005
University of Michigan Museum of Zoology - Fi	34434	1762	48
University of Wisconsin-Madison Zoological M	4601	445	3952
Fish Totals	92979	19703	21465

Mollusks	Specimen Records	Georeferenced	Imaged
Field Museum of Natural History - Mollusks	6438	159	0
Illinois Natural History Survey - Mollusks	5716	5553	5716
J. F. Bell Museum of Natural History - Mollusks	0	0	
Ohio State University Museum of Biological Di	2376	0	2350
University of Michigan Museum of Zoology - M	22351	2	414
University of Wisconsin-Madison Zoological M	531	425	137
Mollusk Totals	37412	6139	2901

GRAND TOTAL	919945	246048	576011
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