Planning a Digitization Project and Delivering Collection Data

Steps for Launching

a Digitization Project

Brandi S. Coyner and Janet K. Braun
Sam Noble Oklahoma Museum of Natural History

Purpose of Digitization

- To gain intellectual and physical control
- To upgrade management of collection data
- To improve the level of data capture
- To expand the accessibility of specimens, data, and associated archives
- To increase the capacity for collections-based research

Institutional Digitization History

1970s—Biological collections

1980s—VertPaleo

1990s—InvertPaleo

2000s—Archaeology, Ethnology,
    Art, Classics, Paleobotany,
    Genomic Resources, Native
    American Languages,
    Recent Invertebrates (mollusks)

2010s—Recent Invertebrates (arthropods)

Status & Funding of Digitization

Collection	Size of Collection	% Digitized	Funding Source
Mammals	66,000	100%	Internal, NSF (2)
Birds	28,000	100%	Internal
Fish	54,000 lots	100%	Internal
Reptiles and Amphibians	52,000	100%	Internal
Recent Invertebrates	>500,000	50%	Internal, IMLS (2)
Genomic Resources	13,000	100%	Internal
Vertebrate Paleontology	73,000	100%	Internal, NSF (3)
Invertebrate Paleontology	>1 million		Internal, NSF (2)
Paleobotany	65,000		Internal, NSF (2)
Archaeology	>5 million		Internal, IMLS (1)
Ethnology, Art, & Classics	15,000	100%	Internal
Native American Languages	5,000	100%	Internal

The Memphis Collection: Endangered and Orphaned

An endangered and orphaned collection is "a substantive body of systematic material which is or soon may be no longer regarded as of value in its present ownership…The collection thus is in danger of becoming lost to the systematic research and education community…"(West 1988)

The Memphis Collection: The Urgency

- Lack of staff and funds for care and preservation

- Change in focus of the department

- Eventual retirement of the curator

- In 2010, UM determined it was in the best interest of the collection to seek an institution to provide for its long-term care and preservation
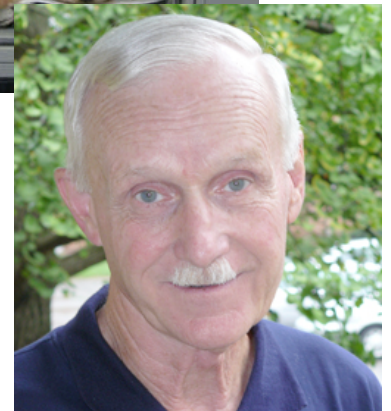
SNM Self-Assessment

- How does the project relate to our institutional mission statement and strategic plan?
- How does the project serve as an investment in our institutional capacity?
- Who is our audience and how will the project strengthen our ability to serve them?
- Are staff, equipment, space, facilities, and other resources available or are additional external and/or internal resources needed?
- What are the outreach plans to reach our intended audience(s)?
- What are the intended products that will result from the project?
- What are the measurable results and how will we evaluate them?
- How will we sustain the results over time?
- What will be the long-term impact of the project after funding ends?

The Challenge

- ca. 16,500 catalogued specimens
- ca. 8,000 uncatalogued and partially prepared specimens
- Electronic catalogue
- Written catalogue
- Archival documents
- Loans records

The Project

I. Project Preparation

II. Database Design

III. Specimen and Archive Inventory and Data Capture

IV. Physical and Electronic Accessibility to Specimens and Database

I. Project Preparation

- Establish project benchmarks and completion dates
- Review/revise protocols and standards for:
  - Curation
  - Inventory
  - Cataloguing
  - Electronic Capture
  - Osteoscribing
  - Georeferencing
  - Evaluation and Quality Control

I. Project Preparation

- Hire and train project staff
  - Selection of personnel should be guided by skill sets associated with the success of tasks
    - attention to detail
    - commitment to efficiency
    - productivity

Project Phase	Staff	GS	US	Interns	NS Vol	S Vol
Facility Prep	6	3	1	-	-	-
Pack-Move	3	1	-	-	-	-
Curation, Cataloguing, etc.	4	4	5	1	17	59

Project Advisory Team

- Staff stakeholders
- Provide feedback in aspects of the project, including database design, security, search capabilities, evaluation, and database and webpage content
- Explore ways that specimen information can be presented to support the curriculum needs of students and teachers at all academic levels, the general public, and other users

II. Database Design

- Review and modify database design and user interfaces
- Review and revise documentation standards
- Review and revise data management plan

III. Specimen and Archive Inventory and Data Capture

Initial Curation

- Make copies of documents
- Rehouse documents
- Organize specimens
- Match specimen parts
- Update nomenclature

III. Specimen and Archive Inventory and Data Capture

Cataloguing and Electronic Capture of Information

- Assign catalogue numbers and attach tags
- Create catalogue records that include information from specimen labels AND associated documents
- Rehouse specimens
- Generate labels
- Record information for future preservation and conservation

III. Specimen and Archive Inventory and Data Capture

Quality Control

- Process for corrections and adjustments
- Procedures included:
  - creation of auto-entered, self-building, or pull-down database field entries
  - comparison of catalogue records against specimen labels and associated written records

III. Specimen and Archive Inventory and Data Capture

Evaluation

- Progress is assessed by plotting the number of records electronically captured each month

- Formal quarterly evaluation
  - Modifications, if necessary

Specimens Catalogued
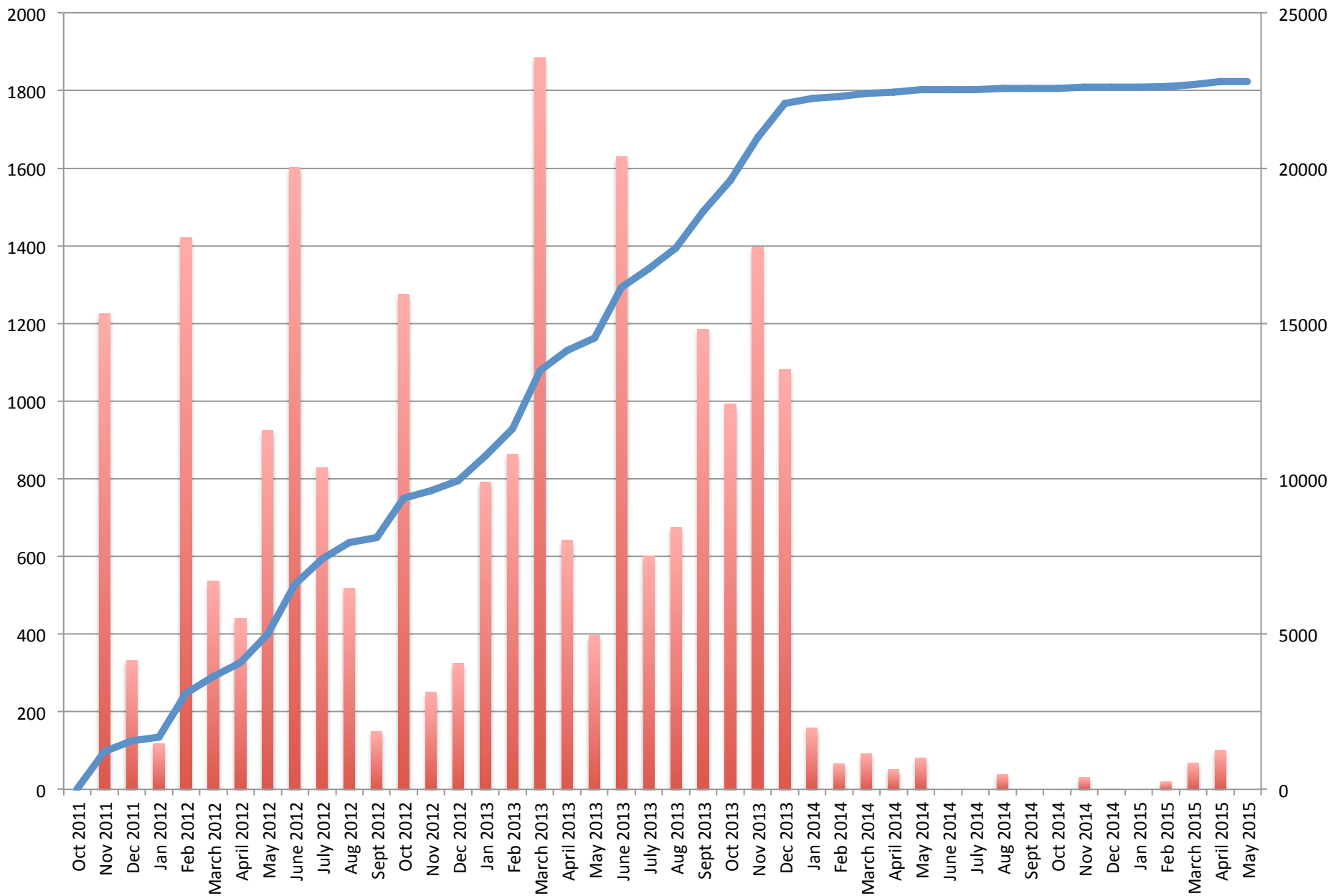
III. Specimen and Archive Inventory and Data Capture

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IV. Physical and Electronic Accessibility to Specimens and Database

- Install specimens, reorganizing if need

- Update case, shelf, and drawer labels

- Upload data to museum website and VertNet at end of each quarter

Project Afterthoughts

	Pros	Cons
Student personnel	Experience for a large, diverse group	High turnover Schedule conflicts Inexperienced
Non-student personnel	Reliable Almost no turnover Committed to success of project	None
Number of personnel	Increased productivity	Ability to manage workflow Quality control

Project Afterthoughts

	Pros	Cons
Quality control process	Decreased data entry errors	Assumption of no errors led to not seeing errors
Evaluation process	Helped maintain productivity and project oversight	Monthly benchmark "wall"
Workflow		Bottlenecks
Image capture of specimen labels	Reduction in specimen handling Increased efficiency and accuracy Elimination of need to re-access specimens	Additional processing time [this is being done now as part of an inventory]

Acknowledgements