

Department of the Interior
Museum Property Guidance

Guidance for Cataloging Department of the Interior Museum Collections

Accurate and comprehensive catalog data are essential for the success of the Department of the Interior's (DOI) museum management program. These data are vital to further substantiate ownership, and to identify, document, manage, track, and enhance the security of DOI's museum collections. In addition, catalog data have enormous interpretive, educational, and research values. These data are routinely used in support of interpretive programming (especially for students and visitors), exhibits (both "traditional on-site" and web-based), publications, and historic and scientific research.

The policies and procedures required for cataloging DOI museum collections are identified in [Part 411 of the Departmental Manual \(411 DM\) *Identifying and Managing Museum Property*](#) and detailed in [DOI Museum Property Directive \(Directive\) 20, *Cataloging Museum Collections*](#). Directive 20 also specifies the mandatory catalog record data fields to properly catalog museum collections according to DOI standards.

This guidance presents supplemental information and best practices for cataloging DOI museum collections in accordance with Directive 20. It includes explanatory information, clarification of certain cataloging requirements, and recommendations for optional catalog data. You should include such optional data whenever possible. This will allow for increased accuracy of individual catalog records, while facilitating enhanced research and educational use of the entire collection.

Section I provides additional information and examples pertaining to a number of cataloging requirements and recommendations. Sections II and III describe optional data fields for all catalog records. Section IV concerns lot cataloging and includes recommended procedures for establishing and cataloging lots according to discipline-specific standards. Section V explains the importance of photographic documentation as part of the cataloging process and incorporates a number of recommended best practices. Section VI includes factors to consider prior to providing public access to catalog data, via the internet or other means. Section VII is devoted to definitions, while Section VIII consists of references—including publications, websites, and other sources of additional cataloging information.

The only appendix, Appendix A, lists all ICMS required data fields. Data must be entered in all of the ICMS required data fields in order to save a catalog record. ICMS required data fields **do not include all DOI Mandatory Catalog Data**, as noted in [DOI Museum Property Directive 20, *Cataloging Museum Collections*](#). Refer to Section 1.7: "Mandatory Catalog Data" of the Directive for the complete list of all DOI-required catalog data fields.

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Section I: Cataloging Requirements and Recommendations - Additional Information

1. Catalog Records in ICMS

All catalog records must be entered into the Interior Collection Management System (ICMS), in accordance with [DOI Museum Property Directive #18, Interior Collection Management System](#).

If a non-bureau facility, contractor, permittee, or any other entity that is cataloging DOI collections does not use ICMS, the DOI catalog data must be imported into ICMS. This requirement must be included in all contracts, permits, or other agreements.

- Before importing any data, you'll need to compare the data fields in the non-DOI entity's cataloging system with similar fields in ICMS. Determine which data fields correspond to the pertinent fields in ICMS to ensure the data is imported into the correct ICMS fields.
- Many commercially-available museum catalog systems can export data as Excel files. Data in Excel format can be imported into ICMS. Contact the support staff at Re:discovery Software for assistance, by telephone at (434) 975-3256 or email at: support@redisov.com.

Paper Catalog Worksheets: Although it isn't required, some units use paper catalog worksheets when cataloging. You must still enter all of the catalog data into ICMS to create a digital record.

2. Paper-Based Catalog Records and Supporting Information

Paper-Based Catalog Records: If your unit was established many years ago (and especially if the collection is quite large), you may still have paper catalog records that have not yet been entered into ICMS. After you enter the information into ICMS, you may discard the paper records—**unless** required by bureau policy or if they have significant historical, scientific, or other values (e.g., notes of an eminent curator). Place all retained paper catalog records in the catalog folder for the object.

Paper-Based Supporting Information: You may find information in your unit's files that provide important documentation for various objects in your collection. These materials are often paper-based and may include related research materials, loan forms, provenance data, or other documents. Include these items in the object's catalog folder.

Supporting Information in Other Formats: Additional materials that support the catalog record (e.g., photographic negatives and transparencies, motion picture film, audio recordings, spreadsheets, and all other documents, regardless of media type) also must be retained.

Digitizing Data from Existing Collections: It's critical that you make every effort to digitize all paper-based catalog records and supporting information of older collections. This will facilitate enhanced access for research, exhibits, publications, and other needs for this data.

- Supporting information may include the contents of catalog folders, related research materials, permits, loan forms, and provenance data.
- Once you've digitized the supporting information, attach it to the catalog record in ICMS.

3. Long-term Preservation of Catalog Records

Store all paper-based catalog records that have not been digitized, such as original catalog cards—as well as all other materials that must be retained according to bureau policy—in an appropriate locked, fire-resistant cabinet, safe, or vault.

4. Long-term Preservation of Catalog Supplementary Documentation

Preservation of Paper-Based Supporting Information: Store all paper-based supporting information in an appropriate locked, fire-resistant cabinet, safe, or vault.

Preservation of Supporting Information in Other Formats: For supporting information that is in a format other than paper, store each type of material in a secure, stable location appropriate for its environmental needs (e.g., media vault or cabinet for film, audio, and electronic media). Develop a plan for migrating digital data as retrieval systems and storage media continue to evolve. This will provide for long-term preservation and ensure that the materials are accessible for future cataloging initiatives and research.

5. Issuance of Catalog Numbers

Release to Authorized Parties Only: **Never** release a group of catalog numbers to anyone who lacks adequate knowledge of DOI's (and your bureau's) cataloging standards. If you intend to issue a block of catalog numbers to a contractor or permittee, you must provide the contractor or permittee with both DOI's (and your bureau's) cataloging standards, as part of the contracting, permitting, or other agreement process.

When to Release Catalog Numbers: Do not release catalog numbers prior to collecting or before the objects to be cataloged are adequately quantified.

Catalog Number Log Book or Spreadsheet: Establish a log to document all groups of catalog numbers that you assign to any individuals for use in cataloging projects for your unit. Record the group of catalog numbers you assign, the date, the project name, and the responsible party/project manager. Consistent use of the log by all staff should eliminate gaps in catalog numbers—and more importantly—ensure that each catalog number is only used once. Many DOI units use a small record/accounting book, GSA item #7530-00-222-3521, which is on GSA contract. You can order a copy via the [GSA Advantage website](#). An Excel spreadsheet will also work well to log in your catalog numbers.

Unused Catalog Numbers: At the conclusion of the project, request that the responsible party/project manager notifies the unit curator or museum property management staff member of any unused catalog numbers assigned to the project. S/he then may reassign any unused catalog

numbers to another project if bureau/office policy allows. Unused catalog numbers cannot be used by the responsible party/project manager for another future project unless specifically authorized by the appropriate person.

6. Additional Required Catalog Data: Archives

As noted in Directive 20, the following additional catalog data below are mandatory when using the Archives Module in ICMS:

- Local collection number: The numerical designation used in the Archives Module to identify an archival collection in its entirety, such as all records made or received by a single records creator.
- Collection title.
- Date(s) documents were created.
- Scope and content: A description of the collection that summarizes the contents and describes the types of records and information included.
- History of the organization or person who created the record group.
- Organization and/or arrangement: The configuration of the files and materials in the collection, and the organizational method.

Use of the ICMS Archives Module is not required by DOI; however, it may be mandated by your bureau. Contact your bureau's National or Chief Curator concerning your bureau's policy. If your bureau doesn't require using the Archives Module, the catalog record must include all of the information in a. - f., above. See Figure 1, below, for a sample catalog record that includes these mandatory data.

Catalog Records - WUPA 28810

Ctrl Prop: N
 Class 1: HISTORY
 Class 2: COMMUNICATION ARTIFACTS
 Class 3: DOCUMENTARY ARTIFACTS
 Class 4: ARCHIVAL/MANUSCRIPT COLLECT

Object: CRYING HAWK PUEBLO (WS 746) REPORT AND DOCUMENTATION

Catalog #: WUPA 28810
Accession #: WUPA-00684
Item Count: 0.00
Quantity: 0.30
Storage Unit: LF

Description:
 REPORT, FILES, AND MAPS RELATED TO "ARCHITECTURAL DOCUMENTATION AND CONDITION ASSESSMENT AT: CRYING HAWK PUEBLO (WS 746) WUPATKI NATIONAL MONUMENT JUNE, 2011."
 PREPARED BY NPS ARCHAEOLOGIST BRIAN YAQUINTO, MAY 2013.

28810a: REPORT. **28810b:** FILE FOLDERS CONTAINING CRYING HAWK PUEBLO (WS 745) 2011 ARCD0C, INCLUDING STRUCTURE 2, ROOM 1, AND ROOM 2 ARCHITECTURAL DOCUMENTATION FORMS AND PRINTED COLOR IMAGES.
28810c: HAND DRAWN MAP OF WS 746 ROOM 1, CROSS SECTION, BY E. GEARTY, K. STEHMAN, K.C. CARLSON, AND M. MARQUES, 07/06/2011. **28810d:** HAND DRAWN MAP OF WS 746 ROOM 2, CROSS SECTION, BY K. STEHMAN, E. GEARTY, AND K.C. CARLSON, 07/05/2011. **28810e:** HAND DRAWN MAP OF WS 746 ROOMS 1 AND 2, CROSS SECTION, BY K. STEHMAN, E. GEARTY, AND K. CARLSON, 07/06/2011.
28810f: HAND DRAWN MAP OF WS 746, PLANVIEW AND CROSS SECTION, BY W. GOSART AND M. MARQUES, 06/30/2011. **28810g:** HAND DRAWN MAP OF WS 746, ROOM 1 STRUCTURE 1, PLANVIEW, BY W. GOSART AND M. MARQUES, 07/05/2011.
28810h: HAND DRAWN MAP OF WS 746, ROOM 2, PLANVIEW, BY K. STEHMAN, K.C. CARLSON, AND E. GEARTY, 07/05/2011.

LOCAL COLLECTION #: WUPA-AM-2013.15

Manufact. Date: MAY 2013

Condition: GOOD
Material: PAPER
Cataloger: PIETRICOLA, HILLARY
Catalog Date: 7/29/2015 12:00:00 AM
Identified By: GALLENSTEIN, GWENN
Ident Date: 2015
Change By: RED
Change Date: 12/9/2015 8:54:24 AM
Location: MNA ECC AR19, R19, SEC4, SH5 AND MAP CABINET 4 DR 2
Log Date: 7/29/2015 1:30:23 PM
Logger Id: RED
Object Status: STORAGE
Parts: a-h
Record Id: 21805
Status Date: 2015
User 6: 0.00
User 7: 0.00

Annotations:
 - Collection Title (points to Object)
 - Scope and Content (points to Description)
 - History of organization/person that created the record group (only the name is required for resource management or compliance records) (points to Description)
 - Organization/Arrangement (points to Description)
 - Local Collection Number (points to LOCAL COLLECTION #)
 - Date(s) the documents were created (points to Manufact. Date)

Figure 1: Example Catalog Record for an Archival Collection, which includes all Mandatory Data.

Archival collections may contain digital materials, either digitally created (“born digital”) or digital derivatives of paper-based or film-based media. If digital materials are part of the collection, note this in the organization/arrangement section within the ICMS Description field and the finding aid (paper and/or digital) or in the ICMS Archives Module (if you use the Archives Module at your unit). If you’re using the Archives Module, you’ll want to note all digital archival materials at the Series, Subseries, File Unit, or Item level, whichever is most appropriate, based upon the collection’s hierarchy (structure). See also 10. Digital Collections, below.

7. Required Catalog Data: Additional Information

Scientific Name: Required by DOI policy; you cannot save a natural history catalog record unless you complete this field. DOI policy requires that all scientific names entered in ICMS

must be recognized by the [Integrated Taxonomic Information System \(ITIS\)](#). ITIS has been incorporated as the taxonomic standard for ICMS.

Unit: If a specimen's collection site is within the boundaries of a DOI unit, enter the unit's acronym in this field. If the collection site is on private land or other lands not managed by DOI, you should note that information instead. This field in ICMS has an authority table of acceptable terms. Users with the appropriate security rights can add, delete, or modify terms in the authority table. If you add any terms to the authority table, be consistent in your naming conventions and use.

8. Description

Use the Description field in ICMS to provide a brief written narrative of the object's/specimen's distinguishing and significant features, based on a thorough physical examination. When describing an object/specimen, provide enough information to differentiate it from others. Also, provide any important information that cannot be noted in other catalog data fields. Completeness of catalog description data is essential. If you are not fully knowledgeable in the discipline of the objects you are cataloging, seek assistance from an expert in that discipline, and/or contact your National or Chief Curator for help.

9. Condition

Use the Condition and Condition Description fields in ICMS to note the physical condition and completeness of the object/specimen obtained through physical examination. This should include an assessment of its stability and state of preservation, as well as any assessments conducted by a conservator.

Condition Field: Use the Condition field to note the condition and completeness of the object/specimen. This field consists of a two-component bureau-controlled table. The first component denotes completeness. Choose from one of these three choices:

- Complete (COM): 100% of the object is present.
- Incomplete (INC): >50% and <100% of the object is present.
- Fragment (FRG): ≤50% of the object is present.

The second component denotes overall condition. Select one of these four choices:

- Excellent (EX): There is no damage or deterioration.
- Good (GD): The object/specimen is in stable condition with no active deterioration.
- Fair (FR): The object/specimen has slow but active deterioration and is in need of minor conservation treatment or cleaning to bring it to stable condition.

- Poor (PR): The object/specimen is in need of major conservation treatment to stabilize or eliminate the rate of deterioration.

Condition Description Field: This field in ICMS is a history tracking field that links to the Condition Reports supplemental record. Include all object condition reports in ICMS. Easy access to the information in these reports will facilitate ongoing condition monitoring.

10. Digital Collections

It's possible that your unit's museum collection may contain digital materials (e.g., documents, photographs, spreadsheets, or other archival objects, as well as digitally-created artwork). Digital collections can be either "born digital" or digital derivatives of paper-based, film-based, or other media types (such as a digital photograph of an artist's work that was donated to your unit's museum collection). If a museum object is solely in digital format, note this within the ICMS Description field and in the Material field. For digital archives, note the digital nature of the organization/arrangement in the ICMS Description field, the ICMS Material field, the finding aid (paper and/or digital), or in the ICMS Archives Module (if you use the Archives Module at your unit).

The Material field in ICMS includes a drop-down list of ten digital material types, nine of which begin with the word "digital." (Simply start typing "digital" in the field and arrow down through the choices. Or hold down the "Control" and "F5" keys to see the complete list of all ten, which ends with "electronic email.").

Note: *Nomenclature 4.0*, published in 2015, includes entries for digital materials. A future update to ICMS will replace the current lexicon of *Nomenclature 3.0* with *Nomenclature 4.0*.

Section II: Optional Cultural Resource Catalog Data

DOI Museum Property Directive 20, *Cataloging Museum Collections*, establishes the mandatory data fields necessary to properly catalog museum collections according to DOI standards. The following additional data fields are optional when documenting cultural collections, but are highly recommended for complete records. The first set of data fields is applicable to all cultural resources disciplines. The subsequent categories of data fields are discipline-specific for archeology, archives, ethnography, and history.

Only fill in the fields that are applicable to the object or group of objects (e.g., lot) being cataloged.

1. All Cultural Collection Disciplines

Alternate Name: Other local, regional, or typological term(s) used to name the object.

Artist/Maker: The name of the artist, maker, and/or manufacturer.

Catalog Folder: Note if a catalog folder exists for the object (“Yes” or “No”).

Component Part: Suffix indicator for parts of objects that are considered to be a single unit, such as a coffee pot and lid or a pair of shoes. For two component parts, enter a-b; for three parts, enter a-c; etc. Include a description of each component part in the Component Parts supplemental record in ICMS.

Condition Description: Detailed descriptive information of an object’s condition, which is linked to the Condition Reports supplemental record in ICMS.

Cultural ID: The cultural affiliation of the material or the maker.

Culture of Use: The cultural affiliation of the person(s) who used the object.

Eminent Figure: The full name, last name first, of the eminent person(s) directly associated with an object through use or possession (e.g., Roosevelt, Eleanor). To maintain consistent entries, develop an authority table list of eminent figures related to your unit’s collection.

Eminent Organization: The full organizational name of the eminent organization directly associated with an object. To maintain consistent entries, develop an authority table list of eminent organizations related to your unit’s collection.

Historical/Cultural Period: A distinctive stylistic or historical period associated with an object, with dates if known (e.g., the Federalist Period). To maintain consistent entries, develop an authority table list of periods for your unit’s collection.

Identified By: The full name of the person, last name first, who identified the object.

Identified Date: The date the object was identified. Enter the most complete date possible, including the full year.

Key Descriptor: Important explanatory information that would be useful to have in alphabetized lists for sorting. For example, key descriptor data for a newspaper might include the title, the volume, the number, and the pages.

Maintenance Cycle: The cycle of years (up to 9.9 years) in which a condition check or preservation/treatment will be needed for the object. Use the Maintenance associated module in ICMS to describe the type of maintenance that the object needs. Two examples include:

1. Oil Painting/1 Year: A 19th century oil painting located in the main parlor of a furnished historic structure was damaged in 1999. It was repaired the following year by a conservator. In her treatment report, the conservator recommended an in-depth examination of the repair every year.
2. Fresnel Lens/3 Year: A conservator established a three-year maintenance cycle for the lighthouse lens on exhibit at a coastal unit. Every three years, a conservator disassembles

components of the lens and cleans and applies a protective coating to ensure its long-term preservation.

Manufacture Date: The date(s) that the object was manufactured. Enter the most complete date possible, including the full year.

Material: The predominant material(s) that constitute the object.

Measurements:

- **Dimensions**: The dimensions of the object using metric measurements. Do not convert English measurements from an existing catalog record. Although metric measurements are preferred, the field in ICMS contains space to enter both metric and English measurements.
- **Other**: Any other measurements for the object.
- **Volume**: The volume of the object using metric measurements. Do not convert English measurements from an existing catalog record. Although metric measurements are preferred, the field in ICMS contains space to enter both metric and English measurements.
- **Weight**: The weight of the object using metric measurements. Do not convert English measurements from an existing catalog record. Weigh to the nearest 0.1 gram (g) or kilogram (kg), depending on the size of the objects and the accuracy desired.

NAGPRA: If the object that you're cataloging is subject to the Native American Graves Protection and Repatriation Act (NAGPRA), complete the NAGPRA field, which identifies the type of NAGPRA object. The choices are:

- Associated Funerary Objects
- Human Remains
- Objects of Cultural Patrimony
- Sacred Objects
- Unassociated Funerary Objects

Object Status: The current status of the object (e.g., exhibit, storage, loan out, missing, or deaccessioned). Although this is not required, you must complete this field in order to save the record in ICMS, see Appendix A.

Place of Manufacture:

- **City:** The city where the object was manufactured.
- **County:** The county or parish where the object was manufactured.
- **State:** The U.S. state where the object was manufactured; use the two-letter ZIP Code. For objects manufactured outside the United States (U.S.), enter the province or other corresponding legal jurisdiction area.
- **Country:** The country where the object was manufactured.

Other Manufacturing Site: Enter any additional/clarifying information about the location of manufacture that you were unable to include in the preceding data fields.

Place of Origin:

- **City:** The city from which the object was originally collected.
- **County:** The county or parish from which the object was originally collected.
- **State:** The U.S. state from which the object was originally collected; use the two-letter ZIP Code. For objects manufactured outside the United States, enter the province or other corresponding legal jurisdiction area.
- **Country:** The country where the object was manufactured.

Related Collections: Information concerning other collections associated with the cataloged object. For example, The Harry S. Truman Library and Museum, administered by the National Archives and Records Administration, has many collections related to those of Harry S. Truman National Historic Site, a DOI unit.

Reproduction: If the object is a reproduction, note that in this field. For example, the silk draperies from the parlor of an antebellum home may have been reproduced if the originals are too fragile for exhibit.

Site Name: The name of the place where the object was collected.

Use Date: The date(s) that the object was used. Enter the most complete date possible, including the full year.

2. Archeology

Collector: The full name of the person, last name first, who collected the material.

Collection Date: The date(s) on which the collector collected the object. Enter the most complete date possible, including the full year.

Color: The color(s) of the object with reference to the Munsell Color Chart.

Composite Classification: Objects made of more than one material may be classified by the major material, or by entering “Composite” on the ICMS catalog record’s Classification Line 3.

Decorative Motif: The decorative motif(s) present on the object (e.g., floral or scalloped).

Decorative Technique: The process(es) used to apply a decoration to the object (e.g., stamped, painted, or transfer print).

Field Specimen Number: The number assigned to the object in the field by the collector/investigator. If known, indicate the source of the field specimen number by entering the name of the person who assigned it.

Maker’s Mark: The distinguishing mark or label found on the object put there by the manufacturer or maker of the object, if present. Include a description of the appearance of the mark, if needed.

Manufacturing Technique: The manufacturing process, method, and technique used to make the object (e.g., woven, blown in a glass mold, or cast).

Object Form: The form or shape of the object. Form can be based on use or on geometric shape.

Object Part: The appropriate term for the part of the object that is present. Do not use this field for objects that are complete.

Previous Catalog Number: Any previous catalog number(s) assigned to the object. If known, indicate the institution that assigned the number.

Revised Nomenclature: A classification term or object term from the *Revised Nomenclature for Museum Cataloging* lexicon, which can provide additional information on the use and function of historic archeology objects.

Temper: The aplastic substances in the body of a ceramic object that serve to modify the properties of the clay before, during, and after firing (e.g., crushed ceramic, shell, or crushed stone).

Type Name: A published or generally accepted name for a group or class of artifacts that has been defined as having internal consistency. The type name distinguishes the group from other groups of similar artifacts (e.g., Anasazi Black on White, Clovis, or creamware).

3. Archives

Additional Accession Numbers: Additional numbers derived from an archive being composed of many accessions with the same provenance.

Catalog Level: The level of processing that has been accomplished for the archive, such as Level Control, Collection; Level Control, File Unit; Level Control, Item; Level Control, Series; or Unprocessed, Collection (see Level of Control below).

Dates:

- Bulk Dates: The date range for the majority of the collection. For example, 1928-1957 may be the bulk dates of a collection, with inclusive dates of 1900-1960.
- Inclusive Dates: The earliest date of a document in the archive and the latest date of a document in the archive.

Finding Aids:

- Finding Aid: Any textual or electronic tool that assists researchers in locating or using the collection (e.g., subject guide, descriptive inventory, accession register, card catalog, index, or shelf and box list). The finding aid should include the following information needed to locate the collection:
 - Author, title, place of publication, and date of creation
 - The type of finding aid (e.g., desk-top published guide)
 - Ordering information (e.g., source, cost, and format)
- Level of Control: Indicates the amount of processing that has been completed on the collection (e.g., collection level, file unit level, or item level)
- Other: Note any additional information about the finding aid in this field.

Index Terms: A set of terms used to describe the content of the materials contained within the collection.

- Form: A description of the physical characteristics of the archive, including processes, techniques, production stages or versions, instruments used during creation, shape and size of the work, markings, and other physical characteristics (e.g., engraving, lantern slide, and computer-generated graphic).
- Function: The activities or functions that brought the records into being (e.g., waterfront construction or stabilization project).
- Genre: The distinctive category of archives (e.g., landscapes, maps, photograph albums, or ephemera). These include pictorial types such as cartoons; vantage points or methods of projection, such as perspective projections; and works with a special purpose, such as advertisements. A genre may also indicate characteristics of an image's creator (e.g.,

student work), or a publication status or occasion (e.g., censored works or birthday cards). Other genres imply a subject or a method of representation (e.g., abstract works).

- **Occupation:** The occupation(s) reflected in the collection (e.g., conservationist, poet, or physician).

Language: The language(s) of the archive. A standard source for languages is the Online Computer Library Center Machine-Readable Cataloging (OCLC-MARC) Language Codes.

Other Numbers: Any other numbers associated with the archive, such as National Union Catalog of Manuscript Collections (NUCMC) numbers or catalog numbers from a previous owner.

Provenance: The collection's origin and history of ownership from the time of creation to the time of accession, such as successive transfers of ownership and custody of materials. Include the date when individual items or groups of items were first brought together in their current arrangement or collation.

Reference Terms:

- **Corporate Name:** The name(s) of organizations that are subjects of the materials in the collection (e.g., government agencies, business firms, nonprofit associations, religious bodies, and maritime vessels).
- **Geographic Name:** The place name(s) that are subjects of the materials in the archive.
- **Personal Name:** The individual or family name(s) that are subjects of the materials in the archive.
- **Topic:** The topical term(s) about the subjects of the archive (e.g., activities, animals, events, objects, places, plants, and structures).

4. Ethnology

Aboriginal Name: The native name given to the object by the group that made or used the object.

Additional Area: Additional culture area(s) associated with the object. Refer to the list of culture areas for Classification Line 2 in ICMS and *The Outline of World Cultures*.

Additional Group: Additional cultural group(s) associated with the object. Refer to the list of cultural groups for Classification Line 3 in ICMS and *The Outline of World Cultures*.

Manufacturing Technique: The manufacturing processes, methods, and techniques used to make the object (e.g., woven, blown glass, or cast).

Object Use: The purpose of the object, how it was used.

Possible/Probable Classification: A determination of whether the culture area (Classification Line 2 in ICMS) and/or cultural group (Classification Line 3 in ICMS) are either possible or probable.

5. History

Copyright: The date of creation, including the full year. It is the date when an original work is fixed in a tangible medium from which it can be perceived or recorded.

Format: The type or form of an object (e.g., size, shape, or proportion, or its general plan of physical organization and arrangement).

Genre: The category of artistic composition relating to particular characteristics of style, form, content, technique, or manner.

Inscription/Marks: Information on any inscriptions, marks, labels, autographs, or other signs associated with the object.

Object Use: The purpose of the object, how it was used.

Patent Date: The date(s) for a patent(s) issued from the U.S. Patent Office that is related to the object.

Process/Technique of Manufacture: The method or system that was used to create the object. This can be a narrative description of how the object was made or a commonly known process (e.g., stenciling).

School: The name of a group of artist/makers united by a general similarity of principles and methods in their work (e.g., Hudson River School).

Significant Event: The name of any significant event associated with the object, such as an event of national significance or an event of local or unit-related significance.

Style: The combination of shape and ornamentation that distinguishes a large group of objects. Style may refer to an artist's individual manner of working, the quality of execution of a work, or the manner of a particular period (e.g., Victorian).

Subjects: The incident, scene, figure, or other topic that the work represents. There may be primary, secondary, and tertiary subjects and themes. Include geographical or political names that are associated with the object.

Term (AAT): Term(s) that describe the object utilizing the lexicon of the [Art and Architecture Thesaurus \(AAT\)](#).

Title: The distinguishing name of the work (e.g., title of a book or the name of a painting).

Section III: Optional Natural History Catalog Data

1. All Natural History Disciplines

Age/Stage: The age of the specimen.

Catalog Date: The numeric month, day, and full year that the specimen was cataloged.

Catalog Folder: Note if a catalog folder exists for the specimen (“Yes” or “No”).

Collector: The full name of the person, last name first, who collected the specimen.

Common Name: The common name of the specimen (e.g., maple).

Component Part: Suffix indicator for separate parts of an individual specimen (e.g., skin and skeleton, pieces of a broken rock, and fossil bones from one skeleton). For two component parts, enter a-b; for three parts, enter a-c; etc. Include a description of each component part in the Component Parts supplemental record in ICMS.

Composite Classification: A composite is an environmental sample that contains two or more specimens. In ICMS, classify composite specimens in one of two ways: 1) according to the specimen of primary interest; or 2) by entering “COMPOSITE” in Phylum/Division (if needed) and Class.

Condition Description: Detailed descriptive information of the specimen’s condition.

Depositional Environment: Information about the environmental conditions under which the specimen was formed (e.g., paludal, swamp, and inland sea). These include physical processes (e.g., water and wind), biological processes (e.g., bioturbation), and chemical processes (e.g., precipitation).

Depth: The depth, in meters (m), for aquatic and/or marine collection sites.

Descriptive Name: A subcategory of Scientific Name with more descriptive information about the species of the specimen.

Dimensions/Weight: The dimensions and/or weight of the specimen using metric measurements whenever possible. Do not convert English measurements from existing catalog records or natural history labels. Although metric measurements are preferred, the field in ICMS contains space for both metric and English measurements.

Elevation: The elevation of terrestrial sites using only the information provided by the collector. Ideally all information should be in metric units. Do not convert English measurements. Although metric measurements are preferred, the field in ICMS contains space for both metric and English measurements.

Eminent Figure: The full name, last name first, of the eminent person(s) directly associated with the specimen through use or possession. To maintain consistent entries for your unit, develop an authority table list of eminent figures related to the collection.

Eminent Organization: The full organizational name of the eminent organization directly associated with the specimen. To maintain consistent entries for your unit, develop an authority table list of eminent organizations related to the collection.

Formation: The basic lithostratigraphic unit (the geological formation) from which the specimen was removed with no reference to time or age.

Identified By: The full name of the person, last name first, who identified the specimen. Enter “unknown” if the data is not available.

Identified Date: The date of identification. Enter the most complete date possible, including the full year.

Maintenance Cycle: The cycle of years (up to 9.9 years) in which a condition check or preservation/treatment will be needed.

Object Status: The current status of the object (e.g., exhibit, storage, loan out, missing, or deaccessioned). Although this is not required, you must complete this field in order to save the record in ICMS, see Appendix A.

Other Numbers: Any other numbers that have been assigned to the specimen, such as catalog numbers from a previous owner or collection, or a number assigned by a partner repository if the specimen is not housed at a DOI unit.

Preservative/Preparation: The method used to preserve or prepare the specimen(s) for curation. When cataloging paleontology specimens prepared in a complex manner, include all preparation notes produced by the fossil preparator (there is a field in ICMS for preparation notes). For fluid-preserved natural history specimens, include the name of the preservative used and the concentration.

Reproduction Method: The technique used to produce a replica of the specimen (e.g., cast or mold).

Species: The specific epithet, which is the second element of the scientific name.

Species Authority: The authority as it appears on the specimen label. Do not add an authority if it is not on the label.

Species Modifier: The Latin abbreviation antecedent to the species to reflect certainty of identification.

Study Number: The unique study identification number. The unit assigns this number along with the permit number on the collection permit form. The format is “Unit-Number.” “Unit” is the unit acronym and “Number” is the unique tracking number. The study number links all permits, reports, and correspondence related to the study over the life of the project.

Unit: The unit acronym, if the collection site is within a DOI unit’s boundary.

Unknown Classification: Sometimes a specimen is not fully identified when the specimen label is prepared. If you do not know the classification entry, you may use “Unidentified” in Phylum/Division and Class, as needed.

Waterbody/Drainage: The body of water at the collection site or the drainage of the collection site for aquatic and marine sites.

2. Biology

Aspect: The direction towards which a slope faces, which is usually expressed as a direction (e.g., southeast).

Associated Species: Other species that are found in the same environment or location, if documented on the label. If parasites (internal or external) were recovered from the specimen and curated, the organism and its catalog number should be listed.

Exotic/Native: Reference to whether the species is native or exotic.

Family: A classification of a species.

Forma: The scientific name of the lower sub-specific category or form to which the specimen has been assigned.

Forma Authority: The authority as it appears on the specimen label. Do not add an authority if it is not on the label.

Forma Year: The year of identification by the authority.

Genus: The generic name of the specimen, which is the first element of the scientific name.

Habitat: The natural environment of the specimen.

Habitat Community: Reference to specific information about the natural environment or community type within a habitat of the specimen.

Linnaean Taxon: A hierarchical rank for the specimen as found in [ITIS](#). The field will be automatically generated in ICMS when a valid Taxonomic Serial Number (TSN) or specimen name is entered.

Lower Taxon: Reference to hierarchical information about a species. This data field has been superseded by “Linnaean Taxon” and only should be used for legacy data.

Order: The scientific name of the order to which the specimen belongs.

Rare: Reference to the presence of taxa on any other list denoting scarcity of the specimen in an area, such as regional, state, county, or unit lists.

Sex: The sex of the specimen.

Slope: Reference to the slope as written on the label. There are several methods of determining slope: degrees, percentages, or slope ratio (e.g., 45° degree slope, 20% slope, or 3/1 slope).

Soil Type: Reference to the composition and size of mineral types in the soil.

Species Year: The year of identification by the species authority.

Subspecies: The scientific name of the subspecies to which the specimen has been assigned.

Subspecies Authority: The authority who originally described the subspecies.

Subspecies Year: The year of identification by the subspecies authority.

Synonym:

- Different names given to the same taxon (biological entity).
- Synonyms are often discovered during major revisions of taxonomic groups.
- The first published name for a taxon is the senior synonym and all subsequently-published names are called junior synonyms. A name becomes a senior synonym at the time when a second name for the same taxon is published.
- There are two kinds of synonyms:
 1. **Objective Synonyms** occur when different names are proposed based on the same type specimen or a new name is proposed because the original name of the type specimen is already being used.
 2. **Subjective Synonyms** exist when two different type specimens, each with a different name, are found to be the same organism. This can happen when the male and female look different or different age classes of an organism look different and are originally thought to represent two different organisms.

Synonym Name: A name that is synonymous for the specimen name that appears on the catalog

record. The synonym name must be for a taxon that falls under the codes in the Threatened and Endangered Status table in ICMS.

Taxonomic Serial Number (TSN): The unique number assigned to each name in the [ITIS](#) standard taxonomic database.

Threatened/Endangered Date: The date of the *Federal Register* notice that most recently reflects the current status of the species.

Threatened/Endangered Species: A specimen of a species that has been determined to be threatened or endangered under the Endangered Species Act. In ICMS, this field is a bureau-controlled authority table from which one of five options may be chosen:

1. “C” (Candidate for listing)
2. “E” (Endangered Species)
3. “PE” (Proposed to be listed as Endangered)
4. “PT” (Proposed to be listed as Threatened)
5. “T” (Threatened Species)

Threatened and Endangered Status: Reference to the Federal status under the Endangered Species Act, if the specimen is a threatened or endangered species.

Type Specimen: The individual specimen on which a Latin name and scientific description are based. The word “Type” should be present on either the specimen label or a separate annotation label affixed to the specimen.

Variety: The scientific name of the taxonomic variety of the specimen.

Variety Authority: The authority as it appears on the specimen label. Do not add an authority if it is not on the label.

Variety Year: The year of identification by the variety authority.

3. Geology

Datum: The name of the marker bed or strata referenced in a stratigraphic section (e.g., Eagle Crag Ash, K-Spar Tuf, or Member G Basalt).

Epoch/Series: The unit of geological time or rock series from which the specimen originated. This hierarchical level is lower than period/system (e.g., Eocene or Lias).

Geo Unit: The bed (if sedimentary) or flow (if volcanic flow rock) from which the specimen was recovered.

Lithology/Pedotype: A description of the physical character of the specimen.

Member: The formal stratigraphic subdivision from which the specimen was recovered. This may take the form of a formal unit (e.g., Turtle Cove Member). If the formation has no established subdivisions, use the informal terms in general acceptance. All member names include a geographic term and the word “member.” Some contain an intervening lithologic term (e.g., Laney Shale Member of the Green River Formation). For lithodemic units appropriate to intrusive, deformed, and metamorphic rock, enter the informal subunit. For sedimentary units mapped primarily on the basis of discontinuities, enter the allomember.

North American Datum of 1927 (NAD 27): The horizontal control datum for the U.S. that was computed with a single survey point origin at Meades Ranch, Kansas, near the geographical center of the 48 contiguous states.

North American Datum of 1983 (NAD 83): The horizontal control datum for the U.S., Canada, Mexico, and Central America. It is based on the Geodetic Reference System 1980, and the adjustment of 250,000 points, including 600 satellite Doppler stations, which constrain the system to a geocentric origin. NAD 83 was established by the U.S. and Canadian governments to overcome the limitations of NAD 27, including local distortions and difficulty in adding new surveys without altering large areas of the previous network. It also is much more compatible with modern survey techniques. NAD 83 is the legal horizontal datum for the Federal government and 48 of the 50 states.

Period/System: The unit of geological time from which the specimen originated. Do not use modifiers such as “lower” or “late.”

Reference Datum: All coordinate data, such as UTM, longitude and latitude, and/or elevation used to identify the spatial coordinates of a locality where the specimen was found. This information may be obtained using a Global Positioning System (GPS) or from the map that is used to determine the coordinates. The two datums used for North America are NAD 27 and NAD 83 (see above).

Thin Section: A small sample (30 microns thick) removed from a geology specimen for microscopic analysis. In ICMS, this field has two options: “Y” (Yes) if there is a thin section associated with the specimen or “N” (No) if there is not.

Vertical Datum: The distance of occurrence of the specimen above a particular marker bed(s) or elevation identified in the Datum field.

4. Paleontology

Datum: [See above](#).

Epoch/Series: [See above](#).

Family: A classification of a species.

Genus: [See above](#).

Geo Unit: [See above](#).

Horizon: The particular fossiliferous level from which the material was recovered. The biostratigraphic unit should follow the basic principles associated with paleontology. Use of intervals or other biozone concepts should be consistent with accepted terms for biotic assemblage.

In situ/Float: Reference to whether the specimen was found in its original stratigraphic context (i.e., “in situ”) or not (float.)

Linnaean Taxon: A hierarchical rank for the specimen as found in [ITIS](#).

Lithology/Pedotype: A description of the physical character of the specimen.

Lower Taxon: Reference to hierarchical information about a species. This data field has been superseded by “Linnaean Taxon,” and only should be used for legacy data.

Member: [See above](#).

North American Datum of 1927 (NAD 27): [See above](#).

North American Datum of 1983 (NAD 83): [See above](#).

Order: The scientific name of the order to which the specimen belongs.

Period/System: [See above](#).

Reference Datum: [See above](#).

Species Year: [See above](#).

Taphonomy: The information characterizing the accumulation and sedimentary context of the specimen. Use unit-specific terms or observations specific to the discipline. This may include bone modification observations (e.g., breakage, cracking, abrasion/polish, and surface marks for vertebrate fossils).

Taxonomic Serial Number (TSN): [See above](#).

Type Specimen: [See above](#).

Vertical Datum: [See above.](#)

Section IV: Lot Cataloging

Lot cataloging is a technique for cataloging like objects in groups, or lots, rather than cataloging each one individually. Lot cataloging is an acceptable method of accountability for a large number of objects with similar **and** non-distinguishing characteristics (e.g., nails or potsherds). Store lot cataloged objects together. **Establish lots and catalog them according to the discipline-specific standards below** (see Subsections 2–10).

1. General Guidelines for Lot Cataloging: All Disciplines

Assigning a Catalog Number: Assign one catalog number per lot.

Quantifying the Lot: If possible, count the total number of objects in the lot. If counting is not feasible, you may use an alternative form of quantification, such as weight (in grams), volume (in cubic feet), or number and type of storage containers. Do not use lot cataloging for extremely large lots. In these instances, split the lot into an appropriate number of smaller lots. The resulting lots must be small enough to allow you to catalog them using units of measure that are readily verifiable for inventory and documentation.

Cataloging a Representative Object or Specimen: Use a representative object from the lot to catalog the entire lot.

Applying the Catalog Number or Labelling: If feasible, label each object/specimen in the lot with the catalog number. If this is not feasible, label the representative object and the lot container with the catalog number.

Recataloging an Object/Specimen from a Lot: If tracking an individual object/specimen in a lot becomes important (for example, if a specimen is loaned to another museum for research purposes), withdraw the object from the lot, assign the next available catalog number, and catalog the object individually. Since the individually cataloged object is related to the original lot, include a cross-reference on both catalog records. Also, don't forget to revise the data in the Item Count or Item Quantity field if you remove an object from a lot for individual cataloging.

Special Considerations: **Never** use lot cataloging to catalog rare or high-value objects, type specimens, or those objects that must be individually tracked (such as those on exhibit or loan).

Recataloging Natural History Specimens: Specialists analyzing collections that were originally lot cataloged may re-identify individual specimens or groups of specimens within the lot. The lot would then no longer consist solely of similar specimens with non-distinguishing characteristics. You'll need to remove those re-identified specimens or groups of specimens from the lot, assign new catalog numbers to them, and include the new taxonomic and other information in the resulting catalog records. Include a cross-reference in each catalog record pertaining to the

removal of specimens from the original lot. Also, don't forget to revise the data in the item count or item quantity field of the lot's catalog record.

2. Archeology

In general, to lot catalog archeology collections, the lot must be:

- from the same accession
- from the same archaeological site and in-site provenience, such square and level (same collection effort)
- from the same collection date
- from the same collector
- studied together as a unit
- stored as a unit

Identify lot-cataloged archeological collections by provenience, material, and object name.

- **Provenience:** The specific geographic or spatial location, either two-dimensional or three-dimensional, where an object was found. This is the most important criterion to determine whether objects constitute a lot. All objects in a lot must be from the same provenience. Catalog lots by the smallest provenience recorded by the archeologist (e.g., excavation square and level).
- **Material:** Do not catalog objects composed of different materials in the same lot. For example, you might establish a lot of ceramic, stone, or wood objects, but do not establish one that includes both ceramics and stone. In a lot of chipped stone, identify the different types of stone (e.g., quartz, chert, and obsidian). A lot of ceramics may contain 70 or 80 sherds but should be the same type from the same time period (e.g., Anasazi Black on White body sherds, redware sherds, or polychrome sherds).
- **Object Name:** Do not catalog different object types in the same lot. For example, you might establish one lot of obsidian projectile point fragments but don't include a mortar and pestle, even though all are of stone. You can use object names that are general (e.g., chipped stone) or specific (e.g., stone tools).

Examples of Archeology Lot Cataloging:

- Accession 1: Sherds from Site 204, Kiva 1, fill and Kiva 1, floor
 - 1 Lot Catalog Record: Sherds (Site 204, Kiva 1, fill)

- 1 Lot Catalog Record: Sherds (Site 204, Kiva 1, floor)
- Accession 2: Miscellaneous glass and metal fragments, Casa Juárez, Room 5, floor
 - 1 Lot Catalog Record: Glass fragments
 - 1 Lot Catalog Record: Metal fragments

3. Archeology Collections: Lot vs. Bulk

A lot is different than a bulk sample. Unlike a lot, a bulk sample may contain multiple artifact types. For example, an archeologist might collect one or more soil samples. Such bulk samples might be found to contain many different types of small artifacts when the soil is screened during analysis.

4. Ethnography

In general, don't lot catalog ethnography collections. Objects from this discipline usually are important as *individual* objects and/or exhibit distinguishing characteristics. There may be rare exceptions (e.g., similar-looking, loose, glass beads).

5. History

You should catalog most history objects individually; however, lot cataloging may sometimes be appropriate. For example, you might catalog as a lot the eight horseshoes from a historic barn, but you should individually catalog the two saddles from the barn, since one is a Western saddle that was used by Theodore Roosevelt and the other is an English saddle that was used by Winston Churchill.

6. Art

Do not lot catalog art. A work of art, by its very nature, is important as an individual object.

7. Natural History Collections: When to Lot Catalog

The directions for lot cataloging natural history specimens depend on the taxa and the research objectives of the collecting project. In general, to lot catalog natural history collections, the lot must be:

- from the same accession
- from the same locality (same collection effort)
- from the same collection date
- from the same collector

- studied together as a unit
- stored as a unit

For biological specimens and some paleontological specimens (e.g., fish scales), a lot should contain a single taxon collected from a single locality on the same date.

8. Natural History Collections: Lot vs. Bulk

A lot is different than a bulk sample. Unlike a lot, a bulk sample may contain multiple taxa. For example, a marine biologist might conduct environmental sampling, such as a plankton trawl. The resulting bulk sample might contain hundreds of individual organisms from many different taxa.

9. Natural History Collections: Research Value and Research Objectives

Research Value: Inappropriate lot cataloging can destroy the research value of a natural history collection. The collection's scientific integrity requires accurate information. Lot cataloging of specimens with variations in their collection history or other attributes can result in faulty scientific analysis. Fortunately, as the cataloger, you should not have to decide what natural history specimens to lot catalog. The collector has already made this decision as part of his/her research objectives.

Research Objectives: Some studies require collecting and studying samples that include many individual specimens. The collector collected the specimens as a unit and intends to study them as an assemblage. The definition of collection unit will, to some extent, be an arbitrary decision of the collector. The same is true for such collection data as date and time. For example, a light trap sample may represent hours of sampling time. Locality is another variable. The collector determines if specimens collected within centimeters or meters of each other are from the same locality. Also, a specimen may be in many pieces and defined and labeled by the original collector as one collection unit.

10. Natural History Collections: Appropriate Examples of Lot Cataloging

- Accession 3: Fifty (50) mixed insects and arachnids from a 5-minute sweep net sample collected on June 23, 2013. The collection was lot cataloged as follows:
 - 1 Lot Catalog Record: Sweep net sample in a single vial of alcohol
 - Object/Specimen Name: Sweep Net Sample
 - Quantification: Item Count = 50; Storage Unit = EA
- Accession 4: Thousands of insects collected from a single light trap that was in operation from midnight to 6:00 am of August 23, 2015.

- 1 Lot Catalog Record: Light trap sample in a single vial or jar
- Object/Specimen Name: Light Trap Sample
- Quantification: Item Count = 0; Quantity = 1; Storage Unit = Vial or Jar
- Accession 5: Ten fossilized bones from a single *Tyrannosaurus rex* specimen collected in the Grand Staircase-Escalante National Monument on May 17, 1998.
 - Object/Specimen Name: *Tyrannosaurus rex*
 - Quantification: Item Count = 10 and Storage Unit = EA

11. General Guidelines for Natural History Lot Cataloging

The prevalence of lot cataloging for natural history specimens varies from taxon to taxon in the following ways:

- Mammals, birds, and reptiles are generally collected as individuals and are rarely lot cataloged.
- Smaller reptiles and amphibians are occasionally lot cataloged if they are collected on the same date from small sampling plots.
- Fish, particularly smaller, more common species, are frequently cataloged as a lot. Numerous specimens may be collected from a single seine haul or during electro-fishing or rotenone sampling.
- Invertebrates are lot cataloged more than vertebrates. There are well-developed sampling techniques for invertebrates, such as:
 - Malaise traps, light traps, and pitfall traps for terrestrial arthropods.
 - Various grab, core, sled, or dredge samples for benthic and epibenthic organisms.
 - Different types of net samplers for planktonic organisms.
- Most plant specimens, like vertebrates, are collected as single individuals.
- Herbarium sheets
 - In general, give each herbarium sheet one catalog number.

- If the herbarium sheet has more than one plant of the same species—you may lot catalog the specimens—as long as all were collected by the same person, at the same time, at the same place.
- If the number of plants of the same species collected by the same person, at the same time, at the same place cannot fit on one herbarium sheet, you may still lot catalog them. For example, if the specimens from the sample are on four herbarium sheets, give them all the same catalog number. Then, enter 4 in the Item Count field of the catalog record.
- Assign one catalog number and lot catalog paleontology specimens that make up one individual. You also may lot catalog a matrix that has a mix of fossils from several individuals of the same species.

12. Maximum Allowable Taxonomic Diversity within a Natural History Lot

Taxonomic diversity refers to a sample that contains more than one species. The amount of diversity will depend on the nature of the sample and the type of habitat from which it is collected. A plankton sample from the ocean may have many more species than one from a high mountain lake. There is no limit on the taxonomic diversity in a lot—it depends on the reason why it was collected.

It's vital that you maintain the integrity of the original sample. An intact sample documents the relative abundance of each species, provides crucial data that was the reason for collecting the sample, and ensures its efficacy for research and further analysis.

Researchers may treat a single sample as a lot. S/he may have decided to separate out various taxonomic groups as part of their research. Determine the number of groups in each lot by the lowest taxonomic level to which the specimens were identified, and accession and catalog them accordingly. This will vary depending on the:

- Difficulty of identification within the group.
- Level of expertise of the collector, donor, or curator.

Section V: Photography

1. Photography: An Important Part of Cataloging

It's important to photograph most museum objects during the cataloging process. Photographs are often more effective than words in describing objects. Narrative description of texture, marks, damage, and materials is sometimes difficult. However, most of these qualities are visible in a good photograph. Photographs are especially useful for recording the condition of an object. Photograph objects when cataloging to:

- Aid in the description of an object by visually documenting its characteristics (e.g., size, colors, materials, and condition, including deterioration and damage).
- Provide a visual record to supplement legal title and custody documentation.
- Assist in recovery efforts if an object goes missing.
- Provide for enhanced public access and research opportunities.

When photographing a museum object, it is important to capture all of its key characteristics. For some objects, a single image may suffice, for others you might need to take several photographs (e.g., front, back, top, bottom, inside, and outside),

2. Controlled Property

Photograph all museum firearms. DOI policy states that all museum firearms are controlled property. All other controlled property identified after February 3, 2016 also must be photographed per Directive 20.

3. Planning for Museum Photography

Because photography is such an important means of aiding in the documentation of DOI ownership, improving cataloging documentation, and enhancing educational and research use opportunities, units that do not routinely photograph their museum collections should develop an implementation plan to do so. Consult with your bureau's National or Chief Curator for such planning assistance.

4. Digital Photography

Formats and Guidelines: Take high-resolution digital photographs in the format designated by your bureau/office and follow the guidelines established by the National Archives and Records Administration (NARA) and the Federal Agencies Digitization Guidelines Initiative (FADGI). For additional information, consult the following documents on the web:

- NARA's *Technical Guidelines for Digitizing Archival Materials for Electronic Access: Creation of Production Master Files – Raster Images* at:
<http://www.archives.gov/preservation/technical/guidelines.pdf>.
- FADGI's *Technical Guidelines for Digitizing Cultural Heritage Materials: Creation of Raster Image Master Files* at:
http://www.digitizationguidelines.gov/guidelines/FADGI_Still_Image-Tech_Guidelines_2010-08-24.pdf.

Note: A raster image is one composed of pixels as opposed to a vector image, which is comprised of data that consists of mathematically described lines and curves.

Visual Documentation Aids in Each Photograph: In addition to the object, include the following items in the frame of every photograph (see Figure 2, below):

- Metal stand or similar device with the object's catalog number (including unit acronym) and film roll number.
- Metric Measurement Scale with alternating black and white blocks in metric units.
- Color Control Card for identifying the colors of the object. For black and white photographs, use a gray card instead.

ICMS Catalog Record: Attach the image(s) to the object's catalog record in ICMS or the information management system being used to catalog bureau/office objects.

Master Copy: Produce a master copy of each image in an uncompressed format. NARA recommends the Tagged Image File Format (TIFF) for production master files. Back up all master copy images onto a secure server or other secure storage system located at an offsite facility with appropriate environmental controls, security, and emergency management protocols in place to prevent data loss.

5. Film-Based Photography

Standard Procedure: Over the years, most museums have photographed significant numbers of their museum objects using film, resulting in a print, transparency, and/or negative.

For Long-term Preservation:

- Place all photographic prints, transparencies, and negatives in archival quality containers, such as:
 - Clear polyethylene sleeves
 - Acid-free paper sleeves
 - Acid-free paper envelopes
- Store all sleeved prints and negatives in archival quality boxes or albums.
- House all prints and negatives in facilities equipped with appropriate environmental controls.
- Record the catalog number, negative roll number, and the frame number for all prints, transparencies, or negatives in a photograph log.



Figure 2: Museum Object Photograph

Section VI: Public Access to Catalog Data

1. Importance of Catalog Data to the Public

Complete and accurate catalog data are essential to the success of DOI's museum management programs. These data have considerable interpretive, educational, and research importance as well. Information in the museum catalog is routinely used in support of a unit's interpretive programming, publications, and research.

Concerning research value, DOI collections include highly significant archival holdings and important scientific collections. DOI archives include items related to significant Americans and/or critical events in the nation's history. DOI scientific collections have resulted from investigations on DOI-managed lands for nearly 150 years. The data associated with these collections provide key insights to the past, both human and natural. They also support current and future research, especially that pertaining to various aspects of American history, ecosystem management, climate change, and endangered species.

In keeping with its public stewardship, scientific, and educational responsibilities, DOI seeks the widest dissemination of data pertaining to its museum collections, subject to applicable Federal laws, regulations, and DOI policies.

2. Factors to Consider Prior to Providing Public Access to Cataloging Data

Sensitive Catalog Data: Certain categories of DOI catalog data are sensitive and therefore legally exempt from public disclosure. Examples include:

- archeological and paleontological site provenience information
- personally identifiable information (PII) and other information subject to the Privacy Act of 1974
- restricted information concerning rare, threatened, or endangered species, commercially valuable resources, and minerals
- sensitive ethnographic information and information pertaining to NAGPRA cultural items
- consultation information provided by individuals who wish the information to remain confidential
- the identities of tribal consultants or other individuals who wish to remain anonymous

Federal laws applicable to sensitive catalog data include:

- National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101)

- Archeological and Historic Preservation Act of 1974 (54 U.S.C. §§ 312501-08)
- Privacy Act of 1974 (5 U.S.C. § 552a)
- Freedom of Information Act (5 U.S.C. § 552)
- Copyright Act of 1976 (17 U.S.C. §§ 101 et seq.)
- American Indian Religious Freedom Act of 1978 (42 U.S.C. § 1996)
- Archaeological Resources Protection Act of 1979, as amended (ARPA) (16 U.S.C. §§ 470aa-mm)
- Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) (25 U.S.C. §§ 3001-13)
- National Parks Omnibus Management Act of 1998 (54 U.S.C. § 100707)
- Paleontological Resources Preservation Act of 2009 (16 U.S.C. §§ 470aaa-470aaa-11).

DOI policies applicable to sensitive catalog data include:

- Department of the Interior, *Departmental Manual*:
 - Part 380, Records Management (380 DM)
 - Part 383, Public Access to Records, Chapter 1: Privacy Act Policy and General Provisions (383 DM 1)
 - Part 411, Identifying and Managing Museum Property (411 DM)
 - Part 441, Personnel Security and Suitability Program (441 DM)
- Directive 3, *Required Standards for Documenting Museum Property*

To ensure compliance with all applicable bureau policies, consult with your bureau's National or Chief Curator, Federal Preservation Officer, Privacy Act Officer, or other appropriate staff.

Section VII: Definitions

Accessioning: The formal, documented process to legally add an object or group of objects to a museum collection. A single accession transaction occurs when one or more objects are acquired in the same manner, from one source, and at one time.

Alloformation: In geology, the fundamental unit in allostratigraphic classification. An alloformation may be completely or only partly divided into allomembers, if some useful purpose is served, or it may have no allomembers.

Allomember: The formal allostratigraphic unit next in rank below an alloformation.

Allostratigraphic Unit: The mappable body of rock that is defined and identified on the basis of its bounding discontinuities.

Archival Quality: The material properties inherent in a medium permitting its preservation under controlled conditions (e.g., acid-free paper.)

Backup: A copy of electronic data, usually located on a server, external computer drive, or other storage medium, which must be housed at an offsite facility with appropriate environmental controls, security, and emergency management procedures to prevent data loss.

Bulk: A unit of measure used to quantify materials that cannot be separated into individual objects (e.g., a bag of environmental samples or soil; a container of unsorted microbiological specimens or microfossils.)

Collection Date: The full date on which the object/specimen was collected in the field using a standardized date format.

Collector's Number (Field Number): The number the collector designated for the object/specimen.

Completeness: The state of being entirely whole. Determining the completeness of museum objects is an item-level assessment based on the percentage of the object that is present and whole. It is recorded as Complete, Incomplete, or Fragment whereby Complete means that 100 percent of the object is present; Incomplete means that greater than 50 percent but less than 100 percent of the object is present; and Fragment means that 50 percent or less of the object is present.

Controlled Property: For museum collections, the term includes an object or group of objects that is especially sensitive; has a high intrinsic or scientific value; is especially vulnerable to theft, loss, or damage; is valued at or above a threshold value established by each bureau/office; is a museum firearm; or is a short-term, incoming loan (for inventory purposes only). The catalog record must indicate whether an object has been designated controlled property. Examples of objects that have been designated controlled property are objects on public exhibit, type specimens, and artwork with a high appraisal value.

Curatorial Staff: A DOI employee who has the appropriate knowledge, training, experience, and direct responsibility to manage the nature, scope, and content of bureau/office or unit museum property. This may include museum curators, museum specialists, museum technicians and staff possessing expertise in an academic discipline along with requisite museum training and experience. (See also Museum Property Management Staff.)

Digitize: The process of creating an electronic copy of a physical letter, photograph, negative, record, or other type of textual or visual object.

Integrated Taxonomic Information System (ITIS): A web-based system of authoritative taxonomic information on plants, animals, fungi, and microbes of North America and the world. ITIS is a partnership of United States, Canadian, and Mexican government agencies, other organizations, and taxonomic specialists. Available on the web at: <http://www.itis.gov>.

Interior Collection Management System (ICMS): The mandatory DOI-wide information management system used to provide DOI-wide consistency in accounting for, documenting, reporting on, and providing physical and intellectual access to bureau/office museum property.

Latitude/Longitude - The lines which form a grid that covers the entire Earth and that allows the description of any location on its surface as a unique set of angular coordinates. Latitude values indicate the angular distance between the Equator and points north or south of it. Lines of longitude, called meridians, run perpendicular to lines of latitude, and all pass through both poles. Longitude values indicate the angular distance between the Prime Meridian (which runs through Greenwich, England) and points east or west of it.

Linear Feet (Archives only): A measurement for descriptive and control purposes of shelf space occupied by archives. For vertical files (archives filed on edge), the total length of drawers, shelves, or other equipment occupied. For archives filed horizontally (flat or piled up), the total vertical thickness.

Lot: Two or more objects of a similar type that are collected at the same location, at a single point in time, and are cataloged as a group under a single catalog number. A lot is established according to appropriate discipline-specific rules.

Munsell Color Chart: An industry-standard color order system based on a three-dimensional model depicted in the Munsell color tree. Each color has three qualities or attributes: 1) Hue: color, such as red, orange, or yellow; 2) Value: the lightness or darkness of a color; and 3) Chroma: the saturation or brilliance of a color. Hue, value, and chroma are also referred to as (HVC). The Munsell Color system is a numerical scale with visually uniform steps for each of the three color attributes such that each color has a logical and visual relationship to all other colors. Additional information on the Munsell Color system is available on the web at: <http://munsell.com/about-munsell-color/how-color-notation-works>.

Museum Collection/Museum Property: A subset of personal property that is retained for long-term preservation, study, and interpretation consistent with statutory requirements, its relationship to the mission of the respective bureau/office mission, or other appropriate factors. A museum collection/museum property, which includes objects, works of art, and archives, is acquired according to a rational plan, such as a Scope of Collection Statement. It consists of 1) all accessioned, unaccessioned, cataloged, and/or uncataloged objects and 2) all museum objects under the control of a facility, unit, or bureau/office. Museum property is synonymous with and referred to as “museum collection(s)” in the DOI Museum Property Directives, a standardized term that is used by museum professionals.

Museum Property Management Staff: A DOI employee with delegated responsibilities to manage museum collections/museum property on a regular basis who does not have specialized

training in professional museum work. This may include archeologists, archivists, historians, interpreters, property management specialists, rangers, resource management specialists, or others who manage museum property as a collateral duty. (See also Curatorial Staff.)

Museum Records: Records created to manage museum property, such as accession, catalog, loan, deaccession, and inventory records. These records must be appraised through agency record schedule procedures. Museum records are not museum property.

Nomenclature: A system of terms used to name objects in a particular discipline.

Non-Bureau Facility: Any facility, which a specific bureau/office does not own and/or operate and maintain, that houses the bureau's/office's museum property. This includes facilities of other bureaus and offices within DOI, other Federal agencies, and entities outside of the Federal government, such as a museum or university.

Object: A physical item of museum property. It includes art and history objects, archeological artifacts, ethnographic objects, archival items, and natural history specimens.

Preservative: A chemical added to material to prevent oxidation, fermentation, or other deterioration, especially deterioration caused by bacteria. Ethanol is a common preservative for many biological specimens

Provenance: The history of ownership and/or custody of an object prior to its acquisition by a museum.

Provenience: For archeology, it is the specific geographic or spatial location, either two-dimensional or three-dimensional, where an object was found. Within-site provenience is the specific geographic or spatial location where an object was found within a specific archeological site. For history and ethnography, provenience is the specific location from where an object was collected or acquired, such as the Truman Home. In ICMS, include all known provenience information in the 15 fields that make up the Provenience/Manufacture Screen. Also, you may use the Within Site Provenience field to enter the location where the object was found or historically placed in a historic home at your unit (e.g., Lincoln Home, Master Bedroom).

Record Group (Archives only): A collection of documents that share the same provenance (i.e., have the same records creator.)

Township/Range/Section: The Public Land Survey System uses a rectangular system of surveys to subdivide lands in the United States. The three major elements of the system include:

- **Township**: 1) An approximately 6-mile square area of land, containing 36 sections. 2) A horizontal row of townships in the Public Land Survey System. Township designations indicate the location north or south of the survey's baseline.
- **Range**: 1) A vertical column of townships in the Public Land Survey System. 2) A north-to-south row of townships identified as east or west from the survey's principle meridian.

- Section: A one-square-mile block of land, containing 640 acres, or approximately one thirty-sixth of a township.

Type Specimen: The specimen or object designated as the name bearer for a taxonomic species for natural history specimens or object class for archeological objects. It is strongly recommended that all type specimens are identified as controlled property. For natural history disciplines, type specimens (including holotypes, lectotypes, neotypes, and syntypes) are the international standard of reference for biological nomenclature and must be held in trust for science. Non-fixed type specimens (including paratypes, allotypes, topotypes, and plastotypes) are not formal name bearers and are identified as controlled property at the discretion of the curator of record. For the discipline of archeology, examples of type specimens include specific whole or fragments of pottery or lithic blades that are the name bearers of a culture period.

Unit: A bureau/office organizational entity, such as an accountability area, administrative unit, center, laboratory, museum, office, park, school, site, refuge, or repository, which manages museum property.

Universal Transverse Mercator (UTM): A coordinate system that indicates locations on the Earth's surface, based upon ground distances. Locations are designed in terms of distances in meters east of the center of a UTM zone and north (or south) of the equator.

Section VIII: References

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Appendix A: ICMS Required Data Fields

Data must be entered in the following ICMS fields in order to save a catalog record.

Note: The data fields below **do not include all DOI Mandatory Catalog Data**, as noted in Directive 20, *Cataloging Museum Collections*. Refer to Section 1.7: “Mandatory Catalog Data” of the Directive”, for the complete list of all DOI-required catalog data fields.

1. ICMS Required Archeology Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Classification Lines 1-4
- Condition
- Controlled Property
- Item Count **OR** Quantity
- Location
- Object Name
- Object Status
- Status Date
- Storage Unit

2. ICMS Required Archival/Manuscript Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Classification Lines 1-4
- Condition
- Controlled Property
- Item Count **OR** Quantity
- Location
- Object

- Object Status
- Status Date
- Storage Unit

3. ICMS Required Biology Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Class
- Classification Line 1
- Collection Date
- Condition
- Controlled Property
- Identified By
- Item Count **OR** Quantity
- Kingdom
- Latitude and Longitude **OR** Township/Range/Section **OR** UTM Coordinates
- Location
- Object Status
- Phylum/Division
- Scientific Name
- Status Date
- Storage Unit

4. ICMS Required Ethnology Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Classification Lines 1-4
- Condition
- Controlled Property
- Item Count **OR** Quantity
- Location
- Object Name
- Object Status
- Status Date
- Storage Unit

5. ICMS Required Geology Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Classification Lines 1-4
- Collection Date
- Condition
- Controlled Property
- Formation
- Identified By

- Item Count **OR** Quantity
- Latitude and Longitude **OR** Township/Range/Section **OR** UTM Coordinates
- Location
- Object Scientific Name
- Object Status
- Status Date
- Storage Unit

6. ICMS Required History Data Fields

- Accession Number
- Catalog Number
- Cataloger
- Classification Lines 1-3
- Condition
- Controlled Property
- Item Count **OR** Quantity
- Location
- Object Name
- Object Status
- Status Date
- Storage Unit

7. ICMS Required Paleontology Data Fields

- Accession Number

- Catalog Number
- Cataloger
- Class
- Classification Line 1
- Collection Date
- Condition
- Controlled Property
- Identified By
- Item Count **OR** Quantity
- Kingdom
- Latitude and Longitude **OR** Township/Range/Section **OR** UTM Coordinates
- Location
- Object Status
- Phylum/Division
- Scientific Name
- Status Date
- Storage Unit