

Options for Managing Park Natural History Collecting and Collections: Case Study—Death Valley National Park, Collections Management

Blair Davenport, Death Valley National Park, P.O. Box 579, Death Valley, California 92328; blair_davenport@nps.gov

Death Valley National Park's museum collection began soon after 1933 when park naturalists collected samples of the rich geologic record that is Death Valley. Soon thereafter plant and animal specimens and paleontological specimens were also collected. Since those early days of collecting, the park has accumulated nearly 18,000 natural history specimens, including 357 paleontology, 2,678 geology, and 14,943 biological specimens, as well as their associated records and reports. These numbers do not reflect the specimens collected before 1933 by early expeditions, or even after 1933 when research permits were not issued or enforced; these collections are located in national museums or regional universities and colleges.

Since the 1980s, park museum staff have attempted, though not always successfully, to monitor permitted collecting activities, including specimen collections and generated data. About three years ago, thanks first to the technological improvements of the National Park Service (NPS) Research and Permit Reporting System (RPRS) and the investigator's annual report (IAR), then with the advent of the NPS inventory and monitoring (I&M) program, the park has been able to standardize and streamline its research permit program. These advances have allowed the park's curator and research permit coordinator to better track research activities and specimen collecting and processing.

The park's first step was to add specimen collecting conditions to the park-specific conditions for research and collecting permits. Thankfully, Yellowstone National Park had already created an excellent example that could be easily adapted for Death Valley. As a side note, these same conditions were added to our Mojave Network I&M study and data management plans and are utilized by contractors who work in Death Valley National Park, Joshua Tree National Park, Mojave National Preserve, Manzanar National Historic Site, Lake Mead National Recreation Area, and Great Basin National Park. In March 2003, the park's curator and permit coordinator drafted another version of these conditions and updated the curatorial conditions as well.

These updated conditions will soon be posted on the park's web site where researchers access the NPS RPRS web site to apply for permits. The following illustrates the park's process for keeping track of research and specimen collecting.

The process begins when a researcher contacts the park's permit coordinator to request a permit. If collections will be generated, the permit coordinator discusses the research request with the park's curator. At times, the curator and permit coordinator negotiate the quantity or methodology of the specimen collecting. For instance, does the researcher really need to collect five lizards when one or two vouchers will suffice and tissue samples can be collected instead? The permit coordinator also makes sure the researcher has carefully read and understands the park-specific conditions; sometimes the curator clarifies the museum conditions for the researcher.

Park-specific conditions for specimen collecting include citation of 36 Code of Federal Regulations 2.5(g) to emphasize that the collected specimens and their associated data must be accessioned and catalogued into the NPS Automated National Catalog System (ANCS+) and must bear NPS museum labels.

Conditions for the long-term curation of specimens outside Death Valley National Park include that the researcher must secure park approval of the designated non-NPS repository.

Current Topics in Natural History Collecting and Collections

ry in writing, and that the designated repository must certify in writing that it will care for the collections in accordance with standards that are consistent with NPS policy for managing museum collections. Both approvals must be obtained before collecting begins and must be referenced in the permit. Repository agreements and/or NPS's outgoing loan agreement (which is available on the park's web site) must be prepared before collections are deposited in the non-NPS repository. The park prefers that specimens are deposited at the park or in repositories that already have Death Valley collections (e.g., herbarium samples at the University of Nevada–Las Vegas and Rancho Santa Ana Botanical Garden; animal specimens at the California Academy of Sciences, etc.).

All collected specimens are to be accessioned, catalogued, and labeled. The park curator assigns accession and catalogue numbers as well as cataloguing and label preparation instructions. The accession number must be referenced in the permit and used on all reports, field records, correspondence, and permit(s) relating to the collection, as well as on the label of each specimen or material that will be permanently retained. Catalogue numbers must be referenced in the final report or publication when individual specimens are cited. The permittee or cataloguer may submit data in either Microsoft Excel or Access format; however, the catalogue fields (numeric and text formats and size) and their sequence must match the field attributes and sequence of the ANCS+ record. Specific catalogue data include:

- Catalogue number;
- Accession number;
- Classification;
- Specimen name (scientific and common name);
- Quantity or item count;
- Collection site;
- Township/range/section, UTM (Universal Transverse Mercator), or latitude/longitude coordinates (the datum should be included if Global Positioning System {GPS} technology is used);
- Name of collector;
- Collection number;
- Collection date;
- Collection method (chisel, shovel, net, hand, etc.);
- Name of person who identifies the specimen and date identification is made;
- Formation (for geology specimens);
- Period/system (for geology and paleontology specimens);
- Condition;
- Type (if designated);
- Specimen description; and
- Preservative and/or preparation method.

The most difficult research activities for the park to track are the required deadlines associated with the permit. Our park-specific conditions have been modified to help alleviate this problem. Within one year of the final date of collecting, the permittee must submit to the park curator:

- All specimens that are to be permanently retained in the park museum collection, their associated labels, and catalogue documentation (catalogue worksheets and/or electronic data);
- Associated catalogue documentation (catalogue worksheets and/or electronic data) for all specimens that are to be permanently retained in non-NPS repositories;
- Copies of all field records (notes, maps, recordings, reports, etc.), printed or copied onto archival or acid-free quality paper; and
- Copies of final reports or publications.

The permittee is required to contact the curator to make other arrangements if he or she is unable meet the one-year submission deadline (e.g., for specimens that require long-term analyses). The permittee is responsible for reporting the status of the collection analysis and/or cataloguing in the IAR. Research and collecting projects are considered complete when most, if not all, of the above conditions are fully met. The park plans to use the IAR to track outstanding curatorial processing of specimens, including the completion and submission of associated specimen data and records.

It is hoped the above-mentioned park-spe-

cific conditions will enable the park to better track collected specimens; monitor specimen collecting, preparation methods, and cataloguing; and direct the efforts of the researcher to secure appropriate storage repositories. The park wants researchers to have a clear understanding of their role and responsibility for conducting appropriate and professional research activities.

Death Valley's process of tracking research activities and holding researchers accountable for their collecting activities continues to evolve, especially when there are not enough staff or funds to adequately track their collections. For instance, the park continues to discuss the possibility of adding an additional condition to the permit that would require the permittee to contact all known repositories for

specific vouchers to determine if those extant collections can be utilized for research and analysis in lieu of collecting and preparing additional specimens. At this time, the permit coordinator asks researchers if this is an option, but the park should standardize or require this as a condition of the permit.

To conclude, no matter how many conditions the park establishes, the most important condition is that the curator and the permit coordinator establish an on-going dialogue with the researcher to convey the importance of appropriate curatorial processing of collected specimens. This is because the ultimate goal for the park is to make the specimen information and the researcher's data and final reports accessible to the scientific community and the public.

