Smithsonian
National Museum of Natural History
Collections Program

NMNH Biorepository Workflow for New Collections
Updated February 2014

Scenario A: If you are planning to go in to the field and collect tissue, then follow this workflow from step one.
Scenario B: If you have an "outside" collection that you would like to store in the Biorepository, then follow this workflow from step two.
Scenario C: If you have already returned from the field and Biorepository numbers were not requested prior to your trip, then follow this workflow from step five.

1. **Fill Out Request Form**
   a. Department Staff
      i. Collecting unit fills out Biorepository Number Request Form (in development).
      ii. Proceed to step three.
2. **Process Loan and Fee for Service Requests (if needed)**
   a. Biorepository and Department Staff
      i. If loan (an outside collection is being loaned to NMNH), verify agreement is in place, and changes are made to the NMNH Biorepository Pre-shipping Checklist (if necessary).
      ii. If fee for service (NMNH is loaning storage space), develop invoice for associated costs for processing and storage. Send to Registrar's Office or other party working on agreement.
      iii. Proceed to step five.
3. **Affix Biorepository Numbers to Tubes (if needed, if not proceed to step four)**
   a. Biorepository Staff
      i. Biorepository assigns Biorepository Numbers in FreezerPro[1] "new collections area."
      ii. Biorepository prints labels and sends to collecting unit.
   b. Department Staff
      i. Tubes are labeled by the unit either before or during the collecting event.

[1] FreezerPro: Frozen sample management application used in NMNH Biorepository

4. **Collection Event**
    a. Department Staff
        i. Collecting trip occurs. Collectors are encouraged to collect in liquid nitrogen whenever possible. Samples are transacted according to NMNH department and museum policy.
5. **Provide Biorepository with Samples**
    a. Biorepository and Department Staff
        i. Samples are shipped to, or dewar is given to, Biorepository.
6. **Process Tubes**
    a. Biorepository and Department Staff
        i. The tank is emptied, if needed.
        ii. If tubes have Biorepository numbers, proceed to step seven.
        iii. Samples are sorted.
        iv. Samples are inventoried and assessed for damage, loss or other issues.
7. **Assess Samples**
    a. Biorepository and Department Staff
        i. Decide if the sample requires rehousing, or labeling and identify if there are any reasons for rejecting sample-voucher issues, lack of documentation, and/or condition of material (damage/rot/loss).
        ii. If tubes have Biorepository labels, proceed to step nine.
        iii. Create inventory spreadsheet of samples.
        iv. Hand off inventory spreadsheet to Department/Division staff if NMNH samples.
8. **Process tubes and record loaned and/or fee for service if needed**
    a. Biorepository and Department Staff
        i. Apply labels to tubes.
        ii. If loans, log samples directly into FreezerPro.
        iii. If fee for service, log samples directly into FreezerPro.
9. **Scan and Place Samples in Boxes**
    a. Biorepository and Department Staff
        i. Samples are scanned and placed into boxes.
10. **Catalog Samples**
    a. Department staff
        i. Work with biorepository staff to clean data as necessary.
        ii. Sleuth problematic data by checking catalog records, field notebooks, checking with researchers, etc.
        iii. Insert and/or update EMu records based on Biorepository inventory using bulk data import or manual entry.
        iv. Run “FreezerPro New” for applicable EMu Genetic Sample records to create corresponding biorepository records if the samples were not pre-assigned Biorepository numbers.

v. Evaluate and check off publish/embargo flags.
vi. Inform Biorepository staff.

11. Biorepository Stores Boxes

a. Biorepository Staff

i. Biorepository stores boxes in mechanical/or LN2 tanks, as appropriate for the material. Some materials can only be stored at -80.

1. If owned, then boxes are stored as appropriate for the material.

2. If loaned, then boxes are stored as cold as possible or as specified in loan agreement.

3. If fee for service, then boxes are stored in whichever type of freezer was specified in the agreement.

Milestone: Samples stored in Biorepository and data complete in both EMu and FreezerPro.

Milestone: Data ready for upload to GGBN.