

Arrangement of Plants, Guidelines and Procedures for the Herbarium of the Tom Ridge Environmental Center at Presque Isle

Arrangement of Divisions, Classes, Orders and Families:

The Tom Ridge Environmental Center (TREC) Herbarium is arranged systematically by family according to *Gray's Manual of Botany*, eighth edition (1950) by M. L. Fernald, and *The Plants of Pennsylvania* (2007) by Ann Fowler Rhoads & Timothy A. Block.

The more primitive vascular cryptogam in the Division **Pteridophyta** (Family Equisetaceae through Family Salviniaceae) are located at the beginning of the herbarium. The seed plants in the Division **Spermatophyta** begin with the Subdivision **Gymnospermae** (pines, etc.) followed by the Class **Angiospermae**. In the Class Angiospermae, the monocots, Subclass **Monocotyledoneae** (grasses, sedges, lilies, etc.) are before the dicots, Subclass **Dicotyledoneae** (willows, buttercups, sunflowers, etc.). Within the Division **Pteridophyta**, Subdivision **Gymnospermae**, Subclass **Monocotyledoneae**, and Subclass **Dicotyledoneae**, the families are arranged in alphabetical order.

There is one prep cabinet. This cabinet contains supplies, specimens ready to be mounted, specimens that have been mounted on herbarium paper, have been sorted, and are ready to be filed in the appropriate genus covers and family cabinets.

See Appendix II for supplies

Arrangement of Families, Genera, and species, as well as specimens determined only to Family and/or Genera:

See Appendix III for cabinet layout.

The **genera** are arranged alphabetically with each family in the herbarium; **species** are arranged alphabetically within each genus.

All the **voucher** specimens are located in **yellow** genus covers, and within a particular genus. Presque Isle specimens are filed in **blue** genus covers; Erie Bluffs State Park specimens are filed in **brown** genus covers: northwest Pennsylvania specimens, other than Presque Isle and Erie Bluffs are filed in **green** genus covers. Presque Isle material and Erie Bluffs material are filed in front of the northwest Pennsylvania specimens. Out of region specimens are filed in **plain** genus covers. **Mounted duplicate specimens** are stored in a genus cover with like species. Specimens of the same species are placed in chronological order, with more recently collected specimens closer to the top.

The following procedures are to be followed for **unidentified specimens**, both mounted and unmounted. If a Presque Isle specimen is identified only to genus, it is placed at the end of the Presque Isle specimens, after the respective genus, in a plain manila genus cover. Likewise, northwest Pennsylvania specimens identified only to genus are placed at the end of the northwest Pennsylvania specimens, after the respective genus, in a plain manila genus cover.

Herbarium Procedures:

For the TREC Museum Herbarium, a new Field Book will be started annually for each collector. A field number's data list essential information about the site, which can then easily be transferred to labels for each specimen collected at that site. The field numbers develop consecutively throughout the year. Every field number has three components.

The first component consists of the capitalized initials of the collector.

The second component is the year in which the specimen was collected.

The third component is a consecutive number that starts with number one at the beginning of each year.

A colon separates each component. As an example, the field number for the first collecting site visited during 2005 by James K. Bissell would be: JKB: 2005: 1. The last number in the field notebook might be JKB: 2005: 268. At the end of each year, field notebooks should be filed with the TREC Museum.

If a backlog of specimens, which are not identified, labeled, or mounted, occurs, uniformity of these procedures allows proper and accurate processing to occur at any time, even 100 years from now.

In the field notebook, **essential data** noted with each field number site include: name of collector, date collected, exact locality of collection (such as section or township), county, state, ecological description of the collection site, GPS location where specimen was collected, elevation, slope, exposure, and soil characteristics.

Collection of Specimens:

Two specimens should be collected, one fresh to be used for identification and one to be pressed. Occasionally a third specimen is collected if pressing of the specimen is not going to be easy. **Two specimens of each species are routinely collected.** One specimen will be cataloged and incorporated into the herbarium; the other specimen will be used for exchange or identification

When collecting a specimen, all parts of a plant should be collected—roots, stems, flowers, fruits, and seeds. All parts of a plant are needed to identify it by use of a dichotomous key. ("Preparing Herbarium Specimens of Vascular Plants" U.S.D.A. Ag. Inf. Bull. No. 348) **Rare, endangered or threatened** species are never collected unless they are locally abundant. A rule of thumb is, if there are 10-20 individuals collect only one specimen. In this case, a digital photograph of the rare plant is sufficient.

Field Collection:

When specimens (the same species may be placed in the same bag) are collected they should be placed in a large plastic bag. Different species should be placed in separate bags. When specimens are ready to be pressed they should be processed in the field or returned to the **TREC Plant Lab 134A** for drying. Root sections should be rinsed in water and all extraneous material (spider webs, cottonwood matter, bird droppings etc.) removed and pat dry with paper towel.

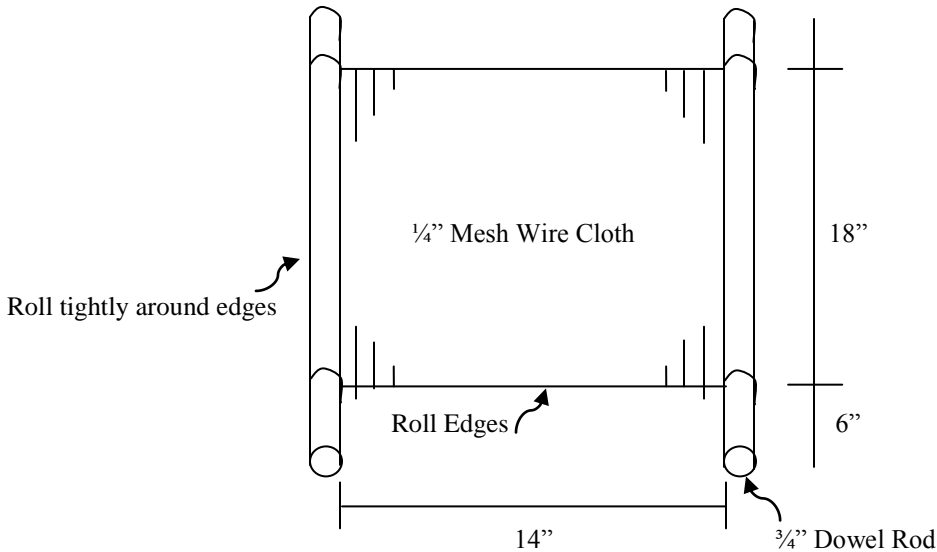
Collection of Aquatic Plants:

Such plants as milfoil, bladderwort, etc. require special handling to get a suitable specimen to mount. To facilitate collection of such plants, prepare a screen made of ¼" mesh wire screen approximately 14"x18" with ¾" dowel handles (see illustration on page 3).

For collection in the field, place a sheet of standard herbarium paper on the screen. Submerge the screen and sheet in water until soaked through. Position the screen and sheet assembly under the

plant. Carefully raise the screen to the surface of the water. While the screen and specimen are still at the surface, carefully arrange the specimen as it will appear dried and mounted. While still in the field, place screen on supports (stones or logs) and allow it to drip off excess water.

Return the screen with sheet and specimen to **TREC Plant Lab 134A**.



Preparation for Drying:

A standard, wooden framed plant press, measuring 12 inches by 18 inches, is used to store plants during collection and during drying. Two cotton-binding straps apply pressure to the drying plants. A corrugated cardboard ventilator is sandwiched between two botanical blotting driers and placed between each plant collected. (A sandwich consists of a cardboard ventilator topped with a botanical blotting drier and folded half sheet of newspaper). In the margin of the newspaper write with archival pens from your Field Book, collectors initials, field number and date, GPS lat.-long., location data, and tentative identification. Any special notes should also appear on the newspaper for each species.

When plants are collected in the field, they are immediately placed within a folded single half sheet of newspaper and arranged within the newspaper so that identifying characteristics of the plant will best be exposed when mounted. While arranging the plant within the newspaper, one must remember that the plant will eventually be mounted on a standard 11.5 inch by 16.5 inch herbarium sheet. There must be room for the herbarium label on the sheet, and the specimen must not spill over the edges of the herbarium sheet when mounted. If necessary, the plant may need to be bent to meet these restrictions. ("Preparing Herbarium Specimens of Vascular Plants" U.S.D.A. Ag. Inf. Bull. No. 348) Plant may be mounted in sections on separate sheets, noted as top, bottom, or middle as needed for each specimen.

After the data has been recorded on the newspaper, carefully fold the other half over the specimen and gently press it into place. Cover with a sheet of botanical blotter and then place a cardboard ventilator and continue with a cardboard, blotter, newspaper, blotter, and cardboard. When the stack is completed pressure should be applied by tightening the straps around the frames as tight as

possible. It sometimes helps to have someone stand on the frame as you tighten the strap. Specimens are now ready for drying.

Preparation of Aquatic Plants:

Suspend the screen over a sink or other suitable container for 24-36 hours to allow excess water to drip off. Prepare the specimen for pressing and drying following the normal procedures, except transfer the specimen and herbarium sheet to the newsprint.

Drying:

NOTE: To prepare plants for mounting, they must be adequately dried. A drier is necessary for drying wet, fleshy, or aquatic specimens.

A plant dryer is located in **TREC Plant Lab Room 134A**. The dryer is an open frame natural circulation unit utilizing 6 light bulbs of 150-200 watts each. A full plant press is placed on end in the dryer with the cardboard ventilator slots placed vertical to the bulbs to insure circulation.

A Dryer Deposit tag should be affixed to each individual press with the date of placement in the dryer, date of anticipated removal, name of person placing press in the dryer, email and phone contact along with an alternate person to contact. A sheet is also placed on the dryer with the same information.

Dryer Procedure

If specimen dryer frames are left more than 2 days beyond projected removal date, you will be notified and frames will be removed from dryer.

Person Placing Item	Item	Date in	Sch. Removal	Date Removed	Removed by
Contact Info	Email	Phone		Alternate contact info.	

Due to the relatively low humidity in the collection rooms, specimens such as grasses, sedges, ferns and other thin, non-fleshy plants will dry without the aid of the drier.

When drying is complete each specimen is kept within the newspaper and removed from the blotters and cardboard ventilators. Specimens within the newspaper are placed in a file cover. These specimens in their file covers now must be placed in double plastic bags and are now ready to be placed in the freezer in **TREC Aquatic Lab 135**.

Following the drying process, plants are placed in a -20° C **freezer** for decontamination.

- Plant specimens are sealed in two plastic bags and placed in the freezer for 48-72 hours.

Alternative Methods in other Institutions:

- Still sealed in the bags, they are left at room temperature for 24 hours.
- Plants are returned to the freezer for another 48 hours.

- After removal from the freezer the final time, the specimens are left in the bags to acclimate for 48 hours.

Drying of Aquatic Plants:

Check the progress after 48 hours. At this point, it may be possible to remove the herbarium sheet and place the specimen on the newsprint to continue drying. If the plant is not easily removable, continue drying with the specimen still on the sheet. The specimen will be mounted directly from the herbarium sheet.

A “**Freezer Depository Slip**” sheet should be completed that is attached to the freezer door.

The same freezer procedure **must be followed** when plants are accessed from another museum, or when plants are returned from being taken off the premises.

Labeling specimens:

Specimens are delivered to the **TREC Natural History Collection Room 008** and placed in the Herbarium **Cabinet E Shelf number 3**. Herbarium labels will be prepared from the newspaper recorded data and the Field Book. A **herbarium label**, typed on acid-free paper, is created for each specimen using the data from the field notebook and from the newspaper.

Labeling every specimen with proper collection data at the time it is collected is crucial but time consuming. As an alternative, the standard procedure is to use **field numbers**. For individuals collecting sporadically, it is recommended that all information be written on the newspaper in waterproof pen or in pencil. Frequent collectors write field numbers in a field notebook.

On the newspaper, the field number is noted, along with abundance, association, specific habitat position, and any specific characteristics that might be altered by the drying process, such as smell, or flower color. Additional features, which might be put on the newspaper, are plant height, growth habitat, and single stemmed or clumped.

The data from the field book will then be entered into Herbarium Collections database. The data entry person will enter: accession (He-) number, genus, species, specific locality, latitude, longitude, collector, determiner, and field notes.

Finding the Database:

- My Documents
- ALL TREC Folders
- Herbarium Collections
- Copy of Herbarium Collection Data

Prior to a label being printed, data will be checked and completed. All fields such as state park, state game lands, physiographic province, drainage basin, and images will be entered.

When the label has been prepared it is placed in the newspaper with the specimen and placed in **Cabinet E Shelf number 4** signifying the specimen is ready for mounting.

Mounting specimens:

Plant specimens, when sufficiently dried, are mounted on standard 11.5 inch by 16.5 inch **herbarium paper**. Herbarium paper is 100 % cotton/rag mounting paper and buffered to resist acid contamination. Water-based Elmer's Glue is spread thinly on a glass surface. The plant specimen is laid onto the glue, carefully lifted, and moved to the herbarium paper where it is arranged in a pleasing manner to show the pertinent identifying parts. Plants must not extend beyond the edges of the herbarium paper. The herbarium label (printed on 20 lb. 100% cotton paper) is glued on the bottom, right corner of the sheet.

Each specimen accessioned into the herbarium receives a consecutively numbered **He- number (Herbarium number)**. The He- number (printed on the label) is written on the top left corner of the sheet with an acid-free pen inside the herbarium stamp. The form of the **He- number** is **He- 0nnnn** where nnnn is a sequential number, containing as many leading zeros as required to fill 5 digits. This identifier should be preceded by the letters, TREC, when they do not appear as part of the herbarium stamp. (examples: Database: TREC He- 00001; Herbarium sheet containing TREC identification: He- 00001) If several specimens were collected at exactly the same time, by the same collector, at the same site, they are all given the same He- number. In pencil, at the bottom of the label, a notation is made, designating the specimen as '1 of 3', '2 of 3', '3 of 3', for example.

Annotation and Synonymy:

Annotations are necessary whenever a specimen has been misidentified in the opinion of the annotator, or when a known authority verifies an identified specimen formerly in doubt. If the name of a species has merely been changed in the literature, an updated synonymy is all that is necessary. Synonymy is changed by gluing an acid-free label (.75" X 4") above the original label on the herbarium sheet. (see sample below)

Synonymy Update	1995
<i>Schoenoplectus acutus</i> (Bigel.) Love & Love.	

Procedures for mounting plant specimens for the herbarium:

Supplies (see Appendix II for supplies):

1. "Herbarium of the Tom Ridge Environmental Center" stamp
2. Ink pad
 - Black: Tom Ridge Environmental Center collections from **Presque Isle State Park and Erie Bluffs State Park**
 - Blue: Gifts (i.e. Cleveland Museum of Natural History)
 - Red: Tom Ridge Environmental Center parking grounds
 - Plain: Out of Region
3. Elmer's School Glue
4. Paint brushes
5. Sheet of glass (12" x 16")
6. Wax paper
7. Sand bags

8. Linen tape

9. University of California Type 100% Rag Mounting Paper (11-1/2" x 16-1/2")

Procedure:

See Appendix I for overview

- 1st. Using the 'Herbarium of the Tom Ridge Environmental Center' **stamp**, place a stamp image in the upper left hand corner of the herbarium sheet. This is where the He- number (Herbarium number) will be written.
 - Black: Tom Ridge Environmental Center collections
 - Blue: Gifts (i.e. Cleveland Museum of Natural History)
 - Red: Tom Ridge Environmental Center parking grounds
 - By doing this step first, the paper can be turned over and stamped again in the event the stamp impression is not clear or dark enough.

- 2nd. **CHECK** the enclosed plant label against the information written on the newspaper to be sure the plant label matches the newspaper information.

- 3rd. The **label** will be glued to the herbarium sheet on the lower right corner using these steps:
 - Elmer's Glue-All (Multi-Purpose Glue) will be used for all gluing. Dip the brush into water and then into undiluted glue, mixing a little to achieve an even consistency.
 - Place the label on a paper towel and apply the glue taking care to cover all areas.
 - Place the label on the lower right corner of the herbarium sheet. Cover the label with waxed paper and apply pressure with the brayer.

- 4th. **Arrange** the dry plants on the herbarium sheet, taking care to note the following:
 - Do not cover the He- stamp.
 - Do not cover the label.
 - Do not allow any of the plant to extend beyond the herbarium sheet.
 - Do not overlap the plant specimens. Arrange them in a pleasing manner, showing any visible, identifying characteristics.

- 5th. Elmer's Glue-All (Multi-Purpose Glue) is used as an **adhesive to attach** the plant specimens to the herbarium sheets. To apply the glue, use a sheet of glass, or a comparable smooth, flat surface, which is at least the size of the herbarium sheet. It is easier to work if the glass is elevated on a couple of sheets of corrugated cardboard from the plant press.

- 6th. Follow these steps to **apply glue**, and to **put terrestrial and aquatic emergent plants** onto the herbarium sheet (see the 7th item for handling submergent aquatic plants) :
 - Use a different brush from the one used for labels. In a dish or jar wide enough to accommodate the brush's width, dilute the glue with water to a thinner, but not watery, consistency.
 - Apply a liberal, even coat of the diluted glue to the glass surface.
 - Move the plant specimen to the glue, using a teasing needle to assist you.
 - Using the needle, pat areas of the plant so it is evenly coated with glue and will readily adhere to the paper.

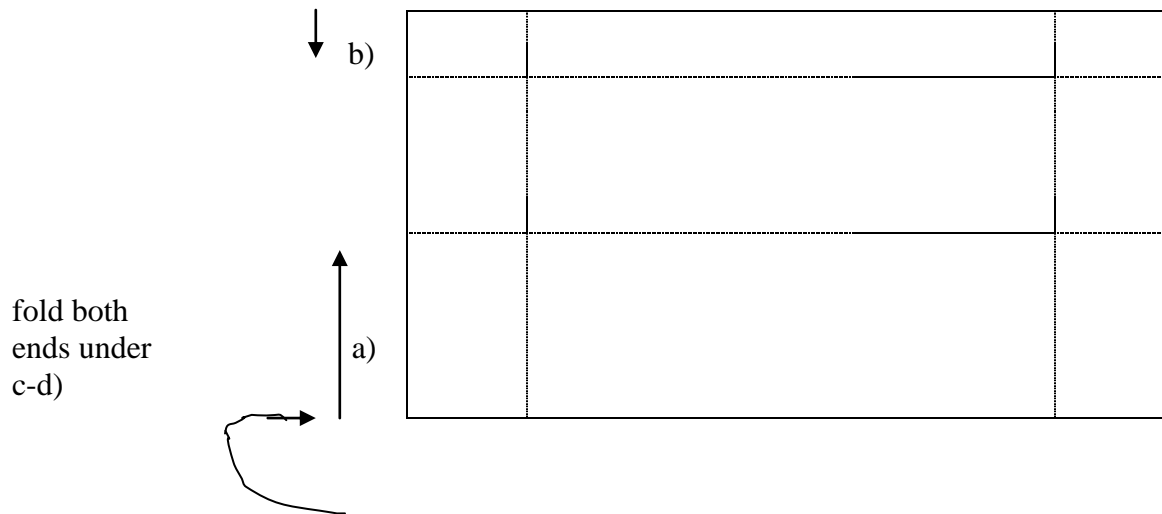
- With the use of the needle, lift the plant from the glue and move it to the herbarium sheet following rules in 4th step above.
- Gently tap with the needle to be sure the plant has contact with the paper.
- DO NOT use the brayer or push with your hands because dry plants are brittle and may break.
- If there are broken parts, reposition the broken ends in close proximity to each other. Trying to realign them exactly may cause more breakage if the glue has already started to set.
- The herbarium sheet with the plant affixed is then moved carefully to another work area. A piece of waxed paper is used to cover the entire sheet. Waxed paper is used because excess glue is less likely to stick to it when dried.
- Sand bags are placed over the waxed paper to press the plant to the paper during drying. Bags need only stay on the sheet for several minutes, depending on the individual specimens.

7th. Follow these steps to **apply glue** and to **put aquatic submergent plants** onto the herbarium sheet.

- Use a different brush from the one used for labels. In a dish or jar wide enough to accommodate the brush's width, dilute the glue with water to a thinner, but not watery, consistency. It may be easier, albeit not necessary, to use a small watercolor brush for applying glue to these plants.
- After arranging the dried plants on the herbarium sheet as described in #4 above, cover the specimen with waxed paper. Plants will NOT be transferred to the glue plate because they will curl and 'float.'
- Place sandbags over the waxed paper.
- Beginning at one end of the specimen, lift the sand bag and the waxed paper. Gently lift only that part of the plant with the teasing needle. Apply glue and quickly replace it onto the paper, recover with the waxed paper, and recover with the sandbags.
- Continue the length of the plant until the entire specimen is attached to the herbarium sheet.
- Allow the specimen to dry somewhat before moving it—or—work with the herbarium sheet on piece of corrugated cardboard from the plant press. This will accommodate moving sooner.

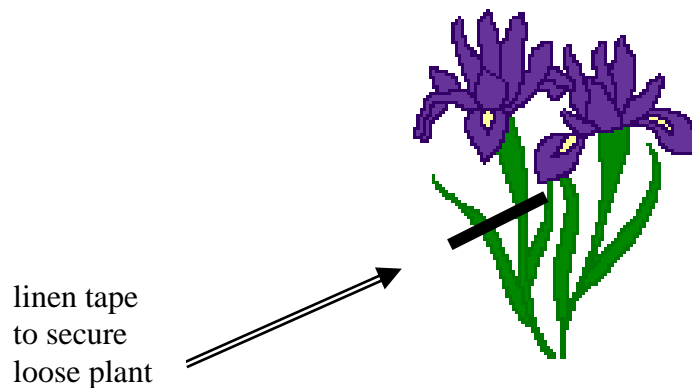
8th. If there are **loose seeds, cones, or other plant parts**, they are put into a packet/envelope, which is also attached to the herbarium sheet.

- Use a piece of acid free, 100% cotton paper, cut to the appropriate size to hold the loose items.
- Fold on the dotted lines as shown in the diagram below.
- Glue it on the left side of the herbarium sheet below the specimen.
- The folded ends are placed down on the herbarium sheet, but NOT GLUED. Glue is only placed in the center area of the packet, so the ends can be pulled out and the packet unfolded to observe the loose items.



9th. If there are **parts of the plant which did not adhere to the herbarium sheet**, one of the following can be employed:

- The parts of the plant, which did not adhere, can be carefully lifted with the teasing needle, glue applied, and the waxed paper and sandbags reapplied.
- A thin strip of linen tape can be glued across the plant parts, holding them to the paper so they do not flap around and break. The tape only needs to be moistened with water. The waxed paper and sand bags are placed back on the specimen until the tape dries.



10th. When the glue has set, **remove the waxed paper** carefully so no damage occurs to the specimen. The paper may be reused, but be cautious not to transfer any remaining debris to new specimens.

11th. The **He- number** on the label is copied onto the herbarium stamp with an acid-free pen. These numbers **MUST** match.

12th. When thoroughly dry, plants are then ready to be placed into the **genus covers**.



13th. **Old newspapers** are discarded and not reused. Reusing them may cause confusion and inaccuracy on new specimens. Before discarding, however, **CHECK THEM** to be sure there were no specimens overlooked during the mounting process.

14th. Before starting another specimen, **BE SURE THERE IS NO DEBRIS** left on the glue plate to contaminate the new specimen.

NOTE: Carefully place labeled, mounted, thoroughly dry herbarium sheets for a single species in a Genus file cover in Herbarium **Cabinet E Shelf number 5** signifying that the specimen is ready for recording the He number and being filed in the appropriate Genus cover.

NOTE: Complete data for each specimen is to be manually entered in the "Archival Herbarium Log" located in the Natural History Collection Room 008.

Guidelines for handling and filing herbarium specimens:

Handling:

- Always keep specimens flat and face up
- When stacking, lay each sheet squarely on top of the others. **DO NOT SLIDE SHEETS OVER EACH OTHER**
- Always use two hands.

Filing:

- Check the He- number on the top left corner to be sure it matches the label's He-number
- Check specimens to be sure it is firmly attached to the sheet.
- **The location is marked in pencil on the genus cover. (i.e. Cabinet A, Shelf 2 is written as A2)**
- Filing into herbarium cabinets
 - Sort the plants by color folder designation
 - Voucher = yellow
 - Presque Isle State Park = blue
 - Erie Bluffs State Park = brown
 - Northwest Pennsylvania=green
 - Sort by family, by genus, and finally species
 - Place the specimen in its species folder in reverse chronological order (most recent on top)

Checklist to avoid errors:

- Check designation: voucher, Presque Isle, northwest Pennsylvania
- Check the name of the specimen with others in the folder
- Tape (linen) or package (acid-free packet) any loose parts

- Genus is alphabetical within the family
- The most recent date is on top in each folder
- If more than one folder of a particular species exists, the greater number is placed on top with the most recent specimens
- Start a new folder when the folder is 'very full' – use common sense
- The order of Families in the Herbarium are organized alphabetically according to *The Plants of Pennsylvania* (2007) Rhoads & Block 2nd Edition

Loan Procedures from the Tom Ridge Environmental Center section of Botany:

See Appendix IV for Loan Form

1. People unfamiliar with our loan procedures should **read this carefully** and follow the checklist at the end of this section.
2. Find material requested for loan and insert a blue post-it label into the collection, on the genus cover, in place of the loaned specimens. There should be at least 3 specimens, in addition to the voucher specimen, if a loan is to be made. Negotiate with the person at the borrowing institution for the number of specimens to be loaned and the duration of the loan. This time should not exceed 6 months.
3. A list of the specimens will be recorded in the loan book with the TREC accession number, identification (genus, species if known), and condition of specimen. The above information will be typed on an invoice sheet (computer form) and printed in triplicate. A white copy & yellow copy are mailed to the borrower at the time the specimens are shipped (see numbers 8. and 13. below); a blue copy is retained in the loan file. Once specimens reach their destination, the white copy should be returned to the TREC museum to indicate the safe arrival of the shipment.
4. Consult the loan book for the number to be placed at the top of the invoice. Since this is outgoing material the number should start with an "X", followed by the year, and the next unused number (e.g. X-2005-01). Enter all information in the fields requested in the loan record book and in the computer form.
5. The upper left hand side of the invoice should be filled out to indicate the name of the borrowing institution, the address, and then to the attention of the individual contact. Loans are always made to institutions, not to individuals. Value of shipment depends on the projected cost of replacing the specimens being shipped, up to the current U.S. Postal Service insurance maximum of \$500.00.
6. Specimens are usually sent by post using "Library rate" for domestic packages. UPS can be used for fast service and for overnight use Federal Express. UPS will require forms filled out in duplicate.

7. It is advisable to do all paperwork prior to the actual packaging of the specimens. The material is then accessible for checking against the written invoice. **Take the time to check the invoice** and avoid embarrassment later.
8. Prepare a brief note to the borrower indicating that you will be mailing the loan **under separate cover**. Along with this note **send the white copy** of the invoice so that the borrower will know what to expect. You should reiterate that this copy should be checked against the shipment for new damage and returned to the TREC museum after the specimens are inspected.
9. Check to see if a collecting permit exists for the specimens and record that in the loan catalog.
10. Packaging of the specimens is flexible, dependent upon the nature and the quantity of specimens to be shipped. Use containers that will avoid bending of the herbarium sheets.
11. Before closing the container, a mailing label indicating destination and “return postage guaranteed” should be included in the package.
12. Apply another mailing label to the outside of the container. Labels should be made out to the institution of destination and to the attention of the borrower.
13. On one side of the box an envelope marked “INVOICE” should be attached. The envelope should contain: the yellow copy of the invoice.
14. Each side of the container should be stamped, “Biological Specimens, No Commercial Value, No Endangered Species.”
15. Place the insurance receipt in the file with the blue copy of the invoice.
16. When acknowledgement of receipt of package arrives from the borrower, mark the date in the loan book and place the white copy of the invoice with the blue copy and the insurance receipt in the “**active** to other institutions loan” file.

17. When loan material is returned, check off specimens listed on the invoice and log the receipt of specimens in the log book. Remove invoices from active file and place them into the file “**Loans closed**” for the appropriate institution that should be in alphabetical order.
18. Send a post card to the borrower acknowledging receipt of specimens and mark this transaction in the loan book.
19. Specimens should be processed through the **freezing procedure** found earlier in this document before returning them to the cabinets. Remove the blue indicator notes when the specimens are replaced in the collection.
20. **Above all else, do not assume that you are the only person who will ever deal with this loan. Be careful to execute all phases of the job so that loose ends do not have to be deciphered later.**

Checklist for mailing external loans:

1. Gather materials to be sent, inserting a blue note on pins or note on the vials in the place of specimens in the collection.
2. Make a list of TREC He- numbers involved into the loan book.
3. Log the loan into the loan book and get an “**X**” number for the invoice.
4. Prepare the invoice on the computer form and print.
5. Use the standard letter to the borrower and include the white copy of the invoice in an envelope ready to mail.
6. Pack specimens in the appropriate containers so that the herbarium sheets will not get bent as there is the possibility that your package could become a football...will this package survive that?
7. Enclose mailing label before closing.
8. Put mailing label on the outside of the container.

9. Wrap in brown paper, if needed.
10. Put mailing label on top side of the container.
11. Enclose in an envelope marked “**INVOICE**”, the yellow copy of the invoice and tape the envelope onto the side of the container.
12. Stamp with “Biological Specimens...” and get postage cost along with insurance amount.
13. Take to the post office, Fed Ex or UPS and get receipts for postage and insurance. Place the insurance receipt with the blue copy of the invoice in the “**active**” loan file
14. When acknowledgment for receipt of specimens arrives, mark in the loan book and place the white invoice in the file with the blue one.
15. When specimens are safely returned, mark the log book, mail acknowledgment card and place all papers in proper “**Loans closed**” file.
16. **Process returned specimens according the freezer protocol.** Then replace specimens in the collection removing blue notes used to explain absence.