

NEW ENGLAND BOTANICAL SOCIETY - GUIDELINES FOR COLLECTING

The NEBS encourages field botanists to collect native and introduced plants to provide permanent herbarium records of the New England flora. We ask that all collectors adhere to these guidelines.

What to Collect

NEBS is seeking modern collections of invasive species, introduced species, and native species in order to maintain an herbarium that represents the modern diversity and ecology of the New England flora.

Collect:

- Only plants that are 'spontaneous' – do not collect planted specimens.
- Specimens that are representative of the population (not the shortest!)
- Reproductive material (plants in flower or fruit) where possible
- Sufficient material to identify the specimen. Don't collect sterile vegetative-only material if flowers or reproductive parts are essential; don't collect plants in flower if mature fruits are essential (most sedges, for example). Check a manual to make sure that you have all structures necessary for identification.
- Whole plants (for herbaceous species) – roots and rhizomes as well as stems, leaves and flower/fruits. However, be cautious about very large plants that will not fit onto a single herbarium sheet. These may require multiple sheets.
- Woody plants – sufficient material to show branching pattern, twigs, axillary and terminal buds. Do not collect single leaves. Collect a bark sample where possible.
- Extra material – flowers, fruits, leaves – that can go into a fragment packet to help in identification or to enable future DNA extraction without damaging the specimen.

How to Press

Careful pressing is essential to preparing a quality herbarium specimen that can be used for scientific research.

- Both upper and lower leaf surfaces should be visible
- Shapes, margins and sizes of leaves are clearly seen
- Diagnostic floral structures are visible. The specimen should show upper and lower surfaces, and tubular flowers should be cut lengthwise and spread open.
- Small wet pieces of paper can be used to hold flowers in an open position for pressing
- Large, bulky fruits, stems or flowers may be cut in half lengthwise to facilitate pressing.
- Carefully fold specimens so that they fit onto a herbarium sheet, leaving room for a label. Ideally specimens should fit into a space 10 x 15 inches.
- To prepare a high-quality specimen, we recommend looking at the specimen a day or two after first pressing it to re-arrange leaves or flowers while the plant is still moist and flexible.

- DO NOT use scotch tape, any other tape, or staples in your pressed specimens.

Data Collection

Take careful notes for each specimen to assist in identification and to provide ecological and locality information.

- Information about the plant
 - Height, dbh
 - Annual or perennial
 - Below-ground features
 - Leaf color, texture, odor (if any)
 - Flower color, odor
 - Fruit color, odor
- Information about the location
 - County, Town, Site Name
 - Distance from major landmark (intersection, town center, trailhead, etc.)
 - Latitude-longitude (from GPS)
 - Elevation
- Ecological information
 - Aspect, slope
 - Substrate
 - Vegetation type, community dominants
 - Associated species
 - Relative abundance

Preparing the Label

Clear, thorough labels are essential parts of a herbarium specimen. While these can be hand-written, NEBC prefers printed/typed labels for clarity.

- Include the scientific name (Genus, species, infraspecific taxon, and authority)
- Include the date of collection, the name of the collector, and any collection number.
- Include all of the information listed under Data Collection
- If collected under a permit, include the name and number of the permit.
- Labels should be a maximum of 4 x 5 inches, and must be on acid-free archival-quality medium to heavy-weight paper (24-32 lbs is best)
- If hand-written, you must use permanent archival acid-free ink pens.

- There are concerns about the long-term stability of ink-jet printer inks. If possible, use laser printers rather than ink-jet, unless you find a source for archival-quality ink-jet inks.
- There are numerous sources for herbarium label papers (perforated), and for on-line programs to automatically generate and format labels.
- A sample label is provided below. It is not mandatory to use this format, but all of the information must be included.

PLANTS OF MASSACHUSETTS

***Carex lupulina* Muhlenberg**

NORFOLK COUNTY: Needham, Town Forest, Horsford Pond, 0.1 mi SSW of intersection of Central Avenue and Marked Tree Road.

Lat. 42° 16' 29.61" N: Long. 71° 15' 24.65" W. Elev. 185 ft

Plants abundant, growing in shallow water around edges of small shallow pond, with *Carex crinita*, *Lycopus* sp., and *Osmunda regalis* growing higher on banks.

Lisa A. Standley 2233

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(if the specimen was determined by someone other than the collector, add that name and date here)

(If the specimen was collected under a permit or landowner permission, add that information here. Provide the number of the permit, if applicable)

Mounting the Specimen

NEBC prefers to mount specimens, unless the collector is experienced at mounting. If you do mount your own collections, you must use standard archival herbarium paper and acid-free glues (see University Products or Herbarium Supply Company).

For More Information on Collecting, Pressing and Preparation

Sullivan, Janet R. and Mare Nazaire. 202X. Specimen collection and preparation for a changing flora. *Rhodora* (in press).