

EEOB 2210 LOCAL FLORA BOTANICAL SURVEY

Effective stewardship of natural areas depends upon an accurate accounting of the biotic resources, particularly the vegetation, present on a site. The development of a site-specific plant species list, along with a written description of the plant communities that are there (including relevant information about the human and natural ecology of the plants) is often desired by natural resource agencies, landowners, and environmental organizations. This substantial (100 point) assignment is to perform a botanical survey like the ones performed by professional field botanists engaged in environmental assessment.

Select a natural area near you such as a metro park, state park, state nature preserve, etc., that has several different plant community types (e.g., field, marsh, woodland) where you can roam and identify plants. Some possible sites are shown on a Google map embedded on the course companion web page.

Task: Visit the property at least three times at 1-2 week intervals during the term and record separately the trees (10 or more species), shrubs and lianas (i.e., woody vines; 5 or more species), and various herbaceous plants (vines, forbs, graminoids, pteridophytes, and bryophytes; 25 or more species) that are identifiable on each trip (for a grand total of 40 or more species).

Collecting Plants: Ideally, when one does a botanical survey, it includes the collection and preservation of a “voucher” specimen of each species, to be stored in an herbarium, that constitutes an independently verifiable confirmation of the presence of the plant at that location. For various reasons involving time, cost, educational goals, conservation, and behavioral norms in urban natural areas, we’re not going to perform extensive collecting or prepare herbarium specimens as part of this project. Most of the plants will be identifiable on site using the textbooks for the course (Newcomb’s Wildflowers, and Peterson’s Field Guide to Trees and Shrubs) as well as the on-line “Manual of the Vascular Plants of Franklin County” (Lowden 1997 and 2020) that is a subdomain of the course companion web site (ohioplants.org) and included as the menu item “Franklin County Flora.”

Documentation I: the technical report.

A full and complete botanical survey includes the following:

1. Precise location information, including area, geographic coordinates, aerial photographic and USGS topo or Google map figures.
2. Description of the environment in terms of land use, extent of development, disturbance.
3. A narrative, i.e., written as paragraphs, not a list (that comes later) description of the various plant communities and zones within them. Examples of the plant communities might be roadside, wooded area, streambank. Examples of the zones might be ground cover, shrub layer, canopy.
4. Annotated Species list. This must be sorted (i.e., in order) first by MAJOR PLANT GROUP (bryophytes, pteridophytes, gymnosperms, flowering plants; then ALPHABETICALLY BY FAMILY, and finally; ALPHABETICALLY BY SPECIES. Species must include both scientific name (including author) and common name. Also mention the plant’s growth form, whether it is native or introduced, and, if native, its “coefficient of conservatism” from the 2004 OEPA Floristic Quality Assessment Inventory (see details about that on the course companion web site). Finally, indicate the plant’s status at your site in terms of commonness, and habitat and, for at least half (20 species) of the entries, add some interesting natural history information such as importance to wildlife, medicinal uses, etc.

REQUIRED FOR A COMPLETE REPORT

LOCATION INFO AND ENVIRONMENTAL DESCRIPTION IN HUMAN TERMS

PLANT COMMUNITIES DESCRIBED IN NARRATIVE FORM

REQUIRED # OF SPECIES WITHIN EACH CATEGORY

SPECIES LIST WITH CORRECT AND COMPLETE TAXONOMIC DETAILS

SPECIES LIST WITH GROWTH FORM

SPECIES LIST WITH LOCAL STATUS

SPECIES LIST WITH COC (Coefficients of Conservatism from Ohio EPA document)

ILLUSTRATIONS OF 10 PLANTS—PHOTOS YOU TOOK (not from the web or other sources)

ECOLOGICAL NOTES ABOUT 20 PLANTS: HISTORY, ECOLOGY, OR HUMAN USES

REFERENCES AND OF WRITING GOODISH QUALITY (GRAMMAR AND SPELLING)

EXAMPLE OF SPECIES ENTRY

Magnoliophyta (angiosperms)

Aristolochiaceae (the birthwort family)

***Asarum canadense* L. wild ginger. Native ground-cover vine. CC=6. In scattered but dense patches in shady areas. Wild ginger smells similar to the spice ginger, but is unrelated and is not recommended for consumption. Its solitary, foul-smelling reddish-brown flowers are located at ground level and are probably pollinated by flies. Like many forest herbs, the seeds have oil and sugar-containing eliasomes attached, and are dispersed by ants.**

5. Illustrations: Include at least the following: 10 photos, inserted into the text where appropriate: 2 (or more) wide views of the site; 8 (or more) close-ups of representative plants.
6. References: Cite the identification manuals and various books and web sources used for the ecological notes. Use any standard style of citation you prefer; just be consistent.

Documentation II: The Blog.

We've set up "self hosted" WordPress web pages on the ohioplants.org web site, one per student, that will to be used to create informative "blogs" about your field experiences performing this botanical survey. Using your own camera, or one borrowed from OSU, photograph the general environment and the interesting plants in it and, when directed by your instructors to do so, blog about your experiences doing the survey. Each "posting" will include additional natural history information about several plants, in accordance with the detailed instructions that will have been posted separately on our Carmen site and the course companion website.