

Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike

Great Lakes Region scarp seep

This community type is specific to seepage areas of the extremely steep, actively eroding lakeshore-bluff and creek-wall slopes along Lake Erie. In the case of creek gorge seeps, groundwater seepage occurs at the interface of glacial and glacial-lacustrine deposits and the underlying eroded shales and sandstone. On the lakeshore bluffs, the seeps usually occur at the boundary of old beach deposits of sand and gravel, and an underlying layer of dense, more restrictive till. These communities are characteristically open, with a mixture of shrubs, sometimes with scattered trees. This is a very dynamic system, and the structure of the vegetation depends largely on its successional status. Recently slumped areas are first colonized by bryophytes and *Equisetum* spp.

(horsetails). As the substrate becomes more stable, and organic matter accumulates, graminoids, other herbs and shrubs colonize the seep.

Eventually, perhaps due to the weight of the vegetation and organic matter, the entire community will "slump" or slide downslope, and the cycle begins again.

More protected sites slump less frequently, and may develop a tree canopy.

Woody species include *Salix* spp. (willows), *Cornus rugosa* (round-leaved dogwood), *C. sericea* (red-osier dogwood), *C. alternifolia* (alternate-leaved dogwood), *Alnus incana* (speckled alder), *Amelanchier arborea* (shadbush), *Tsuga canadensis* (eastern hemlock), *Acer saccharum* (sugar maple), *Lindera benzoin* (spicebush), *Populus deltoides* (cottonwood), *Ostrya virginiana* (hop-hornbeam), and *Rubus odoratus* (purple-flowering raspberry).

Herbaceous species include *Equisetum arvense* (common horsetail), *Parnassia glauca*^S (grass-of-Parnassus), *Senecio aureus* (golden ragwort), *Solidago flexicaulis* (zigzag goldenrod), *Impatiens pallida* (pale jewelweed), *Arisaema triphyllum* (jack-in-the-pulpit), *Glyceria striata* (fowl mannagrass), *Carex aureus*^S (golden-fruited sedge), a variety of other graminoids, the exotic species *Tussilago farfara*^I (coltsfoot), and the invasive *Phragmites australis*^(I) (common reed). This community type is part of the "Great Lakes Region scarp complex."

Related types: Areas of the scarp that lack substantial groundwater discharge are described in the terrestrial section as "Great Lakes Region scarp woodland."

Range: Great Lakes Region.

Selected references: PNDI field surveys, WPC and TNC 1998.

[Crosswalk: Smith's "Eastern Great Lakes Bluff/Cliff Community."]