George Landis Arboretum NEWSLETTER

Published Quarterly by the Friends of the Arboretum

Volume 4, Number 2 April, May, June 1984

NATIVE WOODY PLANTS FOR WET AREAS

A great deal of interest exists in identifying and using woody plants in wet soils. Using plants listed in the New York State Conservation Law can be misleading and bring about a plant's failure to survive. This law defines freshwater wetlands as "lands and waters of the state as shown on the freshwater wetlands map which may contain any or all of the following:

(a) lands and submerged lands commonly called marshes, swamps, sloughs, bogs, and flats supporting aquatic or semi-aquatic vegetation of the following types:

(1) Wetland trees, which depend upon seasonal or permanent flooding or sufficiently water logged soils to give them a competitive advantage over other trees; including among others, red maple *(Acer rubrum)*, willows *(Salix* spp.) black spruce *(Picea mariana)*, swamp white oak..."[1]

This law implies that these species will grow in areas of permanent flooding. In most instances this is not true. These woody plants grow best in drier locations. Other states define their freshwater wetlands by plant communities rather than by specific plants. This is a much more accurate wetland identification method.

To learn more about specific woody plants growing in wet areas, walk through a wetland. Observing nature will tell you a great deal about where the plants grow most successfully.

In wet areas many different habitats exist. First let us look at those plants actually growing in water. As we step close to the shoreline, no woody plants are seen. Shoreline plants occupying this ecological niche are known as hydrophilic plants. Hydrophilic plants require standing water or slowly moving water for growth. The large group of plants in this category are all herbaceous materials.

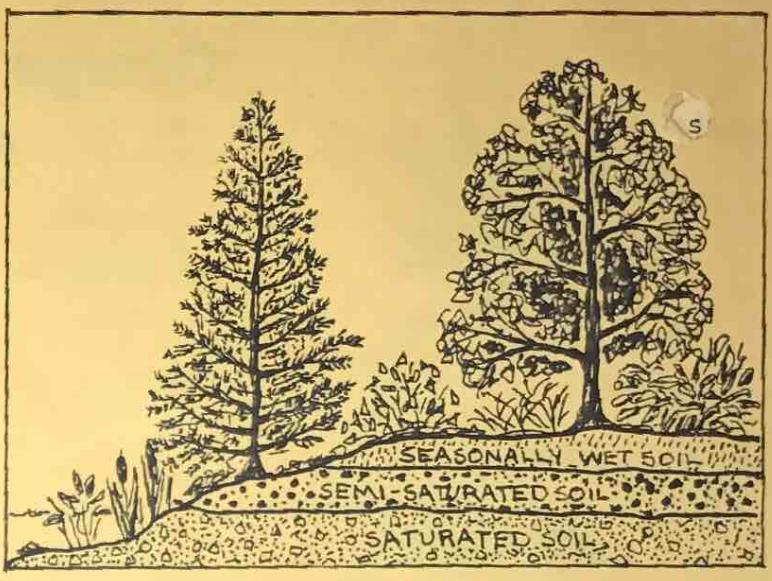
Close to the water's edge the land is not submerged. The soil may be soggy, but our feet remain dry. This partially saturated soil supports phreatophytic plant life. These plants have root systems extending into the semi-saturated stratum just above the water table. In natural conditions the ready availability of water is necessary for growth. Equally essential for the root systems is air in the soil. A poorly aerated soil will stunt the growth of woody shrubs and trees as well as that of certain herbaceous plants.

Moving to drier ground away from the water, we notice other species of

[1] New York State Environmental Conservation Law, 1977. Section 24-0107. Definitions.

plants called tolerant plants. These plants also grow very well in drier upland soils. Tolerant plants survive saturated soils for limited periods of time, usually in the spring. Flooding or saturated soils during the wrong season (summer) often proves harmful to this group of plants. Heavy, poorly drained, saturated soils are not required for normal growth. This group contains herbaceous plants as well as woody shrubs and trees.

A short listing of native wetland woody plant material follows.



SECTIONAL VIEW OF WETLAND SOIL STRATA

Phreatophytic plants

Trees:

Atlantic white cedar *(Chamaecyparis thyoides)*, Tamarack, Eastern larch *(Larix laricina)*, Tupelo, Black gum, Sour gum *(Nyssa sylvatica)*, Black spruce *(Picea mariana)*, Swamp white oak *(Quercus bicolor)*, Black willow *(Salix nigra)*, Northern white cedar, Eastern arborvitae *(Thuja occidentalis)*.

Woody shrubs:

Alders *(Alnus rugosa, A. serrulata)*, Bog rosemary *(Andromeda glaucophylla)*, Buttonbush *(Cephalanthus occidentalis)*, Leatherleaf *(Chamaedaphne calyculata)*, Summersweet *(Clethra alnifolia)*, Winterberry, Black alder *(Ilex verticillata)*, Bog laurel, Pale laurel *(Kalmia polifolia)*, Labrador tea *(Ledum groenlandicum)*, Spicebush *(Lindera benzoin)*, Sweet gale *(Myrica gale)*, Swamp azalea *(Rhododendron viscosum)*, American elder, Common elderberry *(Sambucus canadensis)*, Cranberry *(Vaccinium macrocarpon), V. oxycoccus)*.

Tolerant plants

Trees:

Red maple *(Acer rubrum)*, Eastern hemlock, Canadian hemlock *(Tsuga canadensis)*, American elm *(Ulmus americana)*.

Woody shrubs:

Silky dogwood *(Cornus amonum)*, Sheep laurel *(Kalmia angustifolia)*, Maleberry *(Lyonia ligustrina)*, Highbush blueberry *(Vaccinium corymbosum)*.

You can create suitable environments for these woody plants by building mounds of soil in wet areas. The mounds should be 12 feet to 20 feet across for large trees, or three to eight feet across for shrubs. The depth should be approximately three feet. If the plant's native habitat is duplicated, you will increase the chances of survival of the plant. - Terry Forsyth, Department of Plant Science, SUNY, Cobleskill

Selected Bibliography: Dirr, Michael A., *Manual of Woody Landscape plants* (Champaign, Illinois: Stipes Publishing Co., 1977).

Petrides, George A., *A Field Guide to Trees and Shrubs* (Boston, Massachusetts: Houghton Mifflin Co., 1972).

New York State Environmental Conservation Law, 1977.

U.S. Environmental Protection Agency, Region I, *Wetland Identification Manual of the New England States* (Washington, D.C.: U.S. Government Printing Office, 1981).

The globe form of our native White Pine (*Pinus strobus* 'Globosa') is a dwarf compact globe with all the color and distinctiveness of the species. ($11.75)

Along the road behind the house at the arboretum, on the way to the mountain ash collection, you may remember a silvery-green mound on the left, the Weeping White Pine (*Pinus strobus* 'Pendula'). This plant has been in that location about 17 years, and has now formed a great mound of the soft-green foliage color of the Eastern White Pine. The plant itself is its own best salesman; where color and form of this type is desired, few plants could challenge this species form. However, it takes many years to reach such a stage of development. ($7.75)

Beside the library at the arboretum is a very symmetrical light-green globe evergreen, much prized by Mr. Lape and certainly a distinctive little plant. It is known as Verkade's Witchesbroom White Pine (*Pinus strobus* 'Verkade's Witchesbroom'). Although it is an Eastern White Pine, it has a light- or yellowish-green color and a very slow growth rate, and retains the very symmetrical globe shape. ($8.25)

One of the very nice, low-growing ground cover-type of dwarf conifer, is the Albynn Scots Pine (*Pinus sylvestris* 'Albynn Prostrata'). It has the steel-blue color of the species but creeps along the ground much like a ground cover. As one would expect, this sort of plant requires attention when challenged by overstorying plants, but it offers an excellent color and texture change for a ground cover and has the advantage of a very confined growth pattern. ($15.75)

Like the previous species, the dwarf Globe Scots Pine (*Pinus sylvestris* 'Nana') has all the cultural advantage of being dwarfed, forming a tight, slow-growing globe shape. ($9.75)

Certainly one of my favorite plants is the weeping form of our native arborvitae (*Thuga occidentalis* 'Pendula'). I have found that this weeper has the ability to train itself very nicely. It normally sends off leaders in an almost horizontal direction, and then the pendulous branches cover the stem with green foliage. Used as a directional plant in garden landscapes, it gives a most interesting effect requiring

- -CUT -

It is membership renewal time....send your renewal now. 3/84

Friend, $10-$25
Sponsor, $25-$50
Supporting, $50-$100
Patron, $100 or more

GEORGE LANDIS ARBORETUM
Membership Application

Please support the extensive work of the arboretum and make a tax deductible contribution.

THANK YOU!

Name _____

Address _____

_____ Zip _____

Phone _____ _____ Renewal

Amount enclosed _____ _____ New member

Members receive a quarterly newsletter, free admission to the lecture series and early admission to the annual Rare Plant Sale. Make your check payable to:

Mail to: GEORGE LANDIS ARBORETUM
Esperance, NY 12066

little care and few maintenance problems. This plant would also be very useful around water focal points. ($7.75)

Another groundcover, creeping plant suitable for our area is the dwarf hemlock "Cole's Prostrate" (*Tsuga canadensis* 'Cole's Prostrate'). It is a slow-growing, mat-like ground cover, exposing an interesting network of branches and leaves. Because of its low-growing characteristics, it requires attention when overstoried by other plants. Arboretum visitors can see the specimen in the rock garden section. ($9.75)

One of the most distinctive plants hardy to our area is the "Frosty" cultivar of our Eastern Hemlock (*Tsuga canadensis* 'Frosty'). The new foliage is white with a small area of green on the tips of the needles; in winter the white areas turn pinkish. This unusual form requires constant shade to succeed in the garden, and consequently it is a plant for the collector or the connoisseur. ($40.00)

Some of the finest dwarf conifers have been found in the hemlock species, "Verkade's Recurva" (*Tsuga canadensis* 'Verkade's Recurva') which is a very nice, deep-green form with a rather irregular growth habit. The growth is slow and distinctive with needles that turn back on the stem, giving a very rich, lustrous appearance. This plant is very easily maintained in the garden, requiring no special considerations. ($12.75)

The Jacqueline Verkade hemlock is probably the most delicate-appearing of all of the dwarf conifers I have seen. It has an almost perfect teardrop shape with a somewhat diminutive leaf and fine branchlets, a beautifully proportioned dwarf. ($12.75) - Richard Southwick

Fran Finkbeiner, Editor
RD 2, Box 322
Rexford, NY 12148

GEORGE LANDIS ARBORETUM
Lape Road
Esperance, NY 12066

Non-Profit Organization
U.S. Postage Paid
Esperance, NY
Permit No. 6