

LAKES LIKE LESS LAWN

ENVIRONMENTAL
LANDSCAPING
FOR WATER QUALITY

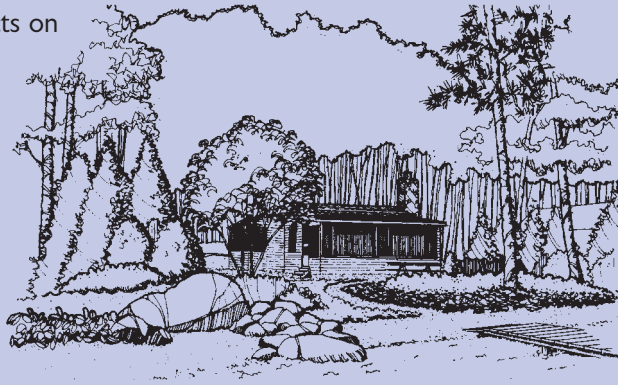
PUBLISHED BY THE
PORTLAND WATER DISTRICT



If you live or summer on one of Maine's lakes...

...you may be surprised to discover that traditional landscaping ideas have no place there. Manicured lawns extending to the water's edge, along with the fertilizer and pesticide applications required to maintain them, can have serious negative impacts on lake water quality.

More surprising still — it turns out that you don't have to live at the water's edge to impact water quality. Homes and camps that are many feet back from a lake can drain chemicals down-slope.



Negative impacts from both shoreline and uphill residences can be minimized with a landscaping plan that places less emphasis on lawns and incorporates a variety of plants adapted to conditions near the water's edge. Lawns can be redesigned to allow a buffer zone along the lake. Careful landscape design can actually increase the value of your property as well as keep the lake water you enjoy clear and clean.

Is your shoreline showing signs of erosion? Does your road or driveway wash out every year? Are you planning a construction project around the lake? Tired of mowing your lawn and looking for low maintenance alternatives?

Portland Water District staff can visit your property and give you ideas for solving these and other common and damaging problems. A Watershed Property Consultation (WPC) is an evaluation of your property designed to identify existing or potential runoff and erosion problems that could impact the water quality of the lake. A WPC begins with a site visit by trained PWD staff. After the visit, PWD staff will provide you with a free packet of materials specifically designed to help you fix the problems and make the property more lake friendly.



The WPC includes an evaluation of:

- road
- driveway, parking area and footpath
- roof runoff
- the lawn, landscaping features
- shorefront
- steep slopes
- buffer vegetation



We will also provide information about:

- septic system
- streams and wetlands

Consultations are available, **FREE OF CHARGE**, for anyone located in the Sebago Lake direct watershed. Interested? Please call PWD's Water Resources Department at 774-5961 ext. 3305, 3336, or 3338. Call today! The number of consultations we can provide each year is limited.

Many of our watershed protection efforts are carried out from our Lake Office. We are located in Standish at the intersection of Routes 35 and 237. Call us (774-5961) or stop by for information about our programs.

LANDSCAPING FOR ESTABLISHED YARDS

STEP 1: RELAX AND STOP MOWING.

Stop mowing down to the water. Let the existing grass grow long — it will help filter pollutants from rainwater while you're working on your other plantings. The grasses will grow 12 to 24 inches tall before going to seed. Carefully preserve any and all existing natural vegetation at the edge of the lake.

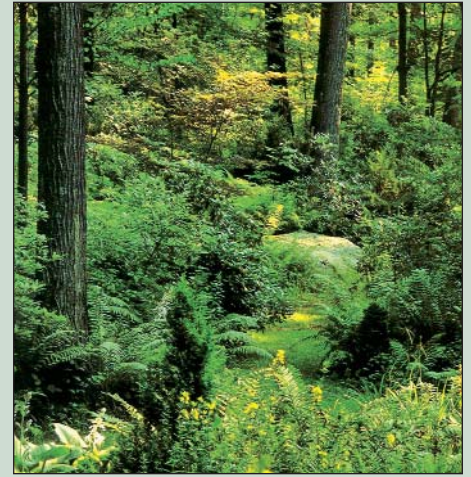


STEP 2: UNDERSTAND YOUR YARD.

Before doing any planting, take time to understand the different factors that make each yard unique and sketch them out to help guide your planting decisions:

SUN: The direction your yard faces and the location of existing trees and buildings determines how much sun or shade there is. On a sunny day, watch what spots stay in the sun, shade, or get some of both.

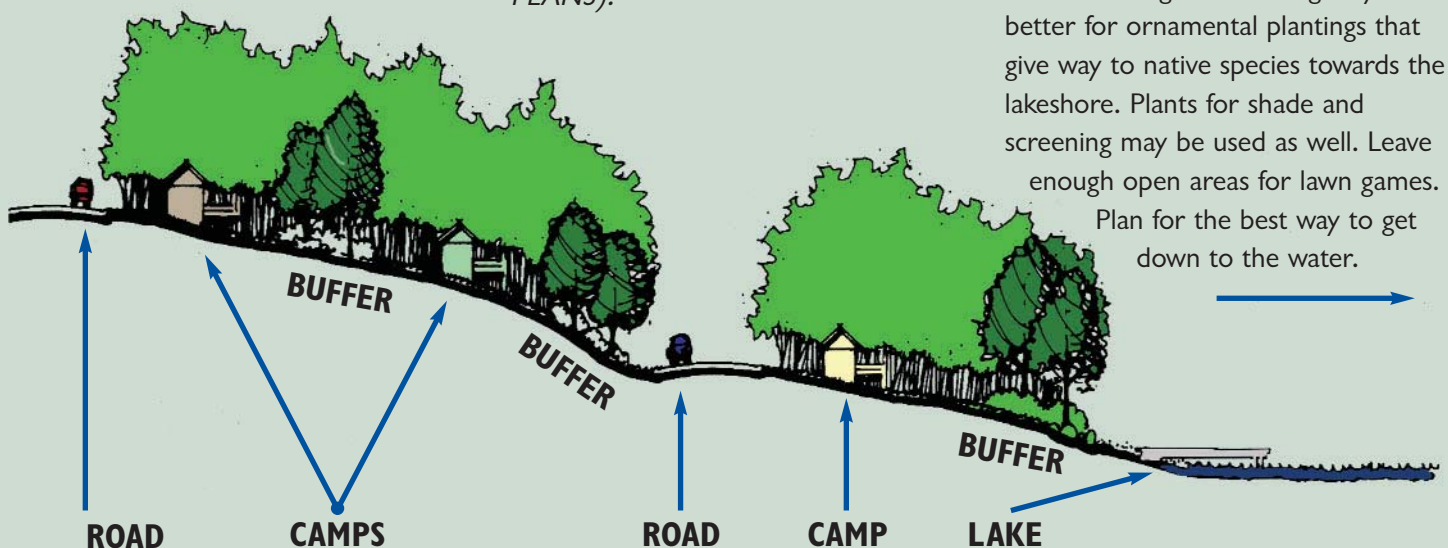
VIEWS: Careful placement of different sized trees and shrubs can help to enhance views that are valuable, such as water vistas seen from a porch, and can help to screen less desirable views, such as a neighboring building, parking area or drive (see *SAMPLE LANDSCAPE PLANS*).



SOILS: Some plant types prefer more moisture than others. These will do better in low spots or nearer the shoreline. Higher spots away from the water will need plants that prefer drier soils. Areas that are bare, worn or eroded, especially on a slope, should be mulched heavily and planted with plants that will quickly spread.

ACTIVITIES: What areas of your yard get used for what purpose? An area for sitting and relaxing may be better for ornamental plantings that give way to native species towards the lakeshore. Plants for shade and screening may be used as well. Leave enough open areas for lawn games.

Plan for the best way to get down to the water.



You don't have to live at the water's edge to impact water quality. Buffers located downslope from residences and roadways help take up pollutants from upland areas that drain into the lake.

STEP 3: GET OUT YOUR SHOVEL.

Begin planting ground covers, shrubs, and trees into the lawn area near the water's edge. You can work up the soil in small sections at a time, to reduce the danger of causing an erosion problem. Use mulch around the new plantings to reduce competition from the grasses. If you see any areas where bare soil is exposed near the lake, make them your first priority for planting or mulching.

WHAT DO I PLANT?

Choose plants that are naturally adapted to the soil and sunlight conditions along your shoreline. You should also plant a variety of species of different heights including shrubs and trees. A careful selection of plants will give you color and seasonal diversity for your view of the water.

SAMPLE LANDSCAPE PLANS

This publication includes three possible buffer planting designs specifically prepared for lakefronts. The treatment shown will provide a more natural looking yard, and the plants listed favor native species with low maintenance. Some popular, non-invasive ornamental species are included. A more formal, ornamental effect can be located closer to a building. A local nursery can assist in additional ornamental plant selections for these areas.

HOW DO I PLANT?

Dig planting holes in the existing grass. Refer to PWD's Fact Sheet #06 *TREES, SHRUBS, VINES AND GROUND COVERS* for more information or check with your nursery.

WHAT ABOUT FERTILIZER?

For healthy lakes, fertilizer use should be reduced or eliminated. Seek out natural soil amendments and organic, low phosphate fertilizers to give young plantings the boost they need to take root and grow. Some good options are:

- Take a soil test and fertilize the planting hole based on the test results.
- Use slow release fertilizer tablets in the planting hole.
- Use small amounts of organic matter (such as composted cow manure) mixed well with the soil in the planting hole.

REMEMBER! FERTILIZER IS VERY HARMFUL TO LAKES!

- It can trigger severe algae blooms which can leave the lake green, smelly, and scummy
- Don't use fertilizers right next to the shoreline
- Don't leave them on the soil surface-put them in the planting hole
- Don't apply them before a rainstorm
- Don't over-fertilize.



MARK SHAIN

HOW WIDE SHOULD THE BUFFER AREA BE?

The best answer for water quality is — the wider the better. But any buffer is better than none at all. The wider the buffer, the more you will protect the lake from pollution. Do your best.

For more information about buffers and water quality, refer to PWD's Fact Sheet #05 VEGETATED PHOSPHORUS BUFFER STRIPS.

WHAT ABOUT MY VIEW?

Wide panoramic views simply are not good for water quality. Although you may want to just plant low growing species along the lake, don't forget to include some trees and shrubs. Their deep root systems are great for water quality. Use trees and shrubs in the buffer zone to screen out undesirable views as well as reduce noise. If a lake view is not critical to you, let mother nature take over and fill in the gaps.

ALTERNATIVES TO THE TRADITIONAL LAWN

Grass planted to the water's edge is seldom the best choice, from either an aesthetic or a water quality standpoint. Many lakeside homes have very sandy, acidic, infertile soils. Grass isn't naturally adapted to this type of environment. That means a lot of work to keep it growing: fertilizer, lime, pesticides, watering, mowing.

Why not try an alternative? Substituting a variety of plants that are naturally adapted to the soils on your site has many advantages:

- Screens undesirable views while framing good ones;
- Reduces the time and money spent on lawn maintenance, fertilizers, and other lawn chemicals;
- Helps filter pollutants that wash off roofs, driveways, and other hard surfaces
- Preserves the natural appearance of the shoreline;
- Offers better protection against shoreline erosion
- Provides increased diversity and improved habitat for wildlife.



MARK SHAIN

STEP 4: FINE TUNE THE FOOTWORK.

Plan for foot traffic patterns. Be sure paths are narrow and that soil does not wash from them into the lake.

Generally they should be winding and curvy so that rainwater can't cut channels into them. Cover bare soil on footpaths with something like bark mulch or crushed stone or pea stone. Another option such as making a path out of flagstones may be a good choice to suit your tastes and protect the lake.

WHAT ABOUT EROSION CONTROLS?

Be sure no soil can wash to the lake. You can often accomplish this by careful planting:

- Don't expose large areas of soil.
- Preserve natural vegetation between disturbed soil and the lake.
- Mulch exposed soil immediately. Mulch and use erosion control netting on slopes.
- Schedule work for the dry season (to avoid thunderstorms). Water your new plantings carefully.
- Use a silt fence or a hay bale barrier on the down-slope side of disturbed areas if needed to protect the lake.

An excellent way to stabilize slopes is to terrace with landscaping timbers, small retaining walls, or similar structures. While they are extremely effective once installed, they require local and state permits because of the erosion threat during their construction. You will need to develop an extensive plan to obtain these permits. Terracing is beyond the scope of this publication. Consult your local Code Enforcement Officer and the Maine Department of Environmental Protection for permit information.

For more information about erosion control, refer to PWD's Fact Sheet #03 EROSION

Planting Suggestions

GROUNDCOVERS



PLANT 1 - 2 FEET APART


●●● **AJUGA REPTENS:**
BUGLEWEED

Fast grower, good cover. Late spring flower. 


●●● **ARCTOSTAPHYLOS UVA—URSI:**
BEARBERRY

Spreading, whitish—pink flower, glossy leaves, bright red berries through fall. 

●●● **CORNUS CANADENSIS:**
BUNCHBERRY

Low spreading, dark green leaves. Good under pines, in woods, etc. Needs moister areas. Native. 

●●● **COTONEASTER APICULATUS:**
CRANBERRY COTONEASTER

Good bank cover. Many varieties. 


●●● **HEMEROCALLIS SPECIES:**
DAYLILY

Spreading, flower accent. Many varieties. Perennial.

●●● **HOSTA:**
HOSTA

Fine foliage plant; flowering. Many varieties. Perennial.

●●● **PARTHENOCISSUS QUINQUEFOLIA:**
VIRGINIA CREEPER

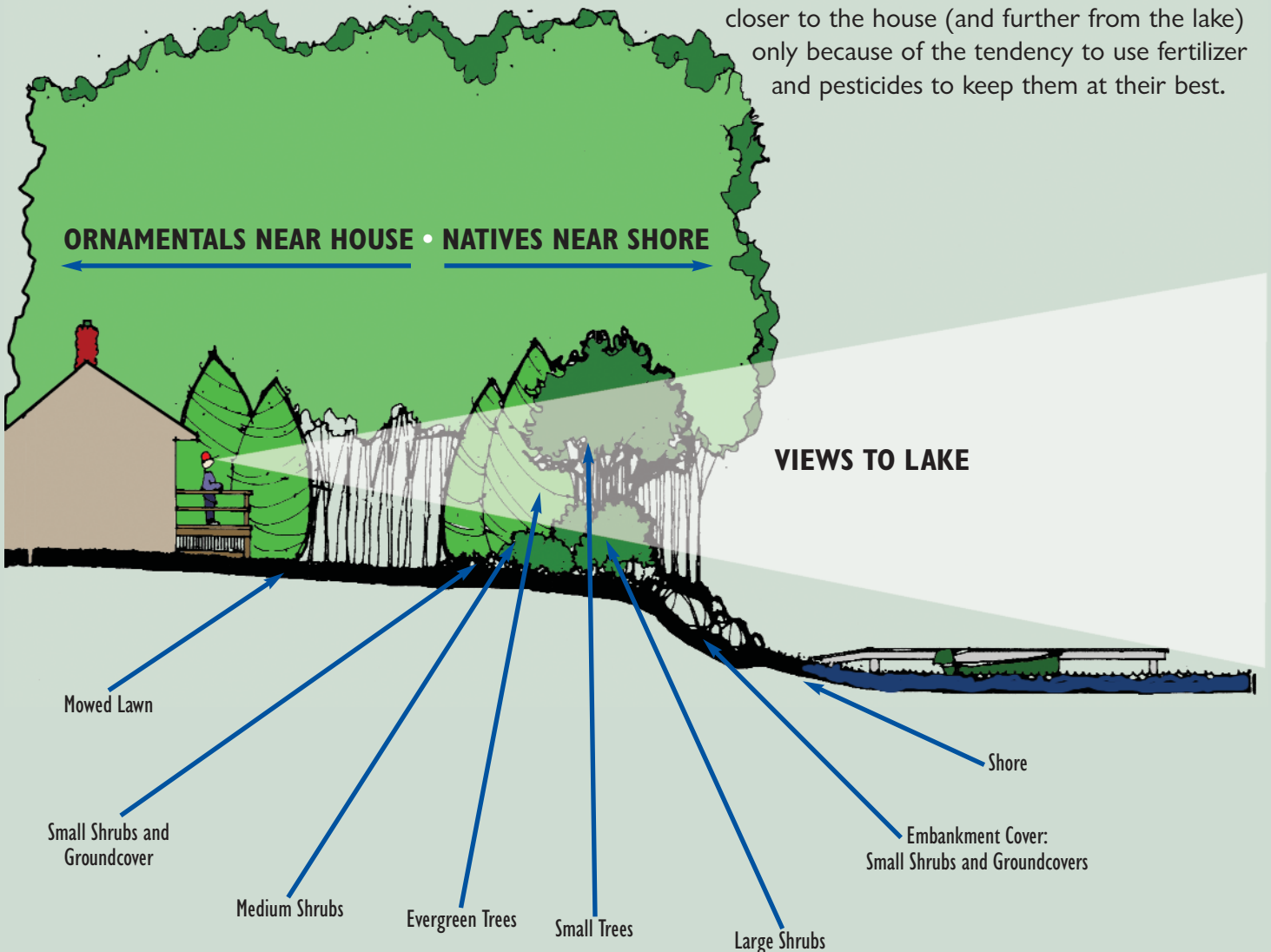
Climbing and spreading vine. Red fall foliage. Native. 

●●● **VACCINIUM ANGUSTIFOLIUM:**
LOWBUSH BLUEBERRY

Low, open shrub with edible berries.  

TYPICAL SITE SECTION

All three following landscape plans follow the same general pattern illustrated here. We suggest you use ornamental plants closer to the house (and further from the lake) only because of the tendency to use fertilizer and pesticides to keep them at their best.



SMALL SHRUBS



PLANT 3 – 4 FEET APART

JUNIPERUS HORIZONTALIS SPECIES:
JUNIPER
 Spreading, needled trailing branches. Many varieties.

JUNIPERUS CHINENSIS SPECIES:
JUNIPER
 Spreading, needled trailing branches. Many varieties. Sizes from small to large.

POTENTILLA FRUTICOSA:
BUSH CINQUEFOIL
 Fine texture, flowers from June-September. Many varieties.

ROSA SPECIES:
SHRUB ROSE (DWARF)
 Showy summer flower. Many varieties.
NOTE: Not to be confused with *Rosa Multiflora*, an invasive species.

RHUS AROMATICA 'GRO-LOW':
GROW-LOW FRAGRANT SUMAC
 Low, spreading habit, flowers in spring. Good for banks.

SALIX PURPUREA 'NANA':
DWARF ARCTIC WILLOW
 Low and arching branches, powdery blue foliage.

SPIRAEA SPECIES:
SPIRAEA (DWARF)
 Good flower, fine texture, many varieties.

STEPHANANDRA INCISA 'CRISPA':
CUTLEAF STEPHANANDRA
 Low, spreading growth. Roots easily; nice, crinkly foliage.

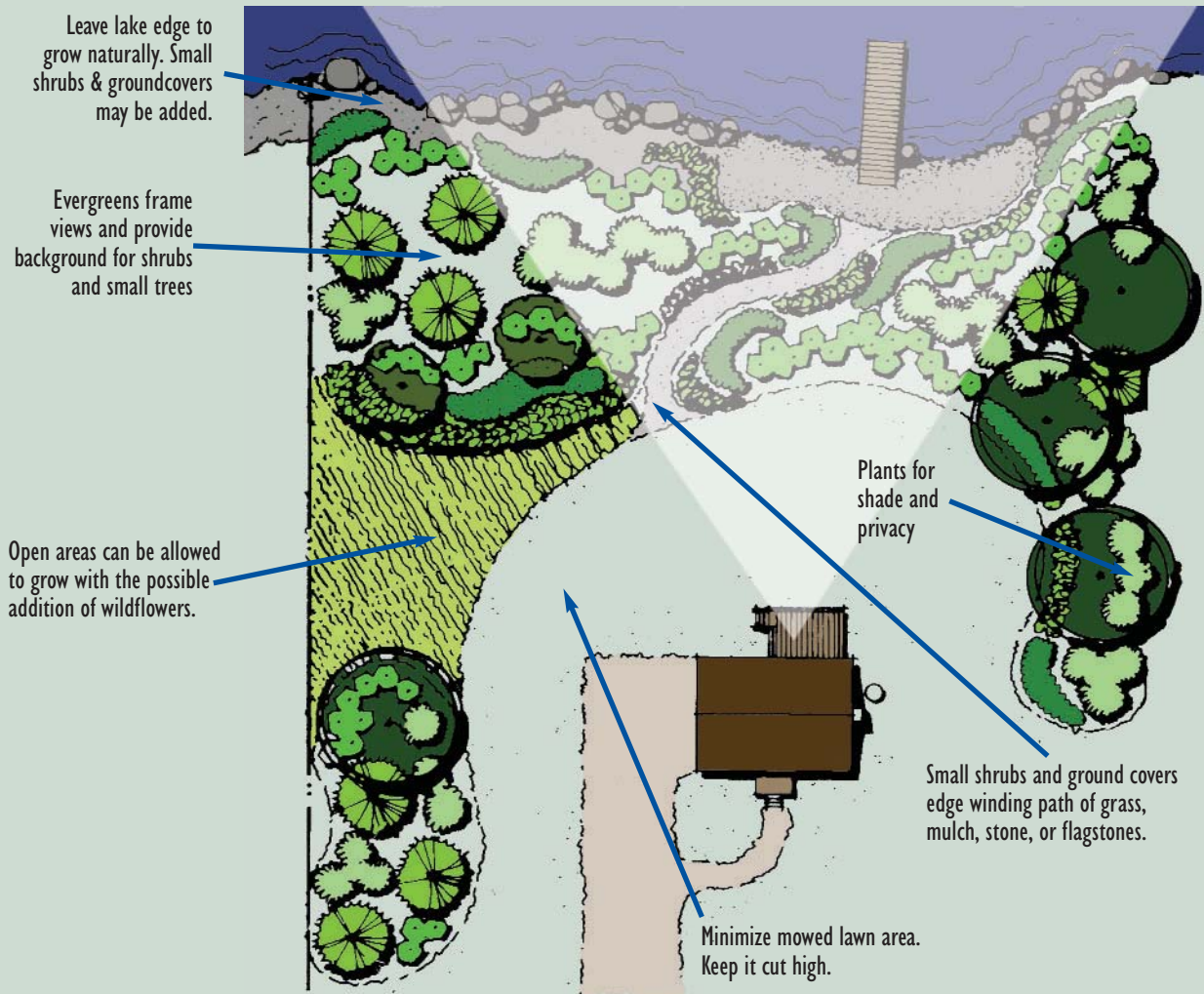
KEY

- SUN
- SHADE
- ○ SUN TO SHADE
- EVERGREEN
- DECIDUOUS
- ATTRACTS WILDLIFE

SAMPLE LANDSCAPE PLAN 1

FULL SUN- LEVEL SITE

In this plan we assume the lawn area is retained and is allowed to grow fairly high to help protect the lake. A buffer is located between the lawn area and the lake with a modest footpath through it.



PLANTING LEGEND

- GROUNDCOVERS
- SMALL SHRUBS
- MEDIUM SHRUBS
- LARGE SHRUBS
- SMALL/MEDIUM TREES
- LARGE TREES
- EVERGREEN TREES

MEDIUM SHRUBS



PLANT 4 – 5 FEET APART

AESCULUS PARVIFLORA:
BOTTLEBRUSH BUCKEYE
Large leaves and flowers, spreads.

ARONIA ARBUTIFOLIA:
RED CHOKEBERRY
White flower, red fruit and fall foliage. Native.

CHAENOMELES SPECIES:
FLOWERING QUINCE
Dark, glossy green, spring flower.

CLETHRA ALNIFOLIA:
SUMMERSWEET
Deep green foliage with fragrant, white or pink flowers in summer.

CORNUS RACEMOSA:
GRAY DOGWOOD
Upright, spreading. Small white flowers and berries. Native.

CORNUS STOLINIFERA:
REDOSIER DOGWOOD
Upright, spreading. Red fall color. Native.

COTONEASTER DIVARICATA:
SPREADING COTONEASTER
Spreading, dark green. Good fall color.

ILEX VERTICILLATA:
WINTERBERRY
Glossy foliage, red berries in fall.

MYRICA PENNSYLVANICA:
BAYBERRY
Good foliage plant. Native.

PINUS MUGO 'MUGO':
DWARF MUGO PINE
Small shrub pine. Good form.

PRUNUS CISTENA:
PURPLELEAF SAND CHERRY
Deep purple foliage, pink/white flowers.

RHODODENDREN SPECIES:
RHODODENDRON
Protect from winter wind. Showy flowers, many varieties.

SPIRAEA SPECIES:
SPIRAEA
Good flower, fine texture. Many varieties.

SAMPLE LANDSCAPE PLAN 2 SHADY LEVEL SITE

As in the previous plan, we assume the lawn area is retained and is allowed to grow fairly high to help protect the lake. The buffer is located among the existing trees between the lawn area and the lake and has a narrow footpath through it. Our planting suggestions assume you don't need to plant additional trees on site. Instead it emphasizes filling in the under story with new

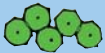
PLANTING LEGEND



GROUNDCOVERS



SMALL SHRUBS



MEDIUM SHRUBS



LARGE SHRUBS



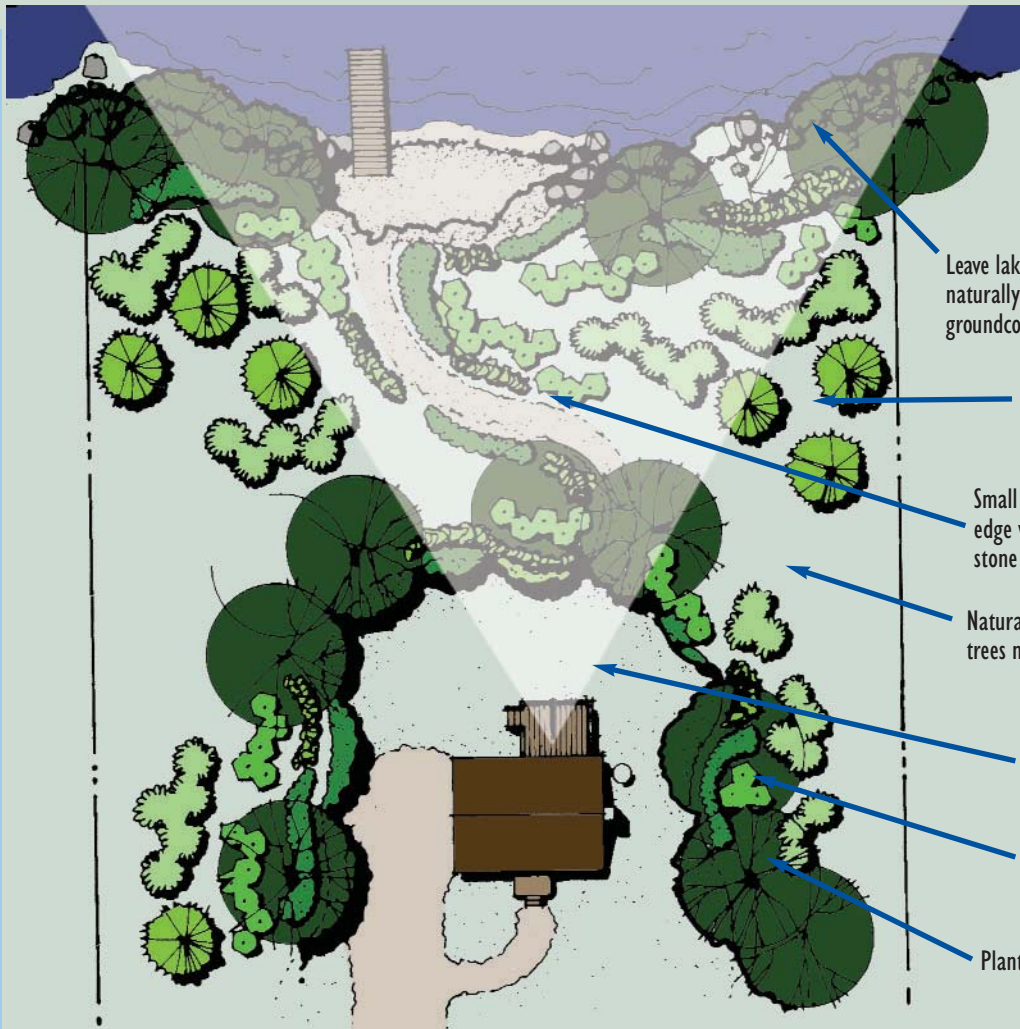
SMALL/MEDIUM TREES



LARGE TREES



EVERGREEN TREES



vegetation. Some evergreens are included for year round screening and framing of views.

Leave lake edge to grow naturally. Small shrubs & groundcovers may be added.

Evergreens help frame views.

Small shrubs & groundcovers edge winding path of mulch, stone or flagstones.

Natural "duff" layer under trees needs no maintenance.

Minimize mowed lawn area. Keep it cut high.

Plants for privacy

Plants for screening

☉☽ SYMPHORICARPOS ALBUS LAEVIGATUS:
COMMON GARDEN SNOWBERRY

Small pink flowers, white berries. Spreads underground. Native. 🌿 🐦

☉☽☽ TAXUS SPECIES:

YEW
Traditional evergreen shrub. Many varieties, sizes and forms. 🌿

☉☽ VACCINIUM CORYMBOSUM:
HIGHBUSH BLUEBERRY

Edible berry. Reddish fall foliage. 🌿 🐦

☉☽ VIBURNUM ACERIFOLIM:
MAPLELEAF VIBURNUM

Branched shrub. Clusters of white flowers in late spring. 🌿 🐦

LARGE SHRUBS



PLANT 6 – 8 FEET APART

☉ CARAGANA ARBORESCENS:
PEASHRUB

Tall arching form, fine texture, small yellow flower. 🌿

☉☽ ENKIANTHUS CAMPANULATUS:
REDYEIN ENKIANTHUS

Good flower and fall color. 🌿

☉☽ FORSYTHIA SPECIES:
FORSYTHIA

Early spring flower, spreading. Many varieties. 🌿

KEY

- ☉ SUN
- ☽ SHADE
- ☉☽☽ SUN TO SHADE
- 🌿 EVERGREEN
- 🌿 DECIDUOUS
- 🐦 ATTRACTS WILDLIFE

☉ RHODODENDRON CAROLINIANUM:
NINEBARK

Fast grower, white flowers, Common reddish-brown fruit capsules. 🌿 🐦

☽☽ RHODODENDRON CAROLINIANUM:
CAROLINA RHODODENDRON

Medium texture, showy flower. 🌿

SAMPLE LANDSCAPE PLAN 3 SLOPED SITE-SUNNY

Sloped sites can sometimes be stabilized with vegetation alone if the bottom of the slope is not being undercut by water/wave action and the slope is not greater than one foot of rise over three feet of distance. Because site conditions vary from the top of the slope (very well drained soils) to the base of the slope (fluctuating water table), the plants must be selected to take this into account. Steeper slopes, those with one foot of rise in two feet or less of distance, should have erosion control netting. Very steep slopes may need walls or terraces. Erosion control is important when working on slopes. Be sure no soil can wash down to the water!

Leave lake edge to grow naturally. Small shrubs & groundcovers may be added.

Small and large trees help frame views.

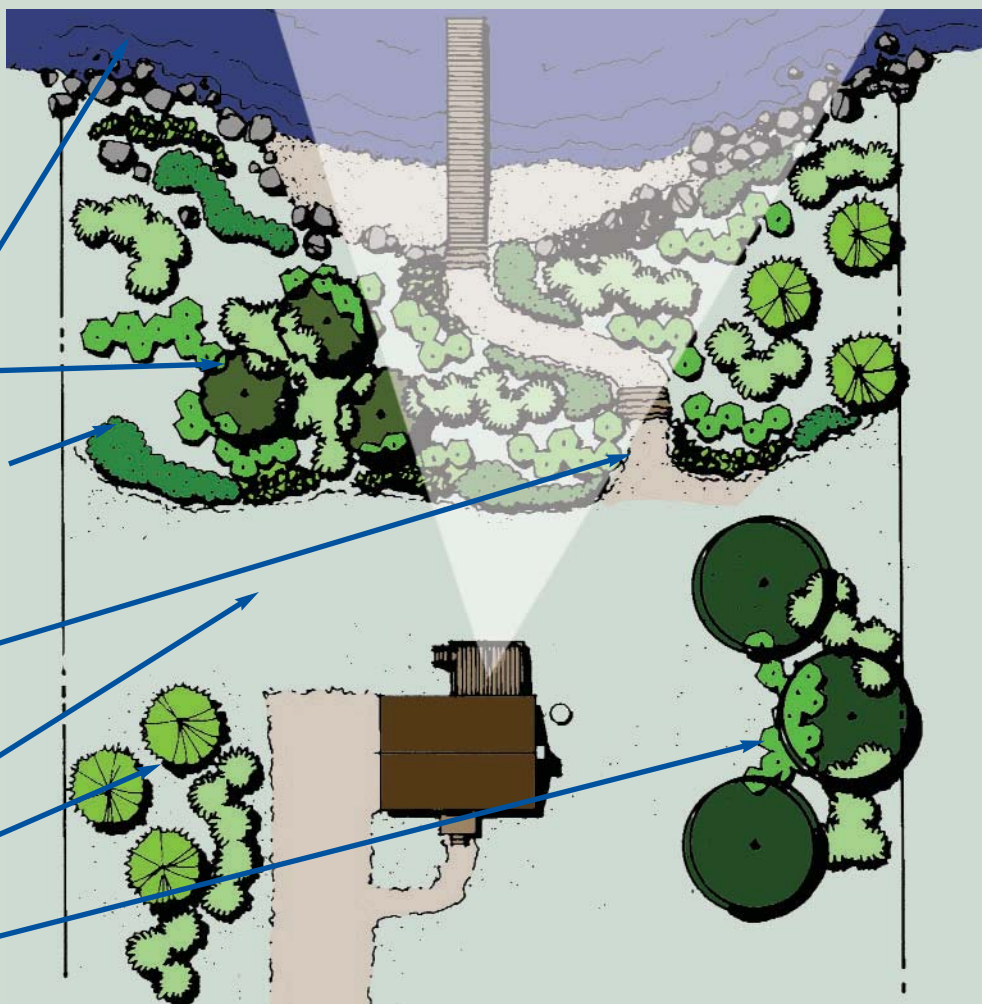
Use small shrubs and groundcovers to begin plantings at top of slope.

Use mulch, stone or flagstones on path. Timbers or stone can be used for steps. Different sized plants help edge path.

Minimize mowed lawn area. Keep it cut high.

Plants for screening

Plants for shade and privacy



KEY

● SUN

○ SHADE


●○● SUN TO SHADE

● EVERGREEN


● DECIDUOUS



● ATTRACTS WILDLIFE



●○ **RHODODENDRON CATAWBIENSE:**
CATAWBA RHODODENDRON
Coarser texture, showy flower. 

● **RHUSGLABRA:**
SMOOTH SUMAC
Upright, good red fall color. Native. 

● **SYRINGA VULGARIS/LILAC**
Showy, fragrant flowers. Spreads. Many varieties. 

● **THUJA OCCIDENTALIS:**
AMERICAN ARBORVITAE
Upright, pyramidal. Native. 

●○● **VIBURNUM LENTAGO:**
NANNYBERRY VIBURNUM
Large shrub/small tree, white flower.  



●○● **VIBURNUM LANTANA:**
WAYFARING TREE VIBURNUM
Upright, arching habit, white flower, red fall color. Native.  





SMALL/MEDIUM TREES





PLANT 25 – 30 FEET APART



●○● **ACER GINNALA:**
AMUR MAPLE
Spreading dwarf maple, red summer fruit, brilliant fall color.  

●○● **AMELANCHIER ARBOREA:**
SERVICEBERRY
Multi-stemmed, good fall color. Needs moister areas. 


● **BETULA Papyrifera:**
PAPER BIRCH
Fine texture, white bark. Native.  



●○● **CERCIDIPHYLLUM JAPONICUM:**
KATSURA TREE
Nice form, fall color. Needs moister areas. 


○ **CORNUS ALTERNIFOLIA:**
PAGODA DOGWOOD
Horizontal branching, white flower, bluish fruit. Native. 

● **CRATAEGUS SPECIES:**
HAWTHORN
Dark green, nice form. Many varieties.  

● **GLEDITSIA TRIACANTHOS INERMIS:**
THORNLESS HONEYLOCUST
Light texture, yellow fall color. 

●○● **HAMAMELIS VIRGINIANA:**
COMMON WITCH HAZEL
Multi-stemmed. Yellow flower in fall. 



● **MALUS SPECIES:**
CRABAPPLE
Showy flower/fruit. Many varieties.  


● **SYRINGA RETICULATA:**
JAPANESE TREE LILAC
White flower. Nice bark and form. 


LARGE TREES






PLANT 30 – 40 FEET APART

● **ACER SACCHARUM:**
SUGAR MAPLE
Brilliant fall foliage, good form. Native.  

● **FAGUS AMERICANA:**
AMERICAN BEECH
Large tree, fine form and texture. Dense shade. 

● **FRAXINUS PENNSYLVANICA:**
GREEN ASH
Fast grower, medium/coarse texture. Different varieties. 

●○● **OSTRYA VIRGINIANA:**
HOPHORN BEAM
Beech-like, golden yellow foliage in fall. 

● **QUERCUS RUBRA:**
NORTHERN RED OAK
Fast growing oak. Native.  



EVERGREEN TREES




(PLANT 15 – 25 FEET APART)

● **ABIES FASERI:**
FRASER FIR

Dark green needles, Silver underneath. 

● **PICEA GLAUCA:**
WHITE SPRUCE

Good screen. Native. 


● **PICEA PUNGENS:**
COLORADO SPRUCE

Large conical shape, blue or green needles. 



● **PINUS NIGRA:**
AUSTRIAN PINE

Dark green needle. Good screen. 


● **PINUS RESINOSA:**
RED PINE

Fast grower with long needles. Good screen. 

● **PINUS STROBUS:**
WHITE PINE

Subject to salt injury.  
Good screen. Native.

●●● **TSUGA CANADENSIS:**
CANADIAN HEMLOCK

Partial shade preferred. Needs moister areas. 



MARK SHAIN

Plants to Avoid

Some common, non-native landscape plants have invasive qualities that allow them to outcompete native plants & have devastating effects on the environment. Some spread by creeping – others by berries that are eaten by birds. Some non-native invasives produce millions of seeds each summer; producing plants that will quickly smother entire habitats!

Most invasive plants do not have the proper nutritional content, and can actually be harmful to wildlife. Control measures, such as herbicides, used to rid areas of invasive species can also threaten habitats and wildlife.

The following plants should be completely avoided:

- Autumn Olive *Elaeagnus umbellata*
- Bishop Weed (Gout Weed) *Aegopodium podagraria*
- Bittersweet *Celastrus orbiculata*
- Buckthorn (Common & Glossy)
- Bush Honeysuckle *Lonicera Tatarica* & *Morrowii*
- Burning Bush *Euonymus alatus* (including the lightly fruiting” variety)
- Common Reed *Phragmites australis*
- Crown Vetch *Coronilla varia*
- Japanese Barberry (including dwarf varieties)
- Japanese Honeysuckle *Lonicera japonica*
- Japanese Knotweed *Polygonum cuspidatum*
- Multiflora & Rugosa Rose
- Norway Maple (including Crimson King variety)
- Purple Loosestrife *Lythrum Salicaria*
- Russian Olive *Elaeagnus angustifolia*

Check with a reputable nursery if you have questions about whether or not a particular plant has invasive potential.



Sebago Lake Watershed

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Call us (774-5961) or stop by for information about our programs.



DIRECT WATERSHED



INDIRECT WATERSHED

Lake Stewards Grants

Have you received a Watershed Property Consultation? Would you like some financial assistance in getting the work on the ground? By participating in the WPC program you are eligible for a Lake Stewards Grant, up to 50% in matching grant funds to implement the recommended water quality improvements. Individuals, lake and camp road associations, businesses, municipalities and other

groups are all welcome to apply. The largest awards go to the projects that provide the most benefit to the lake.

Interested? See page 2 for details about how to receive a Watershed Property Consultation. Please call PWD's Water Resources Department at 774-5961 ext. 3305, 3336, or 3338. Call today! The number of grants we can provide each year is limited.



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