



Outdoors in Anoka County

A Homeowner's Guide

**Living near natural areas
and creating them on your property**

Plus outdoor recreation information



Text and compilation by



www.AnokaSWCD.org
763-434-2030

Funding from

Minnesota Environment and Natural Resources Trust Fund
Anoka County Ag Preserves

Contributing Partners

Anoka County Health and Environmental Services
Anoka County Integrated Waste Management
Anoka County Parks and Recreation
Minnesota Department of Natural Resources
University of Minnesota - Cedar Creek Natural History Area
University of Minnesota Sustainable Urban Landscape Information Series <http://www.sustland.umn.edu>



Resources from the University of Minnesota Extension Service were utilized in compiling this booklet.

Outdoors in Anoka County A Homeowner's Guide

Living near natural areas
and creating them on your property
plus outdoor recreation information

Table of Contents

Anoka County's Nature

Our Community	3
Our Natural Communities	4
Living Near Public Natural Areas	6

Landscaping

Landscaping for Wildlife	10
Landscaping for Water Quality	16
Landscaping for Energy Efficiency	18
Landscaping for Healthy Lawns	19
Woodlots and Trees	22
Wetlands	29

Household Chores

Your Septic System	36
Trash That's Not Grabage?!	38
Yard Waste Disposal	39
Well Water	40

Public Spaces

Must-Visit Natural Areas	44
--------------------------------	----

Resources

Recommended Native Plants for Backyards	50
Directory of Agencies and Service Providers	54
Native Plant Nurseries	57

A close-up photograph of several autumn leaves in shades of orange, red, and brown. The leaves are layered, with some showing signs of insect damage (small holes). The background is a blurred forest floor with more leaves and twigs.

Anoka County's Nature

This is a guide to making your property and community beautiful...naturally.

Our Community
Our Natural Communities
Living Near Natural Areas

Our Community

Why is Anoka County a great place to live?

One reason is that urban areas and natural areas are very close to each other. We can live near the natural areas that offer seclusion, wildlife, and an overall pleasant atmosphere, while also being close to urban conveniences. This is one reason our community is growing so quickly.

The county's population is projected to grow by about 82,000 (25%) between 2005 and 2020.

Natural places that we thought would never be touched are being developed. Much of what remains is in backyards and small woodlots, managed by thousands of different homeowners.

How each of us manages the natural places on our property will determine the natural character of our neighborhoods in the future.

This booklet is designed to help homeowners manage their property in a way that preserves our natural resources.



Our Natural Communities

A “natural community” is an area with native plants and animals living and functioning as they would have before European settlement. These are our highest quality natural areas. Improving wildlife habitat usually involves trying to create or protect natural communities.

The best natural areas:

- Don't have invasive plants
- Have many kinds of native plants and animals
- Are connected to other nearby natural areas
- Are large and undivided

Connectedness of natural communities is important. Unfortunately, development often cuts these connections, creating ever-smaller islands of habitat. Homeowners can help build bridges between natural areas by incorporating habitat into home landscaping.

Maple-Basswood Forest



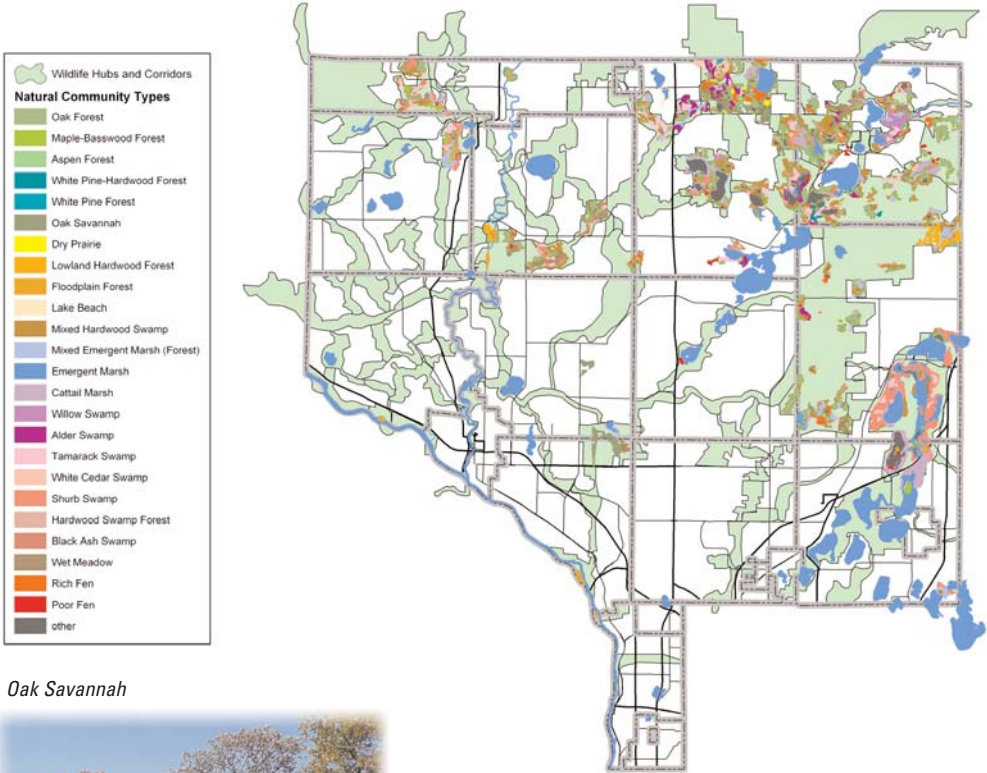
White Cedar Swamp



Emergent Wetland



Sources: Minnesota DNR – Minnesota County Biological Survey



Oak Savannah



Remaining Natural Communities of Anoka County, shown above in color, are nestled within a network of wildlife hubs and corridors. These are the areas of highest ecological value and most have pre-settlement characteristics. Check out "Minnesota's St. Croix River Valley and Anoka Sandplain, A Guide to Native Habitats," by Wovcha, Delaney & Nordquist, U of MN Press 1995, for specific sites you can visit to experience these places.

Oak Forest



Prairie



Living Near Public Natural Areas

Living next to a park, DNR Wildlife Management Area (WMA), or nature research area is nice because it will likely never be developed. You get special enjoyment from the wildlife and recreation opportunities. However, living here demands special care.

These hubs of wildlife habitat are becoming islands in the suburban landscape. Large lawns and traditional landscaping isolate them from other nearby habitat. We've all been taught for generations to keep our yards nice and neat, mow everything, trim things back, clear out dead trees and remove the brush. Essentially, we've been taught to remove the habitat.

When you live next to a wildlife area this approach doesn't fit.



Large lawns are an ecological desert



One easy way to increase habitat in your yard is by reducing the amount of mowed lawn. Few of us actively use more than 1/4 acres of lawn, but many feel we should mow much more. If we won't use it, then why mow it? Large lawns are an ecological desert and they're not very interesting either. Replace extra lawn with a border of prairie grasses, shrubs, or trees.

Landscaping can provide habitat



Keep your landscaping within your property lines. Trespassing on public areas is a common violation by neighboring homeowners. These violations include:

- Extending landscaping onto public property
- Clearing trees
- Storing yard waste or personal property on public land
- Collecting firewood
- ATV riding, if it is prohibited (such as on WMAs)

If you are thinking of moving to a home near one of our public natural areas, expect:

- Bugs –Some parks have mosquito control, but DNR Wildlife Management Areas (WMAs) and many others don't
- Smoke – Prescribed burning is a tool for natural area management
- Hunters – If hunting is allowed, hunters can legally shoot from any place on public lands and there is no legal setback from nearby homes

Carlos Avery WMA and Cedar Creek Natural History Area

Two of our largest natural areas in Anoka County are the Carlos Avery Wildlife Management Area (WMA) and Cedar Creek Natural History Area. Both are under high pressure from nearby development and are in great need of cooperation from neighboring homeowners. Carlos Avery is the largest WMA in the metro, and Cedar Creek NHA is a world-renown ecological research facility. These areas attract development because they are quiet and picturesque. Once they were connected to habitat on surrounding private lands, but now both areas have new developments on their edges each year. These natural areas are becoming islands in a sea of subdivisions. If you live next to one of these, please go the extra mile to make your property friendly to wildlife. See “Landscaping for Wildlife” section for more information.

A close-up photograph of several green oak leaves. The leaves have prominent veins and some show signs of insect damage, including small holes and yellowish-brown spots. A small, dark insect is visible on one of the leaves. The background is a soft-focus green.

Landscaping

This is a guide to making your property appealing to wildlife...naturally.

Landscaping for Wildlife
Landscaping for Water Quality
Landscaping for Energy Efficiency
Landscaping for Healthy Lawns
Woodlots and Trees
Wetlands

Landscaping for Wildlife

Wildlife habitat can be created on any sized lot. It can be a few simple elements in an otherwise manicured yard, or it can be a completely naturalized area. Landscaping for wildlife, like any landscaping, can make your property more enjoyable and increase property values if it is done well. This section contains hints for bringing wildlife into your backyard.

Beyond Robins

A few examples of common backyard wildlife are robins, deer, and mallard ducks. These are nice, but don't require anything special. Instead, consider seeking out more sensitive and rarer species. The excitement of having a rare colorful bird at the feeder, finding a salamander, or watching a fox is the result of creating a special place for wildlife.



Include These Things

Backyard habitat projects will be most successful if they incorporate four design components: **connectivity, food, shelter, and water**. Look around your yard and on neighboring properties and try to add what is missing.

Start by considering **connectivity**. Crossing large, open areas like mowed lawns is dangerous and scary for most animals, and many won't do it. Copy the woodlands, fields and wetlands in your area by adding trees, shrubs, tall grasses and wildflowers. Work around the edges of your yard so you can keep a large central area as lawn for active use.

Fragmentation
Reduces Habitat
Value

Fragmentation
Reduces Habitat
Value

Food and shelter are also important to wildlife. Plants that provide both are ideal. Trees provide nuts or fruit for food along with cavities and vertical structure for shelter. Shrubs can be great shelter, especially in harsh weather. Trees and shrubs that hold their fruit into winter are very beneficial. Wildflowers are eaten by insects, which are important food for frogs, birds, and other animals. Use native plants because they have adapted to local conditions, and local wildlife have adapted to using them. Place bird feeders and bird houses close to trees and shrubs that can be used for cover or perching. Keep your feeders full so animals that rely on them aren't left hungry.

Water is the last component. Even though most wildlife can find the water they need, including a water feature will help draw wildlife to your yard. This can range from a bird bath to a pond. Flowing water attracts the most wildlife and prevents mosquitoes. A water feature in the middle of the lawn will be used less than one near other habitat. Locate bird baths near perching trees. Have a flower garden around mini-ponds. Do not mow to the edge of natural ponds. Most frogs need ponds to breed, but spend the vast majority of the year in surrounding woods and grasses. Ducks and other wetland birds need wetlands surrounded by grasses in order to raise their young.

Work with What You've Got

The first step of any landscape project is to recognize what you already have, and build from it. Your project will go faster if you use existing components and work with natural features. What habitat can you connect with neighboring properties? Would removing invasive species accelerate growth of already-existing desirable species? What trees and plants would naturally grow or are already present?



A flower garden built around a mini-pond



This stately oak has a "slow-growing" reputation. In truth, they will outgrow a maple in our sandy soils and are exceptionally valuable to wildlife.

*About 37,000 acres (13%) of
Anoka County is manicured lawn*



Outdoor Design Principles

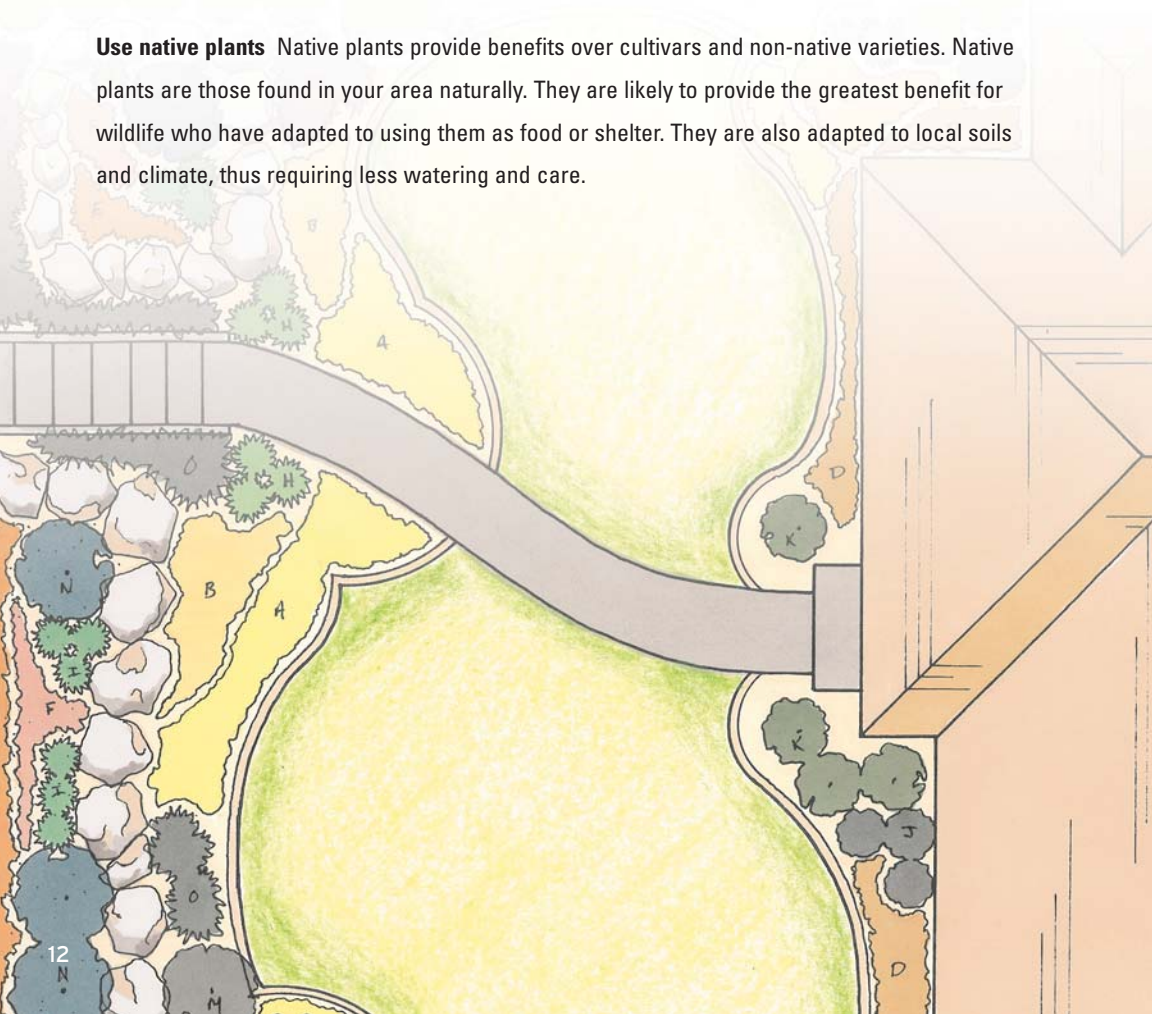
Fit into the landscape Just as interior decorating can clash, so can outdoor decorating. Be consistent with what naturally occurs on your property and in surrounding areas.

Avoid large empty spaces Just as large, empty rooms in your home are uncomfortable, so are large empty outdoor spaces. Creating interest and a theme in a large open area is difficult, so consider keeping the manicured part of your yard smaller, but more interesting.

Make an outdoor “room” The manicured portion of your outdoor space will be more comfortable if it has defined limits. Gardens, borders, benches, and trees are landmarks that tell the eye where the space begins and ends. Surrounding woodland or prairie areas become the backdrop.

Use curved lines and paths Curves are more appealing to the eye than straight lines and corners.

Use native plants Native plants provide benefits over cultivars and non-native varieties. Native plants are those found in your area naturally. They are likely to provide the greatest benefit for wildlife who have adapted to using them as food or shelter. They are also adapted to local soils and climate, thus requiring less watering and care.



Use native shade plants What do you plant in the shade? Hostas? Add a selection of native woodland plants to create interest and add wildlife value. These grow well where turf grass and other plants struggle.

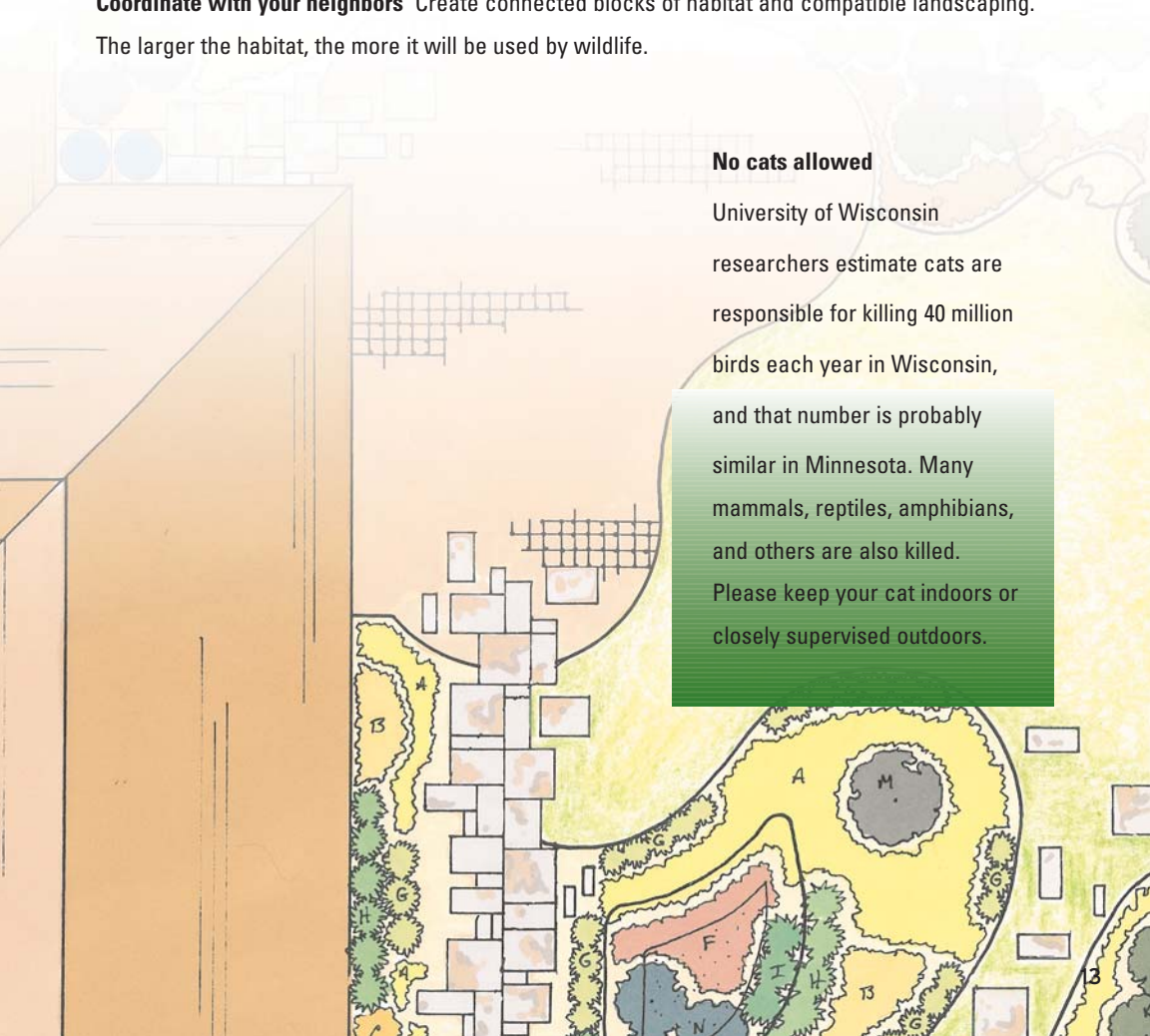
Use groupings Landscape with groupings of several of the same plants, shrubs, or trees. Isolated items in the yard can appear out of place, like a chair left in the middle of a room. Wildlife gets much more use out of groupings.

Landscape vertically Vary the height of plants and other objects. A garden with a small tree is more interesting than one without.

Coordinate with your neighbors Create connected blocks of habitat and compatible landscaping. The larger the habitat, the more it will be used by wildlife.

No cats allowed

University of Wisconsin researchers estimate cats are responsible for killing 40 million birds each year in Wisconsin, and that number is probably similar in Minnesota. Many mammals, reptiles, amphibians, and others are also killed. Please keep your cat indoors or closely supervised outdoors.



Project Ideas

Butterfly Garden

A butterfly garden is usually not as formal as other flower gardens, but it can be. It includes a wide variety of native plants, which are natural foods of local animals. The list of plants in the appendix



This backyard garden uses native plants alongside some garden favorites

includes only plants native to Anoka County and adapted to our sandy soils. Be sure to include species that bloom in different seasons for continuous color. Group several plants of the same type together, because groups are easier for insects and other wildlife to find, and because it makes the entire garden look more unified.

Prairie Restoration

Prairie restoration takes butterfly gardens one step further. It usually involves a larger area, is less formal and has more grasses. While a butterfly garden provides food for insects and birds, the prairie also provides shelter. Prairie seed is available from a number of vendors (*see appendix*). A guide to establishing a prairie is available from the Anoka Conservation District.



Prairie grasses provide year-round cover, interest and color

Brush Piles and Dead Trees

A tree's value to wildlife increases once it dies. It becomes host to insects which are food to many other animals. It also develops cavities used by nesting birds. Frogs and salamanders hide in the cool, moist spots underneath fallen logs and branches on the forest floor. Use caution if you are thinking of "cleaning up the woods." Clean up efforts should be focused on particular species, especially invasive species.



The native grasses on the left stand tall, while non-natives on the right matt down under snow cover, providing little wildlife shelter

Incentives \$\$

Would you like to landscape for wildlife, but are worried about the financial costs? Many government programs exist to provide financial and technical help. Most encourage creating habitat on greater than five acres of land, though some programs support smaller projects. The Anoka Conservation District and USDA Natural Resources Conservation Service can direct you to appropriate programs and provide advice.

Digging Ponds

Digging ponds for wildlife is popular, but it's not easy to do right. Careful site selection is critical. Most ponds are dug in low-lying areas to ensure they stay wet. Areas that already have invasive plants, like reed canary grass, are a good place to dig a pond to improve habitat. Avoid digging in wetlands with native plants, such as sedges, because your dugout pond will not be as good for wildlife. Don't assume open water is needed for wildlife habitat. The most valuable wetlands for amphibians, birds, and others are the wetlands that dry up once in a while and have a lot of plants.

Any wildlife pond should include:

- a shallow, undulating bottom. Deep ponds with steep sides are less valuable for wildlife
- a buffer of native vegetation around the edge (minimum 50 feet, larger is recommended)
- abundant plants

Consult the Wetland Specialist at the Anoka Conservation District before pursuing any work in or near a wetland to ensure you are in compliance with wetland laws. Also see the "Wetlands" section on page 29 of this booklet.

Remove Invasive Species

Reviving a field, woodlot, or corner of your yard can be as simple as removing invasive species. They are surprisingly abundant. Some of the most common include European Buckthorn (small tree), garlic mustard (woodland plant), and reed canary grass (wetland plant). Later sections of this guide have profiles and management strategies for common invasive species.

Recommended Resources: Landscaping for Wildlife by Carrol Henderson. Published by and available from University of Minnesota Bookstore.



Ruffed grouse prefer dense woodlands. Stumps and deadfalls are essential for their breeding displays.



Removing dense growth of exotic, invasive buckthorn can improve forest health



Landscaping for Water Quality

You don't need to own shoreline to have an affect on water quality. Rain water from every property goes to a stream or lake, or to groundwater. On the way it picks up contaminants from roofs, driveways, and yards. Runoff affects fish, your drinking water, and contributes to flooding. There are several ways to reduce stormwater runoff or improve water quality.

Ways to reduce and/or treat storm water:

Rain Barrels capture rain from your roof's gutter system. The barrel has a spigot so the water can be used later for watering plants. Each barrel as a filter to keep debris and mosquitoes out and a built-in overflow for large rains. A 50-gallon rain barrel will fill quickly - a one-inch rainfall on a 1,000 square foot roof (small house or garage) yeilds 617 gallons of water. For instructions on buying or building a rain barrel, see the Anoka Natural Resources website. The cost to build one is about \$30.



Permeable Pavers Permeable pavers are an alternative to concrete. They let water soak through, and can be used for sidewalks, patios, and driveways.

Designed by Earthwizards

The undiluted truth –curbside gutters do not deliver water to a treatment plant; it goes straight to ponds, lakes or rivers.

Buffers of native grasses and wild flowers around ponds, lakes, streams, and wetlands will help filter runoff before it enters the waterbody. They have the added benefit of vastly improving the waterbody's value to wildlife. A recommended starting width for buffers is 50 feet to have both wildlife and water quality benefits, but any buffer is an asset. Anoka Conservation District staff can help you with buffer designs and cost share grants for stream or lakeshore properties.



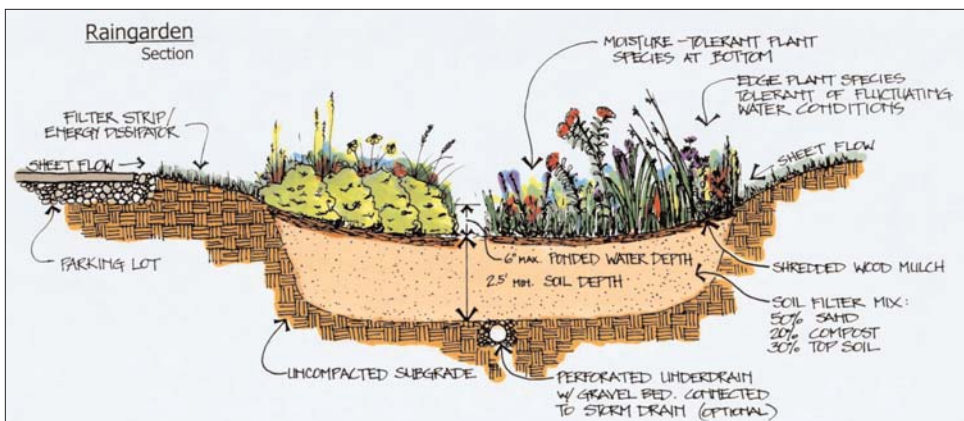
Before (top) and after (bottom) shoreline restoration

Rain Gardens look great, but they also have a hidden function.

These gardens are planted in small depressions and use specially structured soils that allow large amounts of storm water to soak in.

Rain water from house gutters and driveways are directed into the garden.

It is planted with native plants that can tolerate flooding, but thrive when it is dry too. These plants have deep root systems that help the water soak in quickly. Pollutants are filtered out of the water by the roots and soils. Mosquitoes can't breed in a rain garden because it only holds water for a few hours. Assistance designing and installing a rain garden is available from the Anoka Conservation District. Cost share grants are also occasionally available.





Landscaping for Energy Efficiency

Landscaping, especially tree placement, can reduce energy costs by up to 25-30%. In Minnesota, we spend about ten times more on heating than cooling our homes, but landscaping techniques can provide energy savings in all seasons.

Shade in the Summer

About half of unwanted summer heat enters by the sun shining through windows, but more enters in the morning and late day than at mid-day. At mid-day, the sun is above the windows so little light shines in directly, especially if there is an overhang. During the morning and late afternoon the sun is at a lower angle and shines more directly into east- and west-facing windows. Large trees planted east or west of the house block this unwanted sunlight. Deciduous trees (those that lose their leaves in fall) are best because they provide shade in summer but not winter. Plant the largest tree species possible, given space limitations, as close to the house as is practical (generally 20-40 feet away). Select strong trees such as oaks, hackberry, or sugar maple.

Also consider planting trees that will provide some shade to your parking areas. Not only is it unpleasant to get into a hot car, it will also improve fuel economy by reducing the need for air conditioning when you begin a trip.

Sun in the Winter

In the winter, the sun is lower in the sky all day. Avoid large trees on the south side of the house, especially evergreens that would intercept this sunlight before it shines through the windows. Additionally, rows of trees on the northwest side of the home will block most winter winds. Consider evergreen trees such as white spruce, white pine, and red pine for these windbreaks.



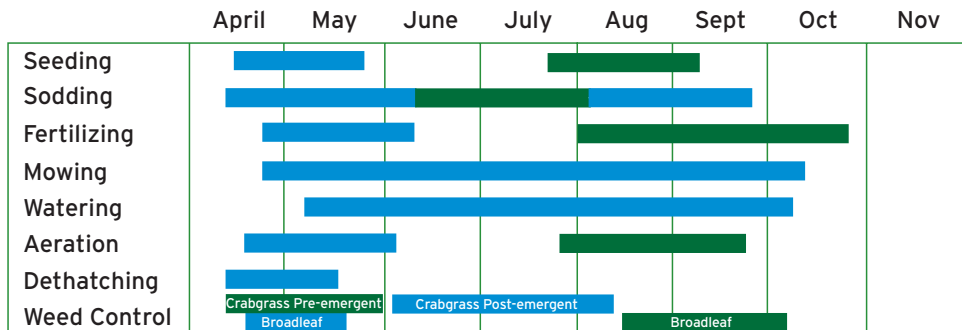
*Check out www.AnokaSWCD.org
for info on the Anoka Conservation
District's annual tree seedling sale.*

Lawns for Healthy Lawns

Lawn Care Calendar

The lawn care calendar below covers the general care needed to adequately maintain an average home lawn. *For additional information, the University of Minnesota Extension Service offers several publications on lawn care.*

Lawn Care Calendar



Blue = preferred time Green = acceptable time

Watering Practices

The best time to water your lawn and gardens is between 4am and 8am. In early morning, temperatures and wind are lowest so losses to evaporation and through plants (transpiration) are least. Daytime watering is wasteful with as much as 90% of the water evaporating before it can soak in. Nighttime watering is not recommended because extended moisture during the night can promote turf disease. Consult your city or township for watering restrictions.

Other watering hints:

- Water deeply and less often to promote root development
- Water as needed, not on a schedule
- Install a rain sensor on your irrigation system. For about \$30 it will turn off your irrigation when it is raining.
- Raise your mower height during dry, hot periods. This allows self-shading of the plants and promotes deeper root growth.
- If you leave footprints, watering is needed



Fertilizing

Too little or too much fertilization can both be problems. For a healthy lawn, don't guess. Get a soil test to determine your lawn's needs. These tests are provided through the University of Minnesota Soil Testing Lab for a fee of \$15. Your sample can be mailed to the lab, and the analysis you get in return includes a recommendation for fertilizing. For more information go to <http://soiltest.coafes.umn.edu> or call 612-625-3101

Don't use phosphorus-containing fertilizer. If the middle number on the fertilizer bag is zero, then it contains no phosphorus (example 10-0-10). Phosphorus causes algae problems in lakes, rivers and streams. State law prohibits the use of fertilizers containing phosphorus on residential lawns, except in certain situations such as establishing a new lawn or if a soil test shows it is needed. Studies done by the Anoka Conservation District and others have found that the vast majority (80 to 95%) of lawns in our area have high or very high phosphorus levels and do not benefit from additional phosphorus fertilization.

Alternatives to Turf Grass

Lawn works well in many situations, but there are cases where another choice would be more successful, less work, or more attractive. Consider unmowed native grasses for the areas not in active use. This need not be a square field of tall grasses – it can be a border of flowers and grasses, a tidy corner, or a larger area. Many different varieties are available as seed or as started plants. Shorter, fountain-like grasses sold individually are a good choice for small borders. A mix of wildflowers and grasses work well for larger, less formal areas. After establishment, little maintenance is needed. *A list of recommended plants is at the back of this booklet.*



This shady, sloped front yard has been landscaped with native plants (design by Earthwizards)

Steep slopes Steep slopes prone to washing out require more than lawn. Anoka Conservation District staff can help you determine the best option for your property.

Water Conservation

Summer water usage is usually five times greater than winter usage in Anoka County, and sometimes up to eight times greater. The vast majority of this extra water is for lawn watering. Consider the impact of one household - **watering a small 75x75 foot lawn with one inch of water per week for only two months consumes about 28,000 gallons of water.** During the same period, each member of the household consumes only about 3,000 for all other household uses.

Consider these measures to conserve water:

- Manicure only the amount of yard that you will actively use
- Let your lawn go dormant during dry periods. It will quickly green up when wetter conditions return
- Landscape with drought-tolerant native plants
- Condition your lawn for the typically drier conditions in July and August by watering less often but deeper as that time approaches. This will stimulate deep root growth.
- Use plug aeration to increase how much water soaks in instead of evaporating or running off
- Use drip irrigation systems that put water only where it is needed and at a rate that does not exceed the soil's ability to soak it in



The older neighborhood in the foreground has appealing tree cover. Those in the back do not.

Woodlots and Trees

Woodlots and trees are the longest living components of your landscaping. Replacing a tree lost to a storm or poor management can take decades and cost thousands of dollars in lost property values. Poor tree care creates problems like diseases that can spread throughout your neighborhood.

Cleaning up the Woods

What's frequently called "cleaning up the woods" usually involves removing the forest understory- especially small trees, shrubs, and deadwood – to create a more open forest. The term suggests it's beneficial, but it often backfires.

Understory clearing can harm the woods by removing:

- Young replacement trees
- Deadfalls: an important part of habitat
- Vertical wildlife habitat structure
- Desirable species that are quickly replaced by "weed" or invasive tree species

The key to woodlot management:

Learn about the trees you have so you can manage them properly.

It's not all just "brush."

Woodland Invaders

Efforts to “clean up the woods” should be focused on invasive species, especially exotic species. Some are so aggressive that they replace the natural ecosystem. They can form dense thickets, making the forest less usable.

Anoka County’s two worst invasive woodland species are buckthorn and garlic mustard. Both out-compete desirable plants by leafing out early in spring, growing fast even in shade, and reproducing quickly. Remove these invasives, but leave the native plants for a healthy, attractive woodland.

Buckthorn (*Rhamnus spp.*)

- Small tree, up to 25 ft tall
- Very common throughout Anoka County
- One of the first trees to leaf out in spring and by mid-November is the only tree with green leaves. Late fall is an especially good time to recognize and manage it.
- Two kinds of buckthorn – common buckthorn in upland areas and glossy buckthorn on wetland edges, though both can grow in either environment
- Round, black, 1/4” berries, which have a laxative effect on birds (and people)
- Can be confused with cherry and dogwoods

Common Buckthorn (mature berries)



Glossy Buckthorn (immature berries)



Garlic Mustard



Garlic Mustard infestation



Garlic Mustard (*Alliaria petiolata*)

- Herbaceous (non-woody) plant 1-3 ft tall
- Most common in southern Anoka County, but spreading north
- One of the first plants to appear in spring
- Easiest to spot in spring when it has white flowers
- Biennial (two-year lifecycle). First year is low to the ground. Second year is 1-3 ft tall topped with small white flowers with four petals each.
- Each plant produces thousands of tiny seeds

Buckthorn treatment – For large infestations, begin by removing female trees (the ones with fruit). Spray cut stumps with glyphosate herbicide (such as Brush-B-Gone) to prevent resprouting.



Removal Methods

Species	Mechanical			Chemical	
	Hand-pulling	Cut at Stem	Controlled Burning	Spray Leaves with Glyphosate (like Roundup)	Spray Bark with Triclopyr Herbicide (like Brush-B-Gone)
Garlic Mustard	X	X	X	X	
Common Buckthorn	X	X		X	X



Tree Diseases

Two common tree diseases in our area are Dutch Elm and Oak Wilt. For information on other diseases contact a tree service or the UMN Extension Service, which has an online plant disease diagnostics tool at <http://www.extension.umn.edu/projects/yardandgarden/diagnostics/>.

Dutch Elm Disease

Symptoms:

- Leaves wilt and turn yellow, and then brown prematurely in the season
- Dieback of branches one-by-one, usually starting near the top and moving down. Sometimes it may start at the bottom and move up, but in either case branches are affected one-by-one.
- Branches have brown streaks in the sapwood
- Maze-like grooves from Elm Bark Beetle colonies under the bark



Preventing and Managing:

- Prune infected, dying branches if it is possible to prune 5-10 feet below the infected portion
- Remove dead, dying, or weak Elms with intact bark that are home to the beetles
- Eliminate piles of Elm firewood, which are overwintering sites for the beetles. Wood may be completely debarked, chipped, or burned. Piles left for any period of time should be covered with plastic, and the plastic edges buried in the ground, but storing this wood is strongly discouraged. Wood obtained after October should be burned before April when overwintering beetles emerge.
- Avoid pruning from April to October
- Disrupt root grafts between sick and healthy trees with a vibratory plow. This should be done prior to removal of a diseased tree.
- Hire a professional to inject fungicide into valuable trees to prevent infection. This is expensive and must be repeated every 1-3 years.



Oak Wilt

Symptoms:

- Rapid browning and wilting of leaves from the top of the crown downward
- Leaves wilt from the tips and margins to the base—fallen leaves may still have a green base
- Red Oaks defoliate completely within 2-6 weeks and die soon after
- White Oaks are resistant to this disease, and if infected are affected branch by branch over several years



*Red Oak leaves in fall
(pointed ends)*



*White Oak leaves
(rounded ends)*

Symptoms of a similar disease, Oak Anthracnose, include brown spots on the leaves, but the leaves do not turn brown from the tips to the base and the symptoms start closer to the bottom of the tree.

Preventing and Managing:

- Do not prune oaks when the beetles that transmit oak wilt are most active. April to July are high-risk months. From August to October prune if you must, but realize that some risk of infection exists. Pruning is best in other months.
- If wounds occur, especially during April to June, cover them with a water-based paint or shellac.
- Contact a forestry professional about cutting grafted root systems between infected and nearby oaks, because the disease can spread through these connected roots. Do this before removing infected or dead trees to prevent infecting healthy trees.
- Remove diseased trees. Treat the stump with herbicide to prevent re-sprouting. Only trees with intact bark must be removed, others are no threat.



An oak wilt-killed tree

- Destroy winter-cut wood from infected trees before spring when spore mats form under the bark.
- Stack split summer-cut wood under plastic in the sun until late summer. The plastic should be sealed to the ground. Debarking the wood is recommended.

Many cities and townships have hired a consultant to assist residents with oak wilt diagnosis and treatment. In some cases cost share grants are available for treatment.

Emerald Ash Borer

This wood-boring beetle is spreading quickly across the U.S., killing all ash trees in its path. Look for “D”-shaped exit holes in trees dying from the top down. Watch for it and report it to the Minnesota Department of Agriculture – www.mda.state.mn.us.

Other Tree Stresses

What looks like disease could be stress. Has your tree experienced:

- Lack of or too much water?
- Soil compaction?
- Insect infestation?
- Excessive mulch or soil piled around the trunk?

Transport of firewood is one of the leading causes of tree disease spread.



Pruning

Pruning trees and shrubs is done to:

- Improve growth form
- Correct hazardous situations
- Remove dead or dying branches

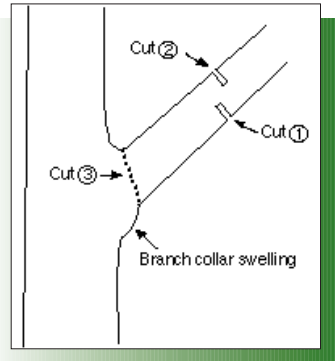


Diagram source: UMN Extension

Pruning Rules of Thumb:

- Don't "top" the tree (cut the branches to a stub). This will lead to a gnarly appearance and tree health problems
- Cut where the branch joins a trunk or major branch (see diagram above). Cut at the branch collar, not flush against the trunk. To shorten a small branch, cut just above a bud.
- For larger branches, first make a shallow cut on the underside of the branch, then cut from the top. This will prevent tearing of bark on the underside as the branch falls.
- Never prune oaks in April, May, or June when risk of oak wilt is highest. The risk is less in other summer months and zero in the dormant season.
- Prune so that no one will be able to tell that you pruned – that's the mark of a good job

For additional information and pruning instructions for particular species, see the University of Minnesota Extension website.

Wetlands

26% of Anoka County is wetland. Another 4% is lakes and ponds. You probably have a wetland near your home.

Wetlands are important for:

- wildlife habitat
- groundwater recharge
- water quality improvement
- flood reduction
- aesthetics

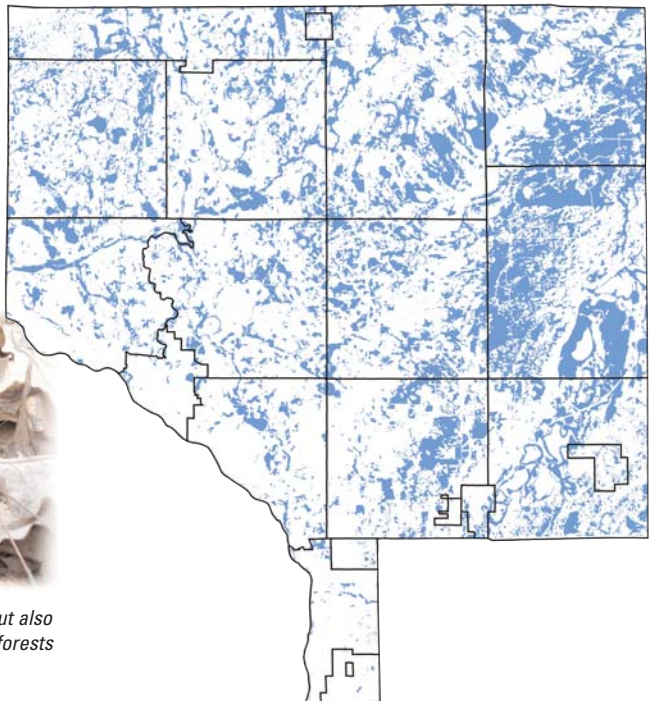


Wetlands aren't always wet. In fact, depressions that are only wet for a little while each year are an especially valuable type of wetland for many kinds of wildlife, such as frogs and salamanders. In short, just because it's dry doesn't mean it's not an important wetland.

The areas around wetlands are important too. Ducks, for example, must have dry natural areas around a wetland for nesting. Frogs lay eggs in the water but spend much of the year foraging in woods and grasslands around their wetland.

Anoka County Wetlands

(source: National Wetlands Inventory)



Blandings turtles use wetlands, but also need surrounding forests



Regulations

Because wetlands are so important, special laws protect them. If you have a wetland on your property, these laws will be important to you. A project in or near a wetland might be regulated by state, local, or federal laws depending upon the wetland and project type.

State Law The Minnesota Wetland Conservation Act (WCA) restricts wetland filling, draining, and excavation. It is administered by a Local Unit of Government (LGU), such as the township, city, watershed district, or watershed management organization. These local units of government are overseen by a state agency, the Board of Water and Soil Resources (BWSR). Minnesota DNR rules, which are typically more restrictive than WCA, apply to some larger wetlands designated as state “public waters wetlands.”

Local Law Some cities require mining permits for excavation projects, even if you are just digging a pond. Some also have ordinances requiring building setbacks and unmowed buffers around wetlands.

Federal Law Section 404 of the Federal Clean Water Act regulates filling, draining and excavations in wetlands, and is administered by the U.S Army Corp of Engineers.

If you are considering a project that might impact a wetland, contact the Wetland Specialist at the Anoka Conservation District or the LGU covering your area. Do not ignore the laws - penalties often include restoring the wetland to its original condition, which can be very expensive.



Pond Digging (Excavations)

Pond digging is popular, and deserves some special attention in this booklet. Successful dugout ponds aren't as simple as digging a hole in the ground. A hole may fill with water, but you'll need to do a few special things to fill that pond with ducks, frogs, and other wildlife.

Most ponds are dug where the water table is high, ensuring that the pond will contain water most, if not all of the time. In other words, these are often excavations within wetlands, and therefore regulated by wetland laws. Any pond project should start with getting the appropriate legal approvals and permits.

Pond guidelines:

- No excavations are allowed in open water wetlands or sedge meadows under state law. Degraded wetlands, such as those infested with reed canary grass, are the best candidates for pond digging. Digging in other wetlands may be a loss, not a gain, for wildlife.
- Shallow slopes are best for wildlife. State law requires no steeper than 5:1, but 10:1 or shallower is recommended.
- Depths cannot exceed 6.5 feet under state law. This is best for wildlife.
- Pond shape should be natural-looking with points and bays, not just round or oval
- The bottom of the pond should have hills and valleys to create many different water depths
- Dispose of all soil outside of the wetland. The law requires this.
- Seed barren soil with a native wetland grass and wildflower mix. *A list of seed vendors is at the back of this booklet.*
- Minimize disturbance, it can provide opportunities for invasive weed species to gain a foothold



A pond with little wildlife value – located away from other habitat, has little in-pond or shoreline vegetation, and has steep slopes



A pond with more wildlife value – it has a buffer of native plants and is next to another habitat



Wetland Invaders

Invasive plants can be a problem in wetlands, and managing them requires special techniques. Methods like mowing or burning are difficult in wet areas. The herbicides we rely upon in forests and grasslands are toxic to fish and other aquatic life in even tiny amounts, so special aquatic formulations must be used. For example, glyphosate herbicides like RoundUp should not be used around water. Instead look for aquatic formulations like Rodeo, Pondmaster, and Eagre.

The two most problematic invasive plants in Anoka County wetlands are:

Purple Loosestrife

- 2-6 ft tall flowering plant
- Grows at lake edges, in wetlands or ditches
- Square stem, leaves are paired on either side of the stem. Stem of larger plants feels woody and tough. Purple flowers are on a spike at the plant's top in July and August.
- Beetles that eat this plant have been released throughout the Metro for long term control. Look closely at the plant and if it is partially eaten, the beetles are doing their job. If not, contact the MN DNR Invasive Species Program for a source of purple loosestrife beetles.
- If plants cannot be removed, spread of purple loosestrife can be slowed by cutting off the flower heads and disposing of them into a plastic bag immediately as they are cut. This must be done before seeds begin to develop.

Purple Loosestrife



Reed Canary Grass

- 2-6 ft tall grass
- Grows in moist areas, or places with periodic flooding, but not open water
- Looks similar to some native grasses, but reed canary has a small papery “tongue” sticking out where the leaf meets the stem (*see insert below*)
- Forms dense stands with no other plants. Falls flat under snow in winter, providing no wildlife cover.

Control Methods

		Mechanical		Chemical		Biological	
		Hand-pulling	Cutting	Controlled Burning	Spray Leaves with Glyphosate*	Spray with Triclopyr Herbicide**	Beetles
Species	Reed Canary Grass			X	X		
	Purple Loosestrife		X	X	X	X	X

*Use an aquatic version. Trade names include Rodeo, Pondmaster and Eagre.

**Use an aquatic version (triclopyr triethylamine). Trade names include Renovate 3.

*Reed Canary Grass
(Insert showing papery “tongue” where leaf meets stem)*





Household Chores

This is a guide to environmentally-friendly practices that take care of your yard and your community.

Your Septic System
Trash That's Not Garbage?!
Yard Waste Disposal
Well Water

Your Septic System

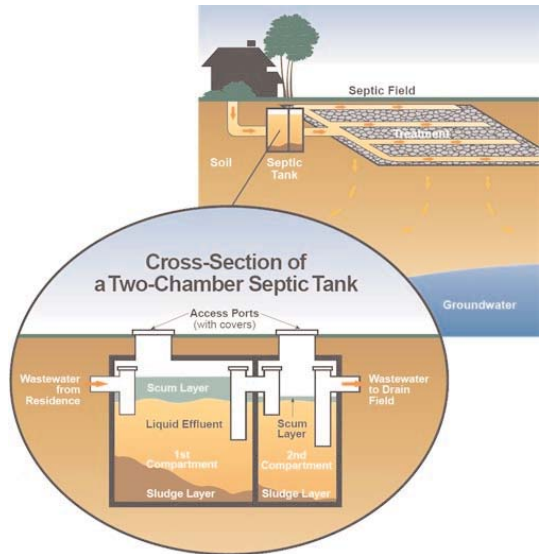
Why is it important?

Most homes in the northern half of Anoka County are not served by municipal sewer, so each has their own septic system. Your septic system treats water from toilets, showers, sinks, and virtually all other household plumbing. Maintenance is entirely the homeowner's responsibility. Both environmentally and economically, it makes sense to take care of your septic system.

Wastewater improperly treated by a failing septic system poses health risks and can contaminate streams, lakes, and groundwater. Anoka County's sandy soils make it especially easy for pollutants to move into the ground water.

Your septic system is an essential part of your home. It is difficult to fix and expensive to replace but easy to maintain. A failing septic system can result in water backing up into the home, discharging onto the surface of the yard, and/or soaking into the ground untreated and polluting groundwater. The cost of a new system ranges from about \$3,000 to \$10,000. State and local laws set standards for septic systems, including requiring inspection of your system during home sale or property transfer.

Image courtesy of the city of Winnipeg



How Does it Work?

There are many variations of septic system design, but most have two treatment steps:

Primary Treatment: Septic Tank

Water first goes to the septic tank where solids, scum, and grease are removed. Naturally-occurring bacteria in sewage begin to break down organic materials in the tank. Pathogens are NOT destroyed in the septic tank. Baffles within the tank are designed to allow water, but not solids out to the drainfield for secondary treatment. Solids in the tank must be periodically pumped out.

Secondary Treatment: Drainfield

Water that leaves the tank is distributed through a series of perforated pipes to trenches, called the drainfield. It is essential that the drainfield soil is uncompacted, unsaturated, and undisturbed. A thin layer of fine solids, dead bacteria, and soil bacteria called the “biomat” forms where the sewage meets the soil. As the water passes through the biomat, bacteria destroy pathogens and consume nutrients and other wastes. The water then infiltrates into the soil below.

Management and Maintenance**Pumping the Tank**

Your tank must be professionally pumped periodically to remove solids, sludge, and scum. If this is not done, these materials overflow into the drain field. Pump at least every three years. More frequent pumping is needed for small tanks, larger households, and multiple water-using appliances. Calculate your pumping frequency using the UMN Extension publication, the “Septic System Owner’s Guide.” (<http://www.extension.umn.edu/distribution/naturalresources/DD6583.html>)

Water Management

Using large volumes of water over a short time can overload your septic system. This also mixes tank contents and may cause solids to enter the drain field. To prevent this, space out tasks like laundry that use a lot of water. For example, do laundry throughout the week rather than all on one day.

Do not put down the drain...

- Hazardous wastes. These damage your system and increase the risk of contaminating nearby surface and groundwater
- Antibacterial soaps. These kill the bacteria that make septic systems work.
- Garbage disposal waste, including food scraps or coffee grounds
- Expensive toilet paper or paper towels, which do not break up easily
- Powder laundry detergents; use liquid instead

Tank Additives

Starters and feeders are either unnecessary or harmful.

The Drain Field

- Do not drive anything heavier than a riding lawn mower on the drain field
- Do not plant trees on or near the drain field
- Mow the grass on the drain field

Additional information available through the UMN Extension’s “Septic System Owner’s Guide.”

UMN Extension also offers septic system care workshops. Call 763-755-1280 for dates.

Trash That's Not Garbage?!

Some trash can't go in the garbage, especially hazardous wastes. Hazardous household products are in every home. Examples are oven cleaner, mothballs, oil-based paint, weed killer, used motor oil, fluorescent light bulbs, rechargeable batteries, appliances, televisions and computers, and tires. Anoka County provides ways for you to dispose of these items.

To find out if a product is hazardous, read the product label. Certain signal words indicate the type of hazard posed by a product: flammable, combustible, corrosive, toxic. Other signal words indicate the degree of hazard: caution, warning, danger, poison.

Take household chemicals with any of the signal words on the label to the Anoka County Household Hazardous Waste Facility at 3230 101st Avenue NE in Blaine. Its hours of operation are Wednesday 2 p.m. – 8 p.m., Friday 9 a.m. – 3 p.m. (April – October only), and Saturday 9 a.m. – 3 p.m. Most disposal is free for Anoka County residents, although there is a fee for some items. Please bring your driver's license as proof of county residency. Businesses, schools, and organizations may not bring wastes to the facility.

Call Anoka County Integrated Waste Management at 763-323-5730 with questions, or go to

www.AnokaCounty.us/recycle.

Disposing of hazardous waste in the garbage, down the drain, or on the ground can do real damage. It can contaminate water (especially in our sandy soils), kill wildlife, or harm garbage haulers and equipment.



Some common hazardous waste that needs special disposal

Yard Waste Disposal

Non-woody yard waste can be disposed of for a small fee at two Anoka County compost sites, provided it is debagged. Composting at home is another option.

Bunker Hills Compost Site

Location: east side of Hanson Blvd. just south of Bunker Lake Blvd in Coon Rapids

Hours:

April – November, weather permitting

Monday - Friday: 10 a.m. - 7 p.m. (or sunset, if earlier)

Saturday: 9 a.m. - 5 p.m.

Sunday: 12 p.m. - 5 p.m.

Closed Easter Sunday, Memorial Day (observed), Independence Day, Labor Day, Thanksgiving

Rice Creek Chain of Lakes Compost Site

Location: in Lino Lakes off County Road 14 just south of I-35W, near Wargo Nature Center

Hours:

Monday closed

Tuesday 10 a.m. – 7 p.m. (or sunset, if earlier)

Wednesday closed

Thursday 10 a.m. – 7 p.m. (or sunset, if earlier)

Friday closed

Saturday 9 a.m. – 5 p.m.

Sunday 12 p.m. – 5 p.m.

Closed Easter Sunday, Memorial Day (observed), Independence Day, Labor Day, Thanksgiving

Woody debris, such as tree branches, can also be taken to the compost sites, but you will be charged by the cubic yard.

Finished compost is available for free at the Bunker Hills site.

Do not put yard waste in your trash.

It is prohibited by state law.

www.AnokaNaturalResources.com



Well Water

Over 30 percent of Anoka County residents trust their private wells for clean drinking water, but most don't know if they are really getting clean water. Unlike city wells, which must be tested periodically, testing private wells is the choice and responsibility of the owner. Private wells are shallower than public wells and are more susceptible to contamination, especially in our sandy soils.

Contaminants of Concern

Nitrates

Nitrate Nitrogen, (NO₃), is tasteless, odorless, and colorless, and easily dissolved and transported in groundwater. Because it is so mobile, annual tests for this contaminant are recommended. Common sources include agricultural fertilizers and septic systems. Nitrates are of little risk to adults, but infants are susceptible. Exposure may result in methemoglobinemia, or “blue baby syndrome” where the nitrogen interferes with the infant’s circulatory system and the capacity for the blood to carry oxygen. Pregnant women and people with some stomach and blood disorders can also be affected.

The Health Risk Limit for nitrate-nitrogen is 10 milligrams per liter.

Coliform Bacteria

Coliform bacteria are a large group of bacteria, some of which are associated with feces of warm blooded animals. They can indicate the presence of pathogens that are associated with feces. Because even a small number of these organisms can make someone sick, the Health Risk Limit for coliform bacteria is one organism present.

Other Contaminants

There are too many possible groundwater contaminants to test for. The best thing you can do is to protect your groundwater – don't let anything soak into the ground that you wouldn't want to drink.

The standards above are not enforceable on private wells, but rather serve as a guide for determining what levels pose a risk that is generally unacceptable.

Getting Your Water Tested

Anoka County Environmental Services Department provides well water test services to residents through a state-certified lab. To get a test kit and instructions, contact the department at 763-422-7030. Samples are accepted Monday and Tuesday mornings. The current fee for nitrates and coliform bacteria tests is \$30. Other analyses, such as fluoride, arsenic and lead may also be analyzed from the same sample by special arrangements and additional cost. Annual testing is recommended, especially for shallow wells, or if a pregnant or nursing woman or infant is in the home.

Foul Tasting Water

Sulfur, or rotten egg smelling water is a common complaint from private well owners in Anoka County. The good news is that there is generally no health threat. The foul taste is from bacteria that use sulfur or iron for respiration instead of oxygen. In the process they produce hydrogen sulfide gas, which is what smells bad. The bacteria are naturally present in the soil, but sometimes multiply and become problematic in wells, holding tanks, or water heaters. The problem is usually corrected by shock chlorination of your well and plumbing. This involves calculating a dosage of chlorine to add to your well, leaving it in the system for 6-8 hours, and then flushing it out of the system. Detailed instructions are available at the UMN Extension website. If the source of bacteria is rock or soils around the well, periodic re-treatment will be needed. If your water becomes suddenly foul tasting, it is possible that some contaminant is responsible. In these cases consider additional testing through a state-certified lab.

Sealing Unused Wells

Properly sealing unused wells is required by Minnesota state law because wells provide a direct route for contaminants to reach groundwater. Wells must be sealed by a licensed well contractor. Following the well sealing, the contractor must send a Well and Boring Sealing Record to the property owner and the Minnesota Department of Health. All wells must be disclosed during property transfers.





Public Spaces

Explore Anoka County with this guide to “must-visit”
natural areas in your own backyard...

“Must-Visit” Natural Areas

“Must-Visit” Natural Areas

The map in the back cover pocket of this booklet shows public outdoor recreation areas. It includes county parks, city and township parks, DNR Wildlife Management Areas, lake and river accesses, and other areas. The matrix on the back of the map details the facilities and recreation opportunities at each.

Some of our public natural areas are particularly special places. They are exceptionally pleasant, have high quality natural communities and provide inspiration for naturalized landscaping in your own yard. This is our “must-visit” list for Anoka County:

Cedar Creek Natural History Area

The Cedar Creek Natural History Area (CCNHA) is a world-renown ecological research site owned by the University of Minnesota. The science of ecosystem ecology and radio collars for animal

tracking were developed here. It has been home to research on restoring native ecosystems with prescribed burning for 40+ years. Cedar Creek’s insect community is one of the most intensely studied ecological communities anywhere. CCNHA is the most ecologically diverse area in the Metro.

Cedar Creek is unique because it is where Minnesota’s three biomes - the northern conifer forest, eastern deciduous forest, and tall grass prairie all come together. It has habitats representative of the entire state. It is also large, at roughly nine square miles. A major challenge facing the CCNHA is suburbanization of the surrounding area, making it an island of habitat. Homeowners near CCNHA have a special responsibility to manage and landscape their properties with the nearby natural areas in mind.

Public tours of the CCNHA are available. Tour times can be found at <http://www.cedarcreek.umn.edu> or by calling 763-434-5131. Other public access is prohibited to ensure the integrity of ongoing research.



Carlos Avery Wildlife Management Area

This DNR wildlife area is by far the largest public hunting area in the metro, at 23,000 acres or about 36 square miles. In addition to hunting, it is a popular bird watching location. The Carlos Avery is a stopover for migrating birds, especially water birds attracted to the many wetlands and managed pools. The area was designated a site of outstanding biological diversity by the Minnesota County Biological Survey. The Carlos Avery can be accessed at many points including from County Roads 17 and 18. Gravel roads within the area provide opportunities for a driving tour, but much of the acreage is far from roads allowing for a secluded experience.



Managers of the Carlos Avery and other area wildlife management areas are concerned about the impact of residential development along the WMA's edges. The way these homeowners manage their own yards dramatically influences the quality of the nearby public lands. It is also important that these homeowners respect the public property. Frequent problems include extending personal landscaping onto public property, storing personal property across the property line, and creating personal access trails into the WMA. If you have questions about a specific WMA, contact the local manager.

Rice Creek Chain of Lakes Regional Park Reserve

This 2600+ acre park is big enough to accommodate many different uses. The park includes lakeshore on seven large lakes and several smaller waterbodies. Access to some lakes, such as Centerville and Peltier is good. Accessing other lakes requires a canoe. Other features include Wargo Nature Center, bike and cross-country ski trails, a swimming beach, picnic shelters, and camping.



This park is one of the larger blocks of natural habitats in the metro area. Park staff work to maintain high quality forests and prairies. These, combined with the network of lakes, wetlands, and waterways make this park a mix that is home to a variety of wildlife. It is an especially good place to see waterfowl during their spring and fall migrations.



Rum River Central Regional Park

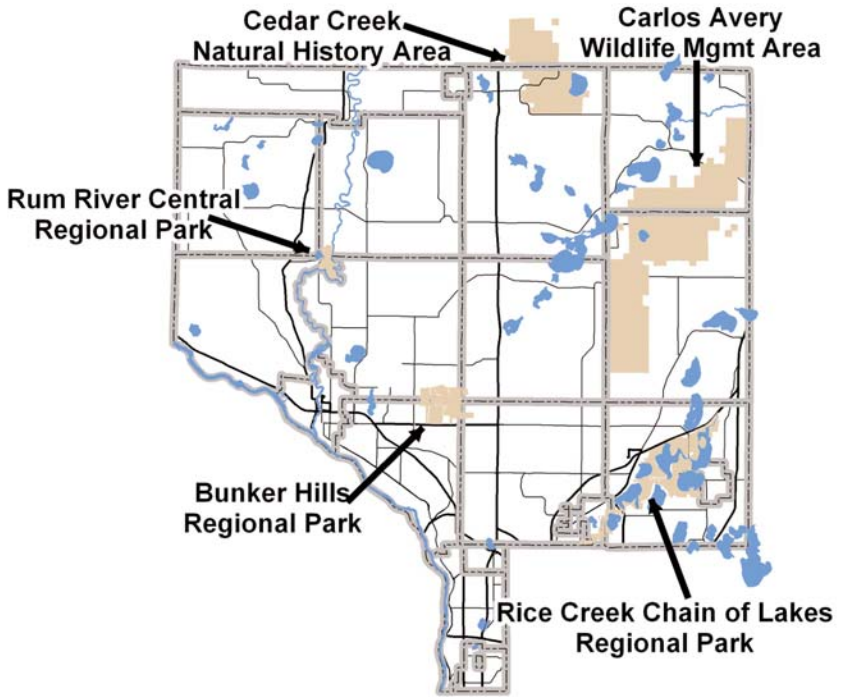
This 400+ acre park features the state Scenic and Recreational Rum River. It is a popular end point for canoe trips that start in St. Francis. This stretch of the river is particularly interesting, with numerous pools and riffles. It is too shallow for most motorized boat traffic, so canoes are nearly guaranteed a serene experience. Fishing for smallmouth bass, northern, and walleye is good. The park also features playgrounds, walking and bicycle trails, and large group picnic shelters. Rum Central Park is accessed from County Road 7 and is at the nexus of Andover, Ramsey, Oak Grove, and Burns Township.



Bunker Hills Regional Park

This centrally-located 1,600 acre park has many features – a wave pool and water park, golf course, archery range, horse facilities and trails, camping, and others. On top of all this, extensive work has been done to restore natural communities within the park, especially oak savannahs. Bunker Hills Park is accessed from Bunker Lake Boulevard in Andover and Foley Boulevard in Coon Rapids.

"Must-Visit" Natural Areas in Anoka County





Resources

This is a guide to native plants, resources and services that can help you make the outdoors part of your home.

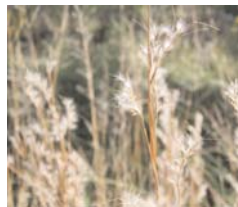
**Recommended Native Plants for Backyards
Directory of Agencies and Service Providers
Native Plant Nurseries**

Recommended Native Plants for Backyards

Dry Soils – Sun



Pale Purple Coneflower
Echinacea angustifolia
 Ht: 12"-48" Flower: Purple Bloom: July-August
 Habitat: Full sun. Dry soils.
 Grassland.



Little Bluestem
Schizachyrium scoparium

Ht: 12"-30" Flower: White Bloom: August-September
 Habitat: Full sun to part shade. Moist to dry soils.
 Savanna, forest edge, and grassland.



Butterfly Milkweed
Asclepias tuberosa
 Ht: 24"-36" Flower: Orange Bloom: June-September
 Habitat: Full to part sun. Dry to moist soils.
 Savanna, forest edge or grassland.



Prairie Dropseed
Sporobolus heterolepis

Ht: 18"-48" Flower: Brown, pink, green
 Bloom: August-September
 Habitat: Full sun, dry to wet soils. Savanna or grassland.



Rough Blazingstar
Liatris aspera
 Ht: 24"-36" Flower: Pink or purple Bloom: July-September
 Habitat: Full sun. Dry or moist soils.
 Grassland or savanna.



Black Eyed Susan
Rudbeckia hirta

Ht: 12"-36" Flower: Yellow Bloom: July-October
 Habitat: Full to part sun. Dry soils.
 Savanna, forest edge, meadow, or grassland.



Red Raspberry
Rubus spp.
 Ht: 6 ft. Flower: White Bloom: Spring-Summer
 Habitat: Full sun. Dry to wet soils.
 Forest, forest edge or savanna.



Juneberry
Amelanchier spp.

Ht: 10-20 ft. Flower: White Bloom: Spring
 Habitat: Full to part sun. Dry to wet soils.
 Forest, forest edge or savanna.



Black Cherry
Prunus serotina
 Ht: 70-100 ft. Flower: White Bloom: Spring
 Habitat: Full to part sun. Moist to wet soils.
 Forest, forest edge or savanna.



Bur Oak
Quercus macrocarpa

Ht: 60-100 ft. Flower: Yellow Bloom: Spring
 Habitat: Full sun, dry to wet soils.
 Forest or savanna.

Moist to Wet Soils – Sun

**Swamp Milkweed***Asclepias incarnata*

Ht: 21"-48" Flower: Purple Bloom: June-August
 Habitat: Full sun to part shade. Moist to wet soils.
 Wet Meadow, marsh, wooded swamp or lake edge.

Prairie Cordgrass*Spartina pectinata*

Ht: 48"-120" Flower: Yellow Bloom: August-October
 Habitat: Full sun. Moist to wet soils.
 Wet Meadow, marsh, or grassland.

**Boneset***Eupatorium perfoliatum*

Ht: 36"-60" Flower: White Bloom: August-September
 Habitat: Full sun to part shade. Wet to moist soils.
 Wet Meadow, marsh, forest edge, savanna or prairie.

Indian Grass*Sorghastrum nutans*

Ht: 36"-96" Flower: Yellow Bloom: August-September
 Habitat: Full sun. Moist to wet soils (some dry).
 Savanna or grassland.

**Northern Blue Flag Iris***Iris versicolor*

Ht: 18"-36" Flower: Blue Bloom: June-July
 Habitat: Full sun. Wet to moist soils.
 Wet Meadow or marsh.

Big Bluestem*Andropogon gerardii*

Ht: 36"-96" Flower: Purple Bloom: August-September
 Habitat: Full sun to part shade. Moist to wet soils.
 Savanna, forest edge or prairie.

**Red Osier Dogwood***Cornus sericea*

Ht: 6-12 ft. Flower: White Bloom: Spring
 Habitat: Full sun. Moist to wet soils.
 Wet meadow, wooded swamp, forest edge or grassland.

Nannyberry*Viburnum lentago*

Ht: 15-18 ft. Flower: White Bloom: Spring
 Habitat: Full sun to shade. Moist to wet.
 Forest or savanna.

**Paper Birch***Betula papyrifera*

Ht: 50-70 ft. Flower: Yellow Bloom: Spring
 Habitat: Full sun to part shade. Moist to wet soils.
 Forest.

Red Maple*Acer rubrum*

Ht: 50-70 ft. Flower: Red Bloom: Spring
 Habitat: Full sun to part shade. Moist to wet soils.
 Forest.



Moist to Wet Soils – Shade



Marsh Marigold

Caltha palustris

Ht: 8"-16" Flower: Yellow Bloom: April-June

Habitat: Part sun to shade. Wet soils.

Wet Meadow, wooded swamp or marsh.



Wild Ginger

Asarum canadense

Ht: 36" Flower: Green Bloom: May-June

Habitat: Part sun to shade. Moist to wet soils.

Wet Meadow and lake edge.



Jacobs Ladder

Polemonium caeruleum

Ht: 18"-24" Flower: Blue or white Bloom: May-July

Habitat: Part sun to full shade. Moist to wet soils.

Forest or forest edge.



Cinnamon Fern

Osmunda cinnamomea

Ht: 24"-63" Flower: Red/brown spores Bloom: July-

October Habitat: Full sun to part shade. Moist to wet

soils. Forest, wooded swamp, wet meadow.



Bloodroot

Sanguinaria canadensis

Ht: 8"-10" Flower: White Bloom: April-June

Habitat: Full sun to shade. Moist to wet soils.

Forest, forest edge or savanna.



Jack-In-The-Pulpit

Arisaema triphyllum

Ht: 12"-24" Flower: Purple or green Bloom: April-July

Habitat: Part sun to shade. Moist to wet soils.

Forest, forest edge or bog.



Highbush Cranberry

Viburnum trilobum

Ht: 8-12 ft. Flower: White Bloom: Spring

Habitat: Full sun to shade. Moist to wet.

Forest, marsh, wooded swamp.



American Elderberry

Sambucus canadensis

Ht: 6-12 ft. Flower: White Bloom: Summer

Habitat: Part sun to shade. Moist to wet soils.

Forest, savanna, bog or grassland.



Basswood

Tilia americana

Ht: 60-130 ft. Flower: Yellow Bloom: Spring

Habitat: Part sun to shade. Moist to wet soils.

Forest.



White Pine

Pinus strobus

Ht: 75-100 ft. Flower: Purple Bloom: Summer

Habitat: Full sun to part shade. Dry to wet soils.

Forest.

Dry Soils – Shade



Wild Columbine

Aquilegia canadensis

Ht: 6"-30" Flower: Red or yellow Bloom: May-August
Habitat: Full sun to shade. Dry to moist soils.
Forest, savanna, forest edge or grassland.

Large White Trillium

Trillium grandiflorum

Ht: 6"-18" Flower: White Bloom: April-June
Habitat: Full sun to shade. Moist to dry soils.
Forest or forest edge.



Pennsylvania Sedge

Carex pennsylvanica

Ht: 4"-12" Flower: — Bloom: April-May
Habitat: Full sun to full shade. Moist to dry soils.
Forest, forest edge or grassland.

Wild Geranium

Geranium maculatum

Ht: 10"-24" Flower: Purple, white, pink Bloom: April-June
Habitat: Full sun to shade. Moist to dry soils.
Forest, forest edge or savanna.



Solomons Seal

Polygonatum biflorum

Ht: 24"-36" Flower: White or yellow Bloom: May-June
Habitat: Part sun to full shade. Moist to dry soils.
Forest or forest edge.

White Snakeroot

Ageratina altissima

Ht: 12"-48" Flower: White Bloom: August-October
Habitat: Full sun to full shade. Wet to dry soils.
Woodland and lake edge.



American Black Currant

Ribes americanum

Ht: 1-3 ft. Flower: Yellow Bloom: Spring
Habitat: Part sun to full shade. Moist to dry soils.
Woodland and forest.

American Hazelnut

Corylus americana

Ht: 6-12 ft. Flower: Brown Bloom: Spring
Habitat: Part sun to full shade. Moist to dry soils.
Forest or forest edge.



Red Oak

Quercus rubra

Ht: 60-80 ft. Flower: Brown Bloom: Spring
Habitat: Full sun to part shade. Moist to dry soils.
Forest.

Common Chokecherry

Prunus virginiana

Ht: 10-20 ft. Flower: White Bloom: Spring
Habitat: Part sun to shade. Moist to dry soils.
Forest, forest edge or savanna.



Directory of Agencies and Service Providers

Cities and Townships

Andover, City of
1685 Crosstown Blvd NW
Andover 55304
763-755-5100
www.ci.andover.mn.us

Anoka, City of
2015 First Avenue North
Anoka 55303
763-576-2700
www.ci.anoka.mn.us/

Bethel, City of
165 Main St. NW
Bethel 55115
763-434-4366

Blaine, City of
10801 Town Square Drive
Blaine 55449
763-784-6700
www.ci.blaine.mn.us/

Centerville, City of
1880 Main Street,
Centerville 55038
651-429-3232
www.centervillemn.com/

Circle Pines, City of
200 Civic Heights Circle
Circle Pines 55014
763-784-5898
www.ci.circle-pines.mn.us/

Columbia Heights, City of
590 40th Ave NE
Columbia Heights 55421
763-706-3600
www.ci.columbia-heights.mn.us/

Columbus, City of
16319 Kettle River Blvd NE
Columbus 55025
651-464-2354

Coon Rapids, City of
11155 Robinson Dr NW
Coon Rapids 55433
763-755-2880
www.ci.coon-rapids.mn.us/

East Bethel, City of
2241 221st Ave NE
East Bethel 55011
763-434-9569
<http://eastbethel.govoffice.com/>

Fridley, City of
6431 University Ave NE
Fridley 55432
763-571-3450
www.ci.fridley.mn.us/

Ham Lake, City of
15544 Central Avenue NE
Ham Lake 55304
763-434-9555
www.ci.ham-lake.mn.us/

Hilltop, City of
4555 Jackson St NE
Hilltop 55421
763-571-2023

Lexington, City of
8961 Jackson Ave
Lexington 55014
763-784-2792

Lino Lakes, City of
600 Town Center Pkwy
Lino Lakes 55014
651-982-2400
www.ci.lino-lakes.mn.us/

Linwood, Township of
22817 Typo Creek Drive
Stacy 55079
651-462-2812
linwoodtownship.govoffice.com/

Nowthen, City of
19800 Nowthen Blvd NW
Anoka 55303
763-441-1347

Oak Grove, City of
19900 Nightingale Street NW
Cedar 55011
763-753-1920
www.ci.oak-grove.mn.us/

Ramsey, City of
15153 Nowthen Blvd NW
Ramsey 55303
763-427-1410
www.ci.ramsey.mn.us/

Spring Lake Park, City of
1301 81st Ave NE
Spring Lake Park 55432
763-784-6491
www.ci.spring-lake-park.mn.us/

St. Francis, City of
23340 Cree Street NW
St. Francis 55070
763-753-2630
www.stfrancis.govoffice.com/

Other Government

Anoka Conservation District

16015 Central Ave NE suite 103
Ham Lake 55304
763-434-2030
www.AnokaSWCD.org

Anoka County (and selected departments)

Government Center (all departments at this address unless otherwise noted)

2100 Third Avenue, Room 340
Anoka, MN 55303-2265
Switchboard 763-421-4760
www.co.anoka.mn.us/index.asp

Community Health and Environmental Services

763-422-7030
www.co.anoka.mn.us/v2_dept/ches/index.asp

Integrated Waste Management

763-323-5730
www.co.anoka.mn.us/v2_dept/iwm/index.aspx

Parks and Recreation

550 Bunker Lake Blvd NW, Andover 55304
763-757-3920
www.co.anoka.mn.us/departments/park_rec/index.htm

Property Records and Taxation

763-323-5400
www.co.anoka.mn.us/v1_departments/div-property-rec-tax/index.asp

Anoka County Household Hazardous Waste Disposal Site

3230 101st Ave NE, Blaine 55449
(763) 323-5730

Bunker Hills Compost Site - NRG Processing Solutions

13285 Hanson Blvd, Coon Rapids 55448
763-767-7964

Coon Creek Watershed District

12301 Central Ave NE Suite 100, Blaine 55434
(763) 755-0975
www.anokanaturalresources.com/ccwd/

Gopher State One Call (to locate underground utilities before you dig)

651-454-0002 or 800-252-1166
www.gopherstateonecall.org/

Lower Rum River Watershed Management Organization

2015 First Ave, Anoka 55303
763-421-8999
www.anokanaturalresources.com/lrrwmo/

Minnesota Board of Water and Soil Resources (BWSR)

520 Lafayette Rd North, St. Paul 55155

651-296-3767

www.bwsr.state.mn.us/index.html

Minnesota Department of Natural Resources (DNR)

500 Lafayette Rd, St. Paul 55155

651-296-6157 (Metro area) or 888-MINN-DNR

Minnesota Pollution Control Agency (PCA)

520 Lafayette Road, St. Paul, MN 55155-4194

651-296-6300 or 800-657-3864

24-hour emergency number: 651-649-5451 or 800-422-0798

www.pca.state.mn.us/

Rice Creek Chain of Lakes Compost Site - NRG Processing Solutions

7701 Main St, Lino Lakes 55038

651-429-3723

Rice Creek Watershed District

4325 Pheasant Ridge Dr Suite 611, Blaine 55449

763-398-3070

www.ricecreekwd.com/

Six Cities Watershed Management Organization

6431 University Avenue NE, Fridley 55432

763-785-6188

www.anokanaturalresources.com/scwmo/

Sunrise River Watershed Management Organization

2241 221st Avenue, Cedar 55011

763-434-9569 or call a Board member

www.anokanaturalresources.com/srwmo/

Turn In Poachers (TIP)

800-652-9093

www.turninpoachers.org/

University of Minnesota Extension – Bunker Hills Regional Center

Bunker Hills Activity Center

550 Bunker Lake Blvd NW Suite L-1, Andover 55304

763-767-3836

www.extension.umn.edu/offices/regional_centers_list.html

Upper Rum River Watershed Management Organization

19900 Nightingale Street NW, Cedar 55011

763-753-4962 or call a Board member

www.anokanaturalresources.com/urrwmo/

US Dept. of Ag, Natural Resources Conservation Service

14855 Highway 10, Elk River 55330

763-241-1170

www.mn.nrcs.usda.gov/

Native Plant Nurseries

Inclusion on this list does not constitute endorsement. To be included on this list in future printings, contact the Anoka Conservation District.

Accent Gardens and Shrubs, Inc.

412 Ortloff Trail
Watertown, MN 55388
952-955-3927
www.accentgardensandshrubs.com

Dragonfly Gardens

491 State Highway 46
Amery, WI 54001
715-268-7660
www.dragonflygardens.net

Hild & Associates

326 Glover Road S
River Falls, WI 54022
715-426-5131
www.hildnatives.com

Kinnickinnic Natives

235 State Rd. 65
River Falls, WI 54022
715-425-7605
www.kinninatives.com

Landscape Alternatives

25316 St. Croix Trail
Shafer, MN 55074
651-257-4460
www.landscapealternatives.com

Minnesota Native Landscapes, Inc.

14088 Hwy. 95 NE
Foley, MN 56329
320-968-4222
www.mnnativelandscapes.com

Natural Shore Technologies

6275 Pagenkopf Rd.
Maple Plain, MN 55359
612-703-7581
www.naturalshore.com

North American Prairies

11754 Jarvis Ave
Annandale, MN 56379
320-274-5316
www.northamericanprairies.com

Northern Perennials

700 173rd Ave NE
Ham Lake, MN 55304
763-434-2722
www.northernperennialsinc.com

Out Back Nursery

15280 110th St S
Hastings, MN 55033
651-438-2771
www.outbacknursery.com

Prairie Moon Nursery

31837 Bur Oak Lane
Winona, MN 55987-9515
507-452-1362 or 866-417-8156
www.prairiemoonnursery.com

Prairie Restorations

Box 327
Princeton, MN 55371
763-389-4342
www.prairieresto.com

Sunrise Native Plants

P.O. Box 336
Center City, MN 55012
651-257-4414
www.sunrisenativeplants.com

Top Notch Urban Ecosystems

5505 N. Hwy. 169
Plymouth, MN 55442
763-253-8733





www.AnokaSWCD.org 763-434-2030



Printed on 50% recycled paper-
containing 25% post-consumer waste

