WHERE CAN I GO FOR MORE INFORMATION?

**Backyard Wildlife Habitat**
National Wildlife Federation, Cuyahoga Wildlife Habitat Program
http://www.nwf.org/habitat

**Composting**
Local Extension Office: Check in your phone book under local government, or, in Ohio: http://ohioline.ag.ohio-state.edu

**Bacteria**
Local Soil and Water Conservation District: Check in your phone book under local government, or: http://dtnr.state.oh.us and navigate to "SWCDs of Ohio"

**Lawn Care**
Local Extension Office: Check in your phone book under local government, or: http://ohioline.ag.ohio-state.edu

**Native Plants**
USDA Natural Resources Conservation Service, Backyard Conservation Program
http://www.arc.ohio.gov

**Stream Dynamics**
USDA Natural Resources Conservation Service, Backyard Conservation Program
http://www.arc.ohio.gov

**Stream Bank Planting**
Local Soil and Water Conservation District: Check in your phone book under local government, or: http://dtnr.state.oh.us and navigate to "SWCDs of Ohio"

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*Living in Harmony with Your Backyard Stream*
Streams are part of our rich natural legacy. That’s why it’s our responsibility to protect, improve, and preserve them, for generations.

Do Keep Septic Systems in Good Condition

**Problem:** Any part of your “plumbing system” can become damaged or simply waste our own time. And any plumbing that’s not working properly is a source of pollution.

**Simple Solutions:**
1. Have your septic system pumped every three years.
2. Reduce or eliminate the amount of bleach, pesticides, oil and grease that you put down the drain.
3. Contact your local County Board of Health to report any
   possible violations.

Consider Improving Wildlife Habitat in your Backyard

There was a time when a squirrel could travel from the Atlantic Ocean to the Mississippi River without ever touching the ground. And, although the days are gone when our yards were dense forests teeming with wildlife, they can still attract a wide array of birds, butterflies, and other wildlife.

Trees, shrubs and leafy plants provide important food sources and shelter for these wonderful visitors. The types you attract will depend on your selection of vegetation. The best combination is a variety of plants (preferably native species) that flower and bear fruit at various times throughout the year. Some suggestions include:

- **Trees:** Apple, Black Cherry, Crabapple, Hawthorn, Hickory, Oak, Balsam Fir, Eastern White Pine
- **Shrubs:** Dogwood, Holly, Pyracantha, Serviceberry, Spindledaster, Viburnum, Willow
- **Vines:** American Bitter-sweet, Native Honeysuckle, Virginia Creeper
- **Flowers:** Aster, Bee Balm, Black-eyed Susan, Butterfly Bush, Cardinal Flower, Columbine, Lupine, Mignonette, Perennial Phlox, Purple Coneflower

Practice Positive Pest Control

- Why not install a bat house? Bats eat night-flying insects, including mosquitoes. One little brown bat can eat more than 600 mosquitoes in an hour!
- Get a toad or two! Toads are also great insect-eaters. To attract them, just place a flowerpot upside down, with one corner propped up so they can get underneath!

Look for Volunteer Opportunities

There are many organizations and opportunities for getting involved in environmentally positive activities. Many of them are perfect for the whole family!

OTHER SUGGESTIONS FOR GOOD STREAM STEWARDSHIP

True to its nature, a stream begins long before your property line and flows far beyond it. What happens before that stream reaches your yard has an effect on:

- The condition of the stream on your property
- The health and value of the property itself
- The well-being and safety of you and your family

Now, it’s time to think beyond. Because what you DO or DON’T do on your part of the stream affects you and those who live downstream from you. So you already have a vital role in your community’s overall value and livability. One way or another, we all live downstream.
Few things are as peaceful as a quiet stream wandering through woods and fields. Its gentle sparkling energy mesmerizes...invites exploration...and invokes memories. It’s a haven for a wide variety of aquatic creatures and a source of water and food for a multitude of wildlife visitors.

Help Nature by Removing Trash from Streams!

**Problem:**
Although it may be tempting to “match” what nature designed, it’s simply not a good idea. When you remove rocks or gravel from your stream, you’re destroying the homes of the fish and animals that live there.

Even purposefully using concrete or rocks to build artificial walls to “store up” the banks or change the direction of the water flow...leads to PROBLEMS, NOT SOLUTIONS. If not designed and installed properly, these structures not only damage the land and waterway, they can be DANGEROUS for you and your family.

Highly placed concrete and rocks in your stream ACCELERATES STREAMBANK EROSION. And you’ve already seen where THAT can lead...

**Simple Solutions:**
- Let nature take its course, AND/OR
- Consult your local community engineer or your local Soil and Water Conservation District BEFORE you decide to marshall the landscape!

And when you learn how easy it is to fulfill that role, you get something in return.

Opportunities to:
- Increase your land value
- Reduce erosion along your stream
- Improve beneficial wildlife habitat on your property
- Make a difference

There’s a simple way to look at these responsibilities and the opportunities they bring. We call it Stream Stewardship.

The Health of our waters is the principal measure of how we live on the land.

Luna Leopold
What is Stream Stewardship?
Just like a shop steward is responsible for managing a facility’s tools, materials, and processes... or an airline steward is responsible for the safety and comfort of the passengers, Stream Stewardship is the idea that each and every one of us is responsible for the sensible use of streams that flow through our properties.

How big will they get?Streams like these will have trunks 1.5-2 inches in diameter, and will reach a height of 6-10 ft.

What do they need to stay healthy?
Ample light and moisture.

When do I plant them?
In our area, the best time to plant dormant, non-rooted cuttings is either in late fall or early spring.

How do I plant them?
1. Create pilot holes in the streambank using rocks and a flat area. Two to 3 inches apart. The depth of the pilot hole will depend on the length of the cuttings. Allow 6 inches of the cutting to remain above the ground.
2. Insert a cutting into the pilot hole, backfill, and pack the soil tightly. Always leave the cutting with both facing upward to allow the sun to reach it.
3. Water on necessity.

Where do I plant them?
These plants will generally grow no higher than 3 to 4 feet above the normal water elevation during the summer months. Avoid planting them in the active stream channel where they will be washed away.

Problem:
Few, if any, property owners think it’s acceptable to dump tires, muskets, plastics, and other unnatural trash into our waterways. But many will believe it’s OK to deposit “organics” material like leaves and grass, into a streambank or into the stream itself.

Well, when it comes to stream dumping, even organic doesn’t “cut it.” Yard waste (grass, leaves, pet droppings, etc.) is the 2nd largest type of all discarded trash. When these materials are put into the stream cycle, they begin to decompose and eliminate critical, life-giving oxygen to the water. As a result, these streams become unhealthy and emit a foul odor.

Simple Solutions:
With more than 50 million acres of lawn in the United States, stream-smart lawns maintain does MAKE a difference!

Not Composting? Learn! It’s nature’s way of turning leaves, grass clippings and vegetable scraps into a soil conditioner. It’s easy and can be a relatively quick process. Just remember, don’t compost near your stream.

Mowing? “Cut it high and let it lie.” Grass is in its own best natural fertilizer. Comprised of 90% water, clippings break down quickly.

Fertilizing? Do it sensibly! Fertilizing directions are there for a reason. Many people use too much fertilizer. When it rains, the excess runs off the lawns and parent’s, into storm drains, and into the waterways. Once there, fertilizers pollute the water by encouraging too much algae growth. When the algae dies, the oxygen levels decrease too much for fish and insect populations to be supported. Remember, carry any non-fertilizers off the pavement.
Plant Cuttings in Your Buffer Zones!

Do Plant Cuttings in Your Buffer Zones!

Dwarf Willow
Purpleosier Willow
Grey Dogwood

Common Name
Scientific Name
Comma salicifera
Comma reesseria
Comma virigiosa
Salix interior
Salix x eurita
Salix purpurea
Caprifolium anastolica

Frequently Asked Questions:

What do these shrub cuttings look like?

Dormant shrub cuttings like these are usually between 1-3 feet in length and about 1/2 inch in diameter.

How much do they cost?

Cuttings can cost as little as $1.50 each.

Where do I get them?

Many of these species are available through local nursery suppliers and local Soil and Water Conservation Districts. Search the wet loving, key words: "strengthening" or "willow".

Who’s Responsible for What?

The water flowing in it.
The land beneath and around it.
Private individuals own the land that forms the stream channel on their property. However, because it is legally considered a "public good," the water in the stream is owned by the State. This means property owners like you can use the water—but not in ways that infringe on the rights of others.

What many property owners may not realize is that using that water properly, also depends on what they do with their land. If, for example, you decide to remove large natural materials like boulders, build artificial streambanks, or fill in a wetland depression, your land alterations can negatively affect:

How the stream water flows
What the water contains
Whether its inhabitants are healthy, or can even exist
The value of the very property you’ve staked to protect and improve.

Streams are "dynamic systems," which means they’re constantly changing over time. In our area, many of the streams are comprised of alternately spaced, deep and shallow areas called pools and riffles.

Pools are deep areas that contain fine materials such as sand, the perfect home for big fish. Riffles are shallow areas with larger materials like cobbles and boulders, ideal spawning grounds for many fish.

Floodingplains are another important components of streams. Floodplains include land along the stream channel, periodically covered by water. These areas are essential for:

Containing excess storm water
Reducing streambank erosion
Reducing the amount of sediments, bacteria, and nutrients in storm water

What’s "Art" for a "Healthy" Stream?
A meandering, winding, "S" shaped curve across the land
Open access to floodingplains
Vegetated "Buffer Zone" along the streambanks
So let’s look at how the “Simple Six” of DOs and DON’Ts can make all the difference...

**SIX SIMPLE STREAM SOLUTIONS**

There are simple, inexpensive ways to preserve, or improve, your stream’s health!

1. **Don’t** mow to the edge of the streambank. (e.g., into the stream’s Buffer Zone!)  
2. Do plant woody shrubs in your Buffer Zones for water erosion control.
3. **Don’t** dump anything in the stream!  
4. Do help nature by removing trash from streams!  
5. **Don’t** change the course of your stream!  
6. Do keep septic systems in good working order!

1. **Don’t** Mow in the Buffer Zone!  

A stream’s Buffer Zone (also called the Riparian Buffer Area) is the strip of natural vegetation along the banks that separates the body of water from developed areas (lawns, buildings, driveways, etc.).

**Problem:** Mowing right to the stream edge may look nice and neat... but it’s ACTUALLY causing a disaster, frankly! If you eliminate a Buffer Zone’s natural plants and bushes, you also lose the root systems that hold the soil in place. The result... the banks erode faster... they destabilize... they crumble and cave-in.

And you’ll soon be living with this! Just think of all that valuable land just washing away...

**Simple Solutions:**

- Keep your stream’s Buffer Zones “mower-free”  
- If your Buffer Zones are degrade... IMPROVE THEM!

For existing urban backyards, a 15-foot Buffer Zone is essential.

For mid-sized streams in larger backyards, a 25-foot Buffer Zone is recommended.

For very large streams, a 150-foot Buffer Zone is not only ideal, it’s smart.

What Healthy Buffer Zones Do  
- Stabilize stream banks  
- Reduce erosion  
- Provide wildlife habitat  
- Increase beauty  
- Reduce sediments and chemicals from rainwater runoff  
- Provide shade to keep stream water at cooler temperatures for healthy plants and animals and less algae growth.

What Happens When a Stream UK-Meanders?  
When we eliminate these natural meanders in streams, and attempt to “tail” the stream into a straight line, the effects are dramatic. These “channeled” streams are bad news because:  
- Energy is trapped within the stream channel and streambank erosion increases.  
- Streams can no longer assume their floodplain and downstream neighbors are at a greater risk of flooding.

New Doom Maintaining or Improving My Stream Increases Property Value?  
In order to compute the values of residual properties that have channeled streams with those having more naturalized streams, findings confirmed that:  
- The appraised value of houses with natural streams can be 3 times HIGHER than those with channelized streams.  
- The closer a property is to a natural area, the higher its value.  
- 60% of suburban residents enjoy wildlife viewing and are willing to pay a higher price for properties that are attractive to wildlife.

So, let’s look at how the “Simple Six” of DOs and DON’Ts can make all the difference...