### SEMINAR on LANDSCAPING as BARRIAR

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for SOUND & AIR POLLUTION

# Landscaping

It is an art which deals with conscious arrangement or organization of outdoor space for human satisfaction and enjoyment.

Some of its major goals include :-

Organizing and developing the site for maximum use and pleasure.
Creating a visual relationship between the house and the site.
Reducing landscape maintenance to a practical level.
Dealing with health and stress management, energy conservation, noise control, erosion control, pollution control.

### **Environmental Benefits**

#### Air Quality :-

Trees are an efficient and cost-effective way for a community to improve its air quality and reduce pollution. A mature tree absorbs between 120-240 pounds per year of small particles and gases, like carbon-dioxide, which are released into the air by automobiles and industrial facilities. In addition, a single tree produces nearly three-quarters of the oxygen required for one person; and a canopy of trees in an urban environment can slash smog levels up to six percent. American Forests reports that just 25,000 acres of forest can offset the equivalent emissions of 10 billion automobile miles.

#### Water Quality :-

Trees help anchor soil and reduce storm water runoff, saving the high costs of drainage ditches, storm sewers, and other "engineered solutions" to storm water management. A street lined with 32-foot tall trees can reduce runoff by almost 327 gallons, allowing cities to install smaller and less expensive water management systems. Reducing runoff also decreases topsoil erosion and the amount of silt and other pollutants washed into streams, rivers, and lakes.

#### Lower Heating and Cooling Costs :-

Trees have demonstrated the ability to reduce heating and cooling costs and counteract the "heat island" effect in urban environments. Urban areas with little vegetation can experience temperatures of up to seven degrees higher than those with tree cover. This translates into significantly higher energy costs to cool buildings. Properly planted trees can cut heating and cooling costs by as much as 12 percent and reduce overall power demand.

#### Reduced Noise Pollution :-

Noise pollution is an often overlooked problem. Excessive or unwanted sound has negative physical and psychological effects. Noise can come from many sources, especially roads and highways. Trees can play an important role in deadening unwanted noise. Sound waves are absorbed by a tree's leaves, branches, and twigs. Studies suggest that belts of trees 100 feet wide and 45 feet long can cut highway noise in half.

### Landscaping and Air pollution

Air and your health

Health effects from air pollutants may be experienced soon after exposure or, possibly, years later.

Immediate effects may show up after a single exposure or repeated exposures. These include:

Irritation of the eyes, nose, and throat

**Headaches** 

#dizziness

#### **#**fatigue

Such immediate effects are usually short term and treatable. The treatment is simply eliminating the source of the pollution.

Symptoms of some diseases, including asthma, and humidifier fever, may also show up soon after exposure to some air pollutants. Other health effects may show up either years after exposure has occurred or only after long or repeated periods of exposure. These effects, which include some respiratory diseases, heart disease, and cancer, can be severely debilitating or fatal. It is prudent to try to improve the air quality in environment even if symptoms are not noticeable. Pollutant Sources :-

There are many sources of indoor air pollution in any home. These include:

Combustion sources such as oil, gas, kerosene, coal, wood, and tobacco products.

 Building materials and furnishings, insulation containing asbestos, wet or damp carpet, and cabinetry or furniture made of certain pressed wood products.
 Products for household cleaning and maintenance, personal care, or hobbies.

Central heating and cooling systems and humidification devices.

And outdoor sources such as <u>radon</u>, pesticides, and outdoor air pollution.

Widespread tree planting and climate-appropriate landscaping clean the air by absorbing carbon dioxide and releasing oxygen.

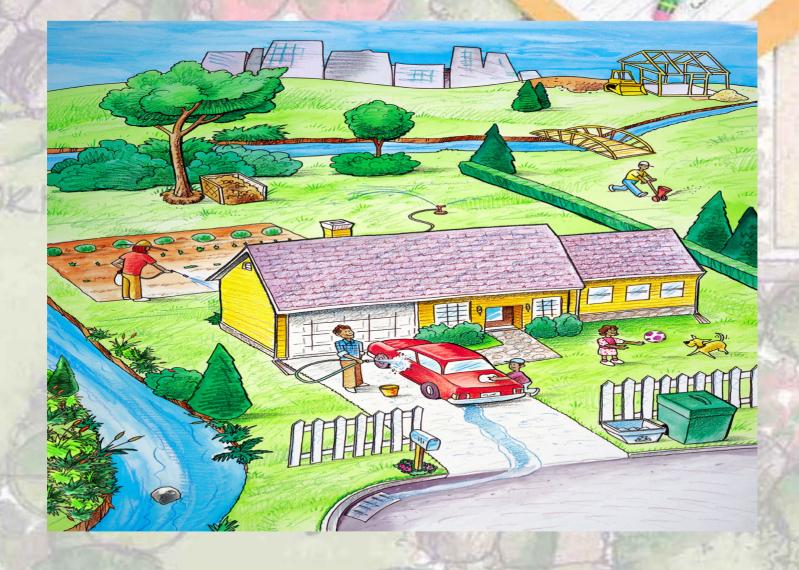
By replacing turf with no-mow vegetation, such as native grasses and wildflowers, you will eliminate associated emissions of VOC,  $NO_x$ , and  $CO_2$  Plants also absorb and store more  $CO_2$  than turf, help to reduce storm water run-off and often result in less maintenance. Once native plants are established, irrigation and fertilization requirements are minimal.

### List Of Air Cleaning Plants :-

Azalea Chrysanthemum Golden Pothos Spider Plants Philodendron Dieffenbachia English Ivy Peace Lily

Gerbera Daisy Warneckei Cyclamens Tulips Prayer Plants Christmas cactus Fig Tree

### We are the Solution to Water Pollution!





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Did you know that storm drains deliver surface water run-off directly to a stream?

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**Major Pollutants:** 

- Soil
- Grass clippings
- Fertilizers and Pesticides

# Fertilizer

Limiting fertilizer use will avoid nutrient overload in streams.

- Plant vegetation native to your area (suited to soil type, slope, available sunlight, and climate).
  - Prior to fertilizing, take a soil test to determine what nutrients your soil may need.
  - Mow your lawn 1/3 of the total grass height only, mow when dry- with sharp mower blades, and leave the clippings on the lawn.
  - During summer months, cut grass higher to help retain soil moisture.





- Never leave soil exposed! Place straw over newly seeded areas.
  - **Cover your garden during winter months.** 
    - Sod, seed, grow plants, or build terraces on slopes.

Rock gardens can also be effective for slowing the flow of water and minimizing erosion.



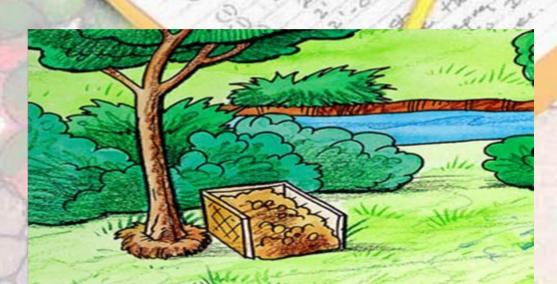
### Pest Management IPM

If it will kill a bug in your lawn, it may kill fish in your stream also! Use pesticides sparingly by practicing "integrated pest management."

1<sup>st</sup> PLAN FOR A HEALTHY LANDSCAPE
2<sup>nd</sup> GET TO KNOW YOUR BUGS!
3<sup>rd</sup> PHYSICAL/ BIO. CONTROLS
Last: USE CHEMICALS SPARINGLY AND ONLY WHEN ALL ELSE FAILS!



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Don't put yard trimmings in a stream! Compost trimmings or take them to a local composting program.

- Chop or shred waste into small pieces.
- Add equal amounts of a carbon source (dried material) to a nitrogen source (green plant material).
  - Turn the pile regularly and maintain slight moisture.



## **Streamside**

Keep streams healthy! Control run-off contamination!

- Landscape yard to provide areas where water will soak into the ground.
- Leave 25' buffer strips of thick, native vegetation along streams.
- Pick up litter.

Monitor your stream for pollutants and help to determine the source.