

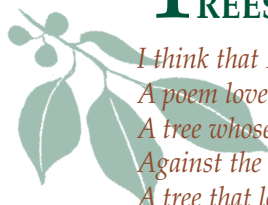
A GUIDE TO GROWING HEALTHY  
**TREES**  
IN THE LOWER RIO GRANDE VALLEY OF TEXAS



*Plant A Memory, Plant A Tree. Do It Today! For Tomorrow.  
Planta Un Recuerdo. Planta Un Arbol. Hazlo Hoy! Para El Mañana. Arboles Nativos Es La Respuesta.  
Native Trees Are The Answer.*

\$3.00

# T REES



*I think that I shall never see  
A poem lovely as a tree;  
A tree whose hungry mouth is prest  
Against the earth's sweet flowing breast;  
A tree that looks at God all day,  
And lifts her leafy arms to pray;  
A tree that may in summer wear  
A nest of robins in her hair;  
Upon whose bosom snow has lain;  
Who intimately lives with rain.  
Poems are made by fools like me,  
But only God can make a tree.*

- Joyce Kilmer

## INTRODUCTION

*This Guide was produced by the  
Valley Proud Environmental  
Council in cooperation with the  
Texas Forest Service, Texas Urban  
Forestry Council, Brownsville  
Public Utilities Board and  
Brownsville Beautification  
Committee.*

**T**he Lower Rio Grande Valley of Texas provides a challenge for planting and maintaining trees. Some of the adverse factors that we face are sandy or heavy clay soil, saline soil, little or too much precipitation, strong winds, pests, high temperature or a sudden change in temperature. Combinations of these factors may make it very difficult to grow a tree. This guide recommends the trees that will fit your specific area depending on soil type, wind, and moisture.

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# BENEFITS OF TREES

*Trees provide us with the following economic, health, and aesthetic benefits:*

## IMPROVED QUALITY OF LIFE

Research has shown that trees and green spaces have a positive psychological impact on humans living in our urban society. A well-forested community is a more inviting place to live, work, and shop. Studies show that people linger and shop longer along tree-lined streets.

## INCREASE PROPERTY VALUE

A well planned landscape including healthy trees, shrubs, groundcovers, and flowers can increase residential property value up to 15 percent. A well-landscaped house will attract more potential home buyers and may be easier to sell because of its increased beauty.

## MODIFY LOCAL CLIMATE

Vast amounts of concrete, steel, asphalt, and glass in cities increase air temperature several degrees compared to the surrounding countryside. Trees lower air temperature through shade and leaf transpiration, reduce glare on sunny days, and reduce wind speed, creating a more pleasant surrounding.

## CONSERVATION OF RARE SPECIES

Rare trees planted in landscaped areas help conserve rare species and provide seed sources for revegetation efforts.

## REDUCE AIR POLLUTION

Trees remove carbon from carbon dioxide, which is harmful to humans, and replenish the atmosphere with oxygen for us to breathe through a process called photosynthesis. In this process, carbon is stored in the trunk and sugars are manufactured through the use of energy provided by sunlight. The tree uses the sugar as its source of energy. An average tree can absorb 26 pounds of CO<sub>2</sub> per year. Leaves help to trap and hold particulate pollutants (dust, ash, pollen, and smoke) that can damage human lungs.

## WILDLIFE – FOOD AND HABITAT

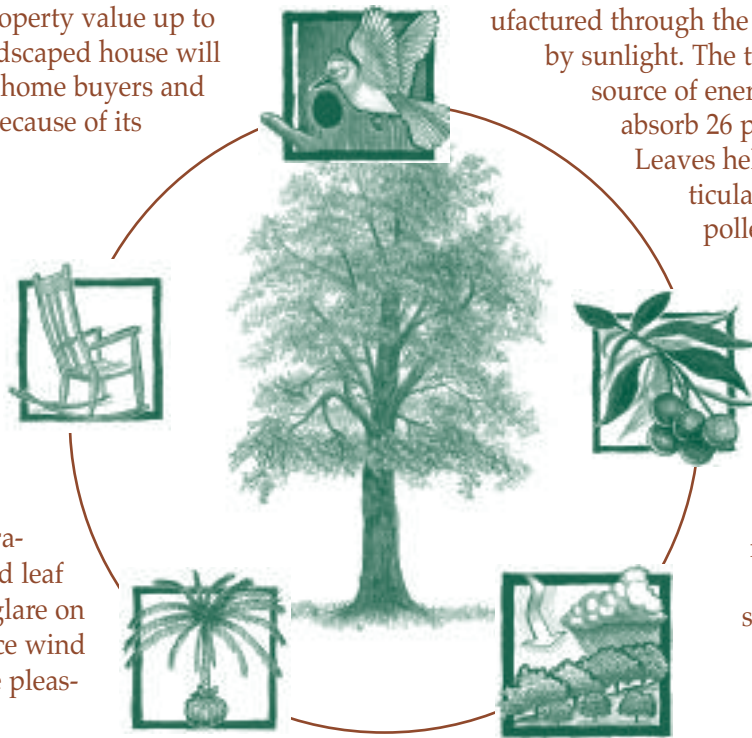
Trees provide shelter for birds and small mammals and food like nectar, pollen, berries, seeds, leaves, twigs, and bark for wildlife.

## SAVE ENERGY

Trees produce shade which can reduce air conditioning cost up to 30 percent when strategically placed on the west and south sides of a building. Use evergreen trees on the north side to intercept and slow winter winds. This will save from 10 to 50 percent energy used for heating. By conserving energy, less electricity for heating and cooling is required to be generated. With lower demand for electricity, burning of fossil fuels which releases CO<sub>2</sub> into the atmosphere will decrease.

## REDUCE SOIL AND WIND EROSION, CONSERVE WATER

Trees reduce surface runoff by contributing organic matter to the soil surface which allows the water to soak in and not run off. They break the impact of falling rain and the roots help hold soil and increase the ability of soil to absorb water. With increased absorption of water, less irrigation is needed. Trees make excellent windbreaks, slowing the wind speed, thus reducing erosion and human aggravation created by constant, strong wind.





# WHAT TO PLANT

The type of tree to plant depends on environmental factors, the tree's purpose, location, and space available. Before choosing a tree, the planting area needs to be evaluated and the following criteria considered. Use the list of trees and their characteristics along with the evaluation of the planting area to choose the trees that will grow the best. Trees native to the Lower Rio Grande Valley are adapted to the environmental factors of this area and tend to survive longer. Trees can provide shade, color from spring and/or summer flowers, fruit, seed pods, windbreaks, attract wildlife, or be used as boundary markers. Each tree species varies from others in form or shape, size, growth rate, color, leaves, flowers, fruit, and texture. Select a tree or trees that will best satisfy the benefits you desire.

## ENVIRONMENTAL FACTORS

**Minimum Temperature** - Every tree will survive down to a certain minimum temperature. In the Lower Rio Grande Valley, the minimum temperature is usually about 25 - 35 degrees. However, our greatest concern is when the temperature falls rapidly and the trees do not have enough time to adapt. The trees that have been the most severely damaged by the past hard freezes are citrus, Tepeguaje, and several palms like Cocus.

**Moisture** - Species native to this area will survive with little or no additional watering. Introduced species will require additional watering during the hot, dry summer months. Trees requiring high moisture need plenty of additional watering and usually show signs of stress by dropping their leaves in the summer. These trees include cottonwood, Montezuma Bald Cypress, and Sycamore.

**Light** - Most trees need an open, sunny space to reach their mature size. If your planting area is shaded by other trees or buildings then select a smaller, shade loving tree.

**Pests** - Insects and disease can be a nuisance to the homeowner if not identified and treated properly as soon as possible. Select species that are relatively free of pests. Newer varieties of some species have been bred for resistance to certain diseases. Rio Grande ash, pecan, Afghan pine, and mulberry have the most insect and disease problems.

**Soil** - The soil type in this area will range from very sandy soil to a heavy clay. The pH will range from 7.0 to 8.5, which is alkaline. Trees planted in a sandy soil will need additional water, whereas in heavy clay soil they will need less water. Incorporating organic material into sandy soil will help retain moisture and into a heavy clay soil will improve drainage.

**Selecting A Healthy Tree** - After determining the species of tree to plant, you're ready to select a tree from your local nursery. Choose a tree that has a straight, single central trunk, and no damage to the bark or broken or dead limbs. Do not select a tree that has been topped, has more than one side voided of branches, or a tree that grows straight up and has very little crown spread.

**Planting Season** - Fall is for planting. Planting in late fall through early spring allows trees to establish new roots before the spring rains and summer heat stimulates new growth. The tree needs an established root system to keep up with the higher water demand in the summer. During the winter dormant season the roots will continue to grow while the top remains inactive. Container grown trees can be planted during the summer with additional watering because no roots are lost. Balled and burlap trees tend to go into shock and lose their leaves when planted in the summer. To prevent this the leaves should be stripped before transporting the tree. They will re-leaf, but it will take more time for the tree to regain its natural look. Palm and citrus trees should be planted in late spring or early summer.

**Plant evergreen trees**, which retain their leaves or needles year round, on the north and west sides of your home. When planted in two staggered rows they intercept and slow winter winds.

**Plant deciduous trees**, which shed their leaves during winter, on the west and south side of your home. They will shade your home in the summer and allow sunlight to warm your house in the winter.

# HOW TO PLANT

*The new idea in tree planting is that "It's better to put a \$50 tree in a \$100 hole than a \$100 tree in a \$50 hole." Planting a tree in the right location, using the proper technique will give your tree a better chance of reaching maturity and providing the benefits that you desire.*

Follow the 3 R's - Right tree, Right place....planted the Right way.

**1 Select the right tree for the right place.** Proper tree planting begins with good planning. Determine your planting goals and match the mature size, soil and moisture requirements of your tree to the site. (Refer to recommended Tree chart on page 14.)

**2 Mark out a planting area 2 to 5 times wider than the rootball diameter (the wider the better).** Loosen this area to about an 8" depth. This will enable your tree to extend a dense mat of tiny roots well out into the soil in the first one to ten weeks. Often early root growth is limited by the width of the hole and loosened soil perimeter.

**3 In the center of the planting area, dig a hole at least twice as wide as the root ball and no deeper than the depth of the soil in the root ball. The bottom of the ball should rest on solid undisturbed soil.** When finished, you want the soil at the base of the tree to be at the same level on the tree as it was in the container. If part of the trunk gets below ground, its bark may rot. The roots also need to get the same ratio of air to water that they received when the tree was in the container or at its original site. Resting the tree on solid ground prevents excessive settling.

**4 Make sure the sides of the hole are rough and uneven.** In very hard soils, a rough edge to the hole may help force new roots to grow out into the surrounding soil.

**5 Place the tree in the hole. If the tree is in a container, pull the container away from the root ball. Don't pull the tree out by its trunk. Place the root ball in the center of the hole and adjust the tree so it is straight and at the proper level.**

*Pulling the tree out of the container by its trunk is a good way to damage the small roots within the ball. The tree needs these roots to help survive trans-*

*planting to its new home. Stand back and look at the tree now - before you put the soil back into the hole. You can make fine adjustments at this time without seriously harming the root ball.*

**6 For balled and burlapped trees, rest the root ball in the center of the hole, and reshape the hole so the tree will be straight and at the proper level. After adjusting the tree, pull the burlap and any other material away from the sides and top of the root ball. Don't try to get the material out of the hole - just let it rest beneath the root ball of the tree.** Exposing the sides of the root ball to the soil will enable the tree's roots to grow in the most important directions. If you adjust or lift the tree after its ball has been unwrapped, chances are that the root ball will be damaged.

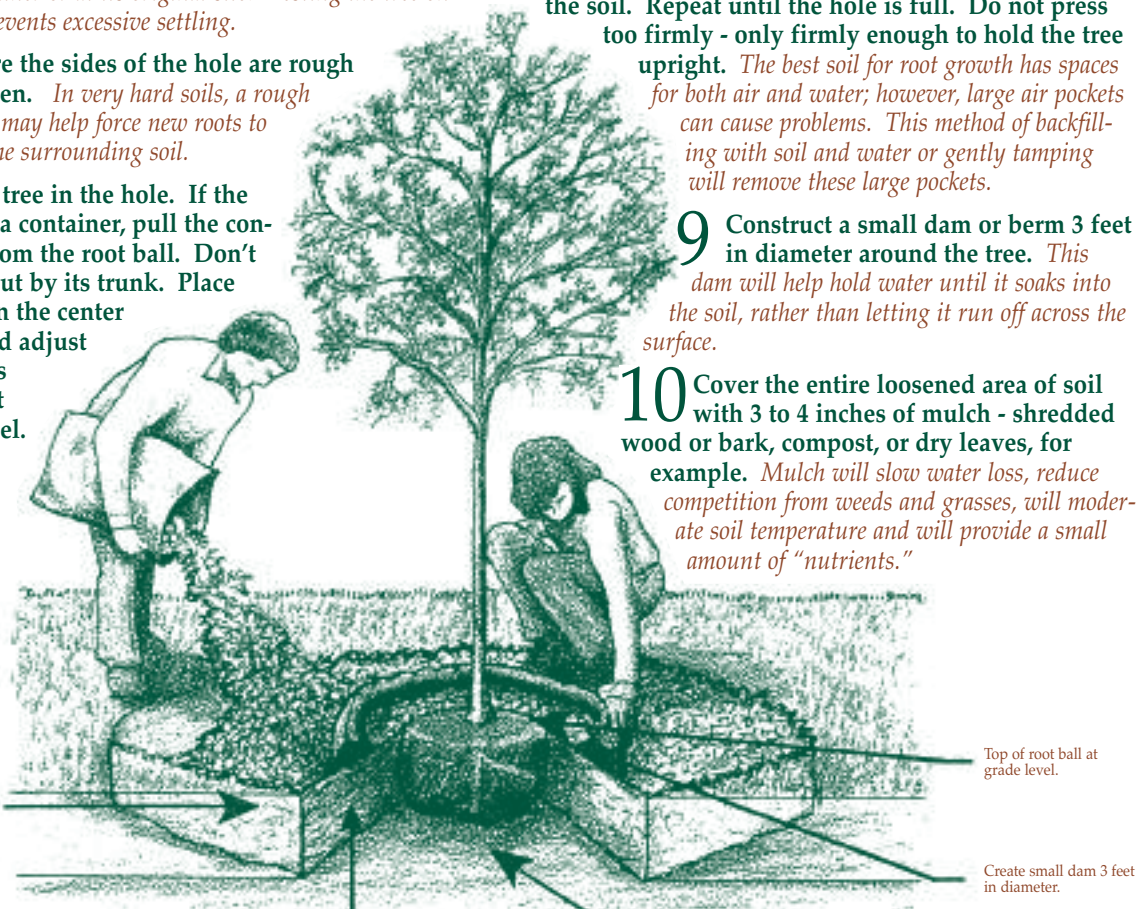
**7 Backfill with the original soil.**

**8 Fill until the hole is half full. Flood the hole with a slow hose or tamp gently with your foot to firm the soil. Repeat until the hole is full. Do not press too firmly - only firmly enough to hold the tree upright.** The best soil for root growth has spaces for both air and water; however, large air pockets can cause problems. This method of backfilling with soil and water or gently tamping will remove these large pockets.

**9 Construct a small dam or berm 3 feet in diameter around the tree.** This dam will help hold water until it soaks into the soil, rather than letting it run off across the surface.

**10 Cover the entire loosened area of soil with 3 to 4 inches of mulch - shredded wood or bark, compost, or dry leaves, for example.** Mulch will slow water loss, reduce competition from weeds and grasses, will moderate soil temperature and will provide a small amount of "nutrients."

Loosened area of soil  
2 to 5 times wider  
than diameter of root  
ball. Mulch entire  
loosened area.



Do not over compact the soil-only enough to hold the tree upright.

Solid undisturbed soil.

Top of root ball at grade level.

Create small dam 3 feet in diameter.

Source: Austin ReLeaf, Inc.

# WHERE TO PLANT

## *Look up, Look Down, Look Around*

**LOOK UP.** Are there power lines above, utility lines below, or buildings close by?

Note how far the tree planting site is from overhead utility lines or your house. It is best to avoid planting trees under power lines. Using The Tree Care Guide, find how tall the tree will be at its mature height. Select low growing trees to plant adjacent to overhead utility lines that mature less than 25 feet in height. Plant the larger trees at least 50 feet away from lines to prevent your trees from being trimmed from the power lines.

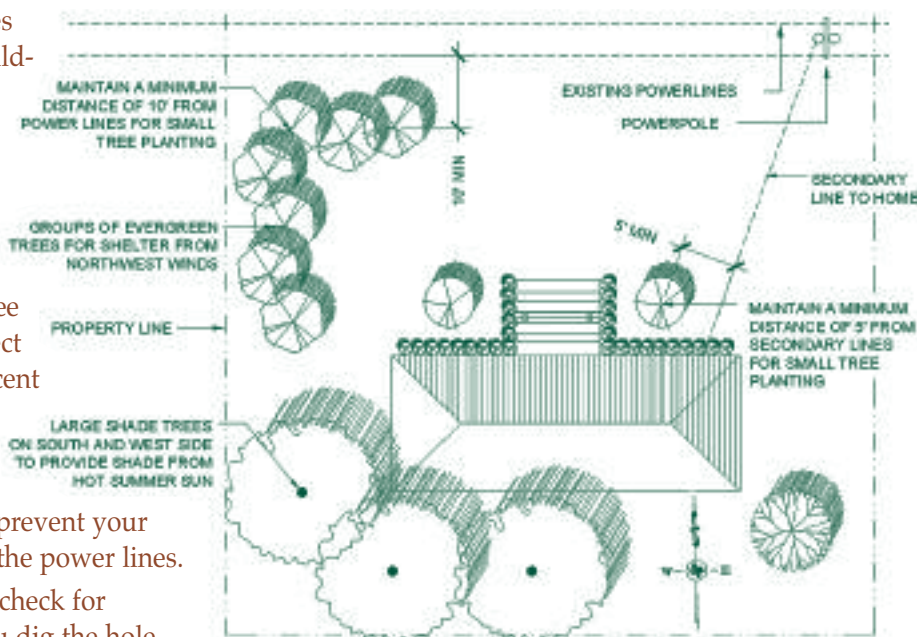
**LOOK DOWN.** Don't forget to check for underground utilities before you dig the hole to plant your tree. You could be digging into wires or pipes for gas, electricity, phone and water. Play it safe and call "Dig Tess" utility locators at 1-800-344-8377 at least two working days before digging. The "Dig Tess" utility locator service is free. Digging without calling Dig Tess is dangerous and against the law.

**LOOK AROUND.** Consult a landscape consultant or nursery professional to find out how wide your tree will grow once mature. Ask yourself, "When this tree is fully grown, will it fit without interfering with power lines, your house, other trees, pavement or sidewalks?" Consult your local nursery for advice on suitable trees.

Overhead utility lines that connect directly to your home are usually only 12 feet high or less. It is best to maintain a distance of at least five feet or more from them and avoid planting directly below these lines.

Avoid planting trees or shrubs in your yard within 10 feet of pad-mounted utility equipment such as transformers that might be near your yard. Utility crews need clear access to them in order to safely conduct routine maintenance.

Following these guidelines and planting trees the proper distance away from power lines will help prevent utility trimming of your trees.

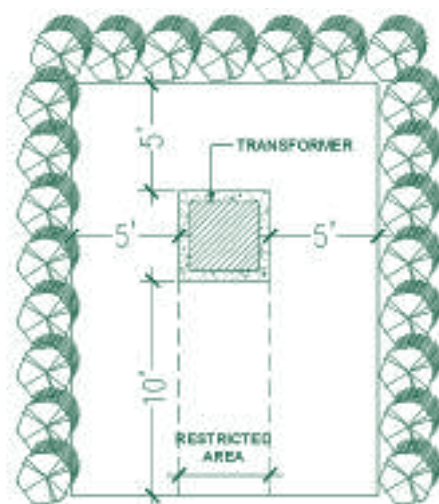


### Palm Trees

Palm trees are a major source of power interruptions; most grow much higher than utility lines. Rain and frequent high winds can loosen dead palm fronds which can fall or sail hundreds of feet, landing on power lines, where they can catch fire or cause service interruptions.

Plant palm trees a minimum of 15 feet or more away from utility lines to prevent service interruptions and unsightly trimming of palm fronds required to keep utility lines clear.

An exception is the pindo palm that has a mature height of 15 feet and European Fan Palm with a mature height of 14 feet.

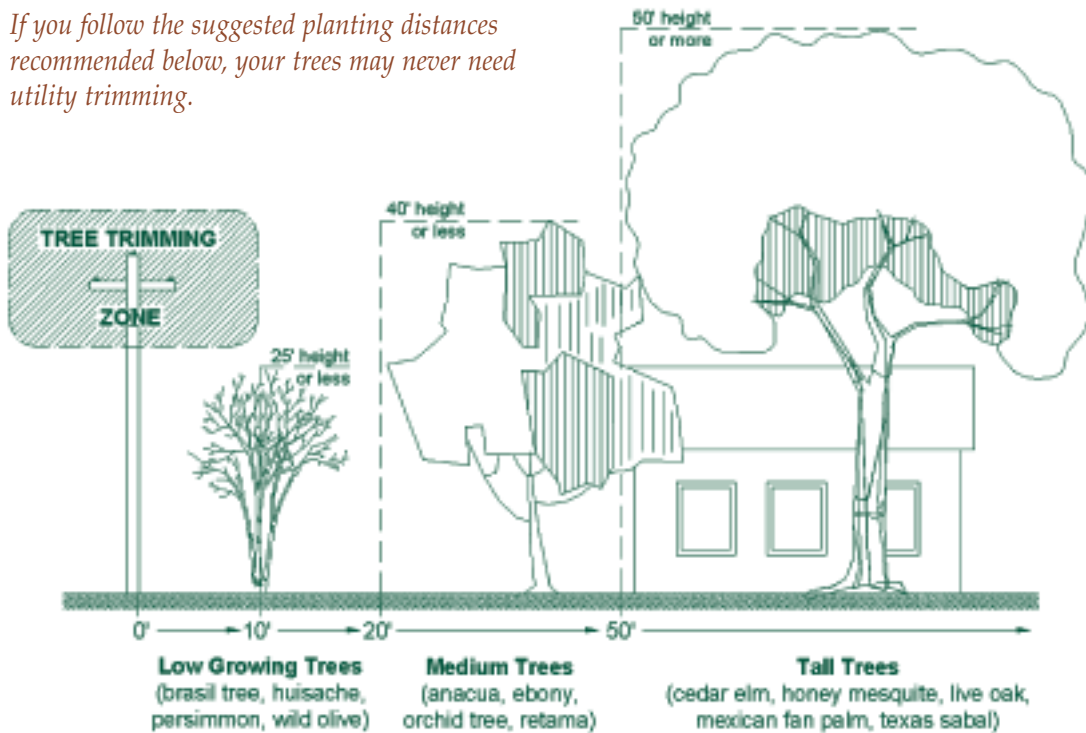


AVOID PLANTING TREES OR SHRUBS AROUND ELECTRICAL TRANSFORMERS. ALLOW AT LEAST 10' ACCESS IN FRONT OF TRANSFORMER AND 5' AROUND SIDES AND BACK AS SHOWN.

# PLANT THE RIGHT TREE IN THE RIGHT PLACE

*Taller trees should be planted away from overhead utility lines*

*If you follow the suggested planting distances recommended below, your trees may never need utility trimming.*



## Right Tree in the Right Place

Trees and power lines can co-exist, and potential conflicts can be avoided by selecting and planting trees with size and growth characteristics appropriate to their location.

**Low Zone** - beneath power lines and for 20 feet to either side of them, plant species that will not exceed 25 feet in height. Taller existing trees in this zone should be pruned by the utility company to grow away from the wires. If maintenance becomes excessive, the utility company may have to remove trees from underneath utility power lines.

**Medium Zone** - trees that grow no more than 40 feet in height are recommended for areas immediately adjacent to the Low Zone in order to avoid high branches that overhang power lines or trees that could topple into the lines during severe storms.

**Tall Zone** - higher trees could be used in a location at a distance of 50 feet or more from power lines. Trees near your house can provide significant energy benefits by providing cooling shade in summer and giving protection from winter winds.

## Hidden Tree Planting Expense

If you plant a tree that will eventually grow into a power line, you're actually causing expenses for all utility customers through higher bills. Your utility company will now have the added expenses for trimming your tree that has been planted under the power line.

Over the life of the tree, crews will have to return every few years to trim the tree. Those expenses add up. The solution: plant low-growing trees at the distances suggested on the chart.

## The Benefits of Good Sidewalk and Highway Lighting to the Community

When the small upright or globe form of a tree is planted outside the utility easement and placed at least 20 feet from any pole, there is no conflict between trees and street lights. Pavement illumination at night is then unrestricted creating a safer community.

# TREES AND POWER LINES

## *Good Planning Means No Pruning*

If not properly maintained, trees near electric power lines and facilities can pose problems. This is particularly true for your local utility companies whose primary responsibility is to ensure safe, reliable and continuous service to customers.

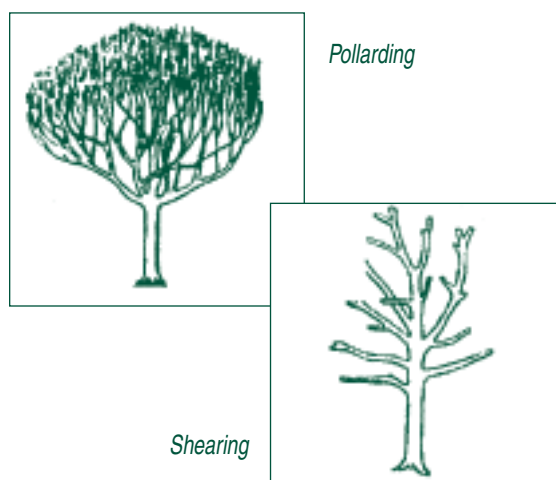
- Tree trimming is not only important, it's necessary. In fact, state law requires utilities to regularly trim trees to ensure safety around electric facilities and to minimize disruption of service to customers.
- Electrical outages caused by fallen trees and tree limbs can result in inconveniences to you and your neighbors. There's the possibility of property damage and personal injury. Also, there's the inconvenience of power interruptions.
- Outages can pose an even greater threat when they interrupt service to a resident on a life-support system, or to a hospital. Fire alarm systems, schools, traffic lights or a host of other vital public facilities can also be affected adversely by power interruptions.
- Overgrown vines, shrubs and other vegetation can also interfere with electric facilities, not only resulting in outages but causing damage to utility poles, cross-arms, lines and other electrical equipment.
- Tree-trimming programs are designed to minimize such interruptions by clearing limbs, shrubs and other growth away from power lines before they have a chance to do severe damage.

### Tree Trimming Techniques

Utility crews trim trees utilizing "natural" methods – techniques, which meet standards established by the National Arborists Association. These methods help assure that the natural shape of a tree is maintained as much as possible, even if a considerable amount of wood has to be removed. These methods also greatly reduce the need to return and perform routine maintenance. And, reduced maintenance costs mean lower costs in the utility companies overall operations. Another benefit is that the natural methods promote a healthier, more attractive regrowth of the trees.

With less desirable methods of trimming - shearing and pollarding - all the buds at the end of the tree's limbs are removed. (Shearing is uniform symmetrical cutting of all growth to a certain level, while pollarding is stubbing of all the branches.) These buds contain auxins, the hormones that retard a tree's growth.

### Wrong Way to Prune



The absence of auxins results in a rapid regrowth from buds located along the sides of the branches. This rampant regrowth is known as suckering, and is both unnatural and unhealthy. It can deplete a tree's carbohydrate supply, making it susceptible to injury during the winter. Suckering also leaves the tree with a dense, unnatural shape and makes it prone to damage during storms and high winds.

Natural trimming requires branches to be cut flush at a suitable "parent" limb back toward the center of the tree. It's sometimes referred to as lateral trimming. This is because the tree's larger limbs are cut back to a lateral branch approximately one-third the size of the limb that's being removed. It's also known as directional trimming, since it tends to guide new tree growth away from electric wires, lines, conductors, poles and other equipment.



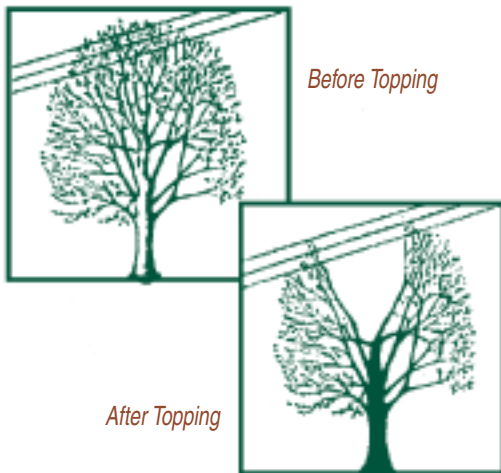
# WHERE TO PLANT

## To Avoid Tree Line Clearance – Don't Plant Trees Under or Near Power Lines

Trees growing too close to the power lines must be trimmed or removed to prevent safety hazards and power outages. The following techniques could be used when trees do grow into the power lines.

**Natural trimming** includes three main types of trimming techniques - topping, side trimming and under trimming. Illustrations and brief descriptions of each are shown below:

**Topping** (v-cutting, heading back) - involves cutting back large portions of a tree's upper crown. (Trees that are growing directly under power lines)



**Side Trimming** – consists of cutting back or removing side branches that threaten conductors, lines or wires. (Trees to the side of power lines)



**Under Trimming** – involves removing limbs beneath a tree's crown to allow wires to pass safely underneath. (Large trees to the side of power lines)



*(Adapted from Central Illinois Public Service Company tree trimming brochure and reproduced with permission.)*

### When Tree Removal is Necessary

In some instances it may be necessary to remove or cut down a tree. This is true if the tree's growth extends too far into an electric power line, or if disease and insect infestation have rendered it a hazard with no future chance of reasonable natural development.

Removal is also necessary if a tree's proximity to an electric line threatens property or human life. For example, if a tree is located near an area such as a school, children climbing the tree could come in contact with a line or conductor and become severely burned or electrocuted.

To reduce hazards and pruning of your tree around power lines, select and plant trees the proper distance from power lines or maintain a tree free zone below the lines. Trees planted under utility lines can also damage or be damaged by lower hanging fiber optic, cable or telephone lines rubbing against them.

# WHERE TO PLANT

## Location and Space Available

Before planting, know what the size of the tree will be as it nears maturity. Trees vary in crown spread, height, and branching pattern. Large trees should not be planted under utility lines or near underground water or sewage pipes, close to rooflines, restricted by sidewalks or driveways or near other large trees. Small trees are good for limited space as long as visibility to streets or driveways is not hindered.



Planting several large trees in a limited space to provide immediate shade will cause problems when the trees mature. The goal is to plant a tree in a space that will not require any major pruning when it matures.

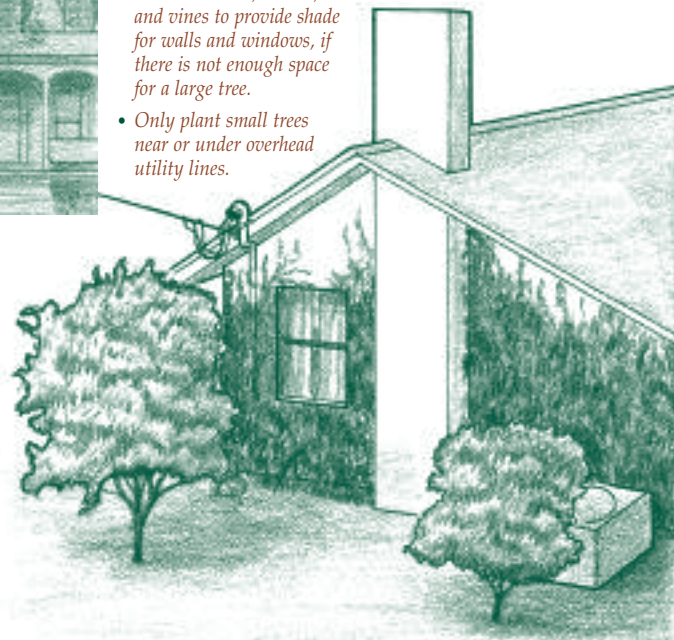
### NOTE: These are general guidelines only:

- Check each tree's mature spread when placing trees so you do not crowd them.
- Leave half of this spread between the tree and building, utility lines, or existing mature trees.
- When planting several new trees, remember to space them so all will have room for their mature spread.
- When planting near street corners in residential areas, do not place trees or shrubs that would block a driver's view of the sign, signal, or intersecting street.

- Use small trees, shrubs, and vines to provide shade for walls and windows, if there is not enough space for a large tree.
- Only plant small trees near or under overhead utility lines.

### TREE SPACING GUIDE FOR YOUR LANDSCAPE

Tree Height	Minimum Spacing From Wall	Minimum Spacing From Building Corner
Up to 25'	10'	10'
25-50'	15' - 20'	15' - 20'
50'+	20' - 25'	15' - 20'



- Do not plant trees near underground sewage or water lines.
- Plant space should allow for trunk and root growth.
- Provide shade to your AC unit to increase efficiency.

*Use this grid to draw a planning sketch of your property showing all structures, utilities and existing plant material and marking the areas where you want to plant.*

A large grid for drawing a property planning sketch. The grid consists of 12 columns and 16 rows of squares, outlined in a light brown color. The grid is enclosed within a double-line border: an inner dark green line and an outer brown line. The text at the top of the page provides instructions for using the grid.



# HARMFUL PRACTICES

## *Never Top A Tree*

*Topping is an improper pruning technique which removes large branches and leaves short stubs off the main trunk. Topping is the worst thing you can do to the health of your tree. If a tree gets too large or is growing into utility lines it can be pruned properly to reduce its size, yet retain its value. A topped tree will be in greater danger in a hurricane, slowly begin to die and lose its value immediately. Claims by professional tree toppers that topped trees will provide more shade and live longer are false.*

### THESE PRACTICES ARE HARMFUL

- \_\_\_\_\_ Topping
- \_\_\_\_\_ Trenching
- \_\_\_\_\_ Painting Tree
- \_\_\_\_\_ Placing dirt around trunk at a level higher than original trunk ground level.

#### REASONS NOT TO TOP YOUR TREE

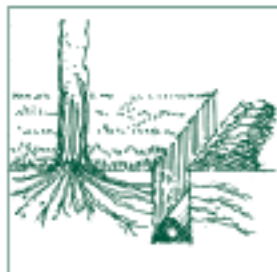
- A. Removes too much leaf surface which the tree needs to produce food.
- B. Remaining branches may get sunscald.
- C. Large stubs can't heal properly and invite insects and decay.
- D. New branches form weaker branch angles and break more easily in strong winds.
- E. The tree will produce rapid new growth and form a denser crown. The tree will tend to be more susceptible to damage from high winds.
- F. Some older trees won't re-leaf after a severe pruning and then will die sooner than normal.
- G. Topping a tree destroys its natural shape and beauty.
- H. It will reduce the value of the tree and the property, add expense to remove the tree and replace it when it dies, increase liability from weakened branches, and increase future maintenance.

#### REMEMBER TO BE SAFE

- A. Keep your tools sharp.
- B. Wear safety boots, safety goggles and leather gloves.
- C. Never use a chainsaw while on a ladder.
- D. Leave major tree pruning to a professional arborist.
- E. Take care to avoid electrical lines.

#### PROPER PRUNING TOOLS

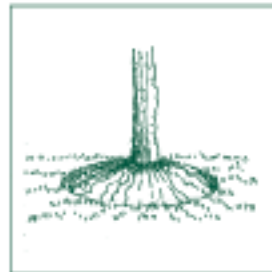
- A. Pruners - use on twigs and smaller branches up to about 1/2".
- B. Loppers - use on branches from 1/2" to about 1 1/2".
- C. Hand saw - use on larger branches.
- D. Pole saw or pruner - use on high branches.
- E. Chain saw - Use on largest limbs.



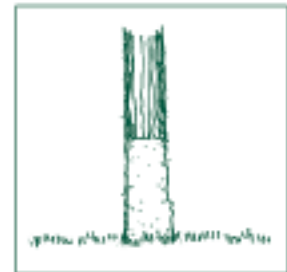
**Trenching Near Trees**  
Avoid trenching near trees whenever possible. If unavoidable, make clean cuts on roots and keep moist until backfill is complete.



**Topping Trees**  
Topping trees should always be avoided. This causes sucker growth, increasing maintenance requirements and is unhealthy for trees.



**Dirt Piles Around Tree Trunks**  
Avoid piling dirt around tree trunks. This suffocates the small 'feeder' roots at the surface of the ground.



**White Painting Around Trunks**  
Avoid any painting on tree or palm trunks. Paint contains toxins which are not healthy for trees or palms and destroys bark and important tissue.



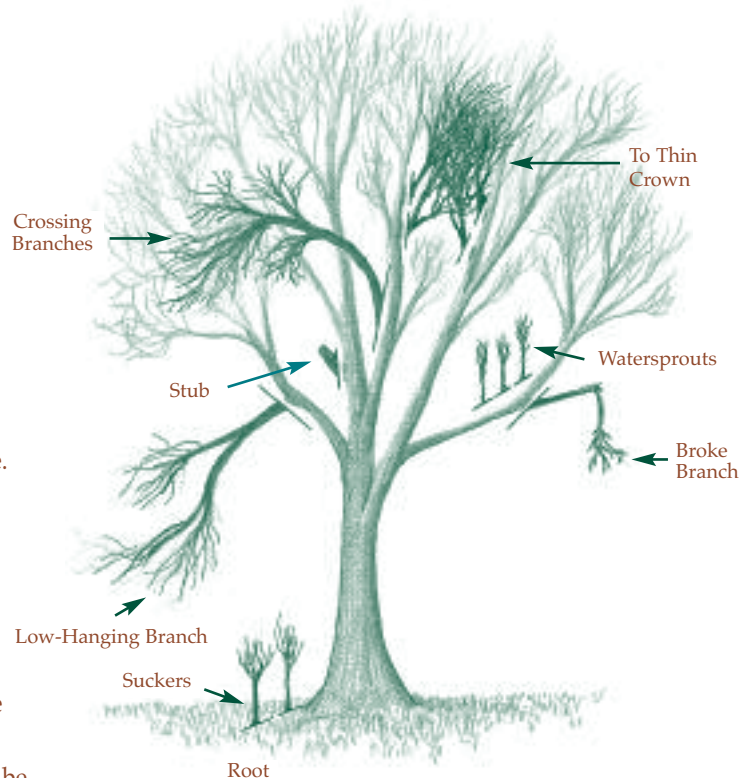
# TREE PRUNING

Think Trees...

*Trees should be pruned sparingly and only for a specific reason. Don't prune just to prune or because your neighbor is pruning his tree. Over pruning will reduce the value of your tree and property. When, why, and how to prune are outlined below.*

## WHY PRUNE?

- A. Remove dense growth by thinning the crown. This reduces wind resistance and the chance of branches and the trunk breaking in high winds.
- B. Remove watersprouts and suckers. They are unsightly and rob water and nutrients from the rest of the tree.
- C. Remove crossing branches before they start rubbing against each other. The rubbing will create a wound and give insects or disease place for entry into the tree.
- D. Remove dead or broken branches when they occur. If left, insects and disease may enter the tree.
- E. To direct or control growth. Remove low branches over a sidewalk or driveway or branches growing against a building. Prune back to a lateral bud or branch that points upward or away from the building.



## WHEN TO PRUNE?

- A. Light pruning and removing dead branches can be done at any time.
- B. Winter is the best time to prune because there will be less sap flow, and a vigorous burst of new growth in the spring.
- C. Prune spring flowering trees after they bloom (redbud and flowering fruit trees). Prune summer and fall flowering trees (crape myrtle) in the winter.
- D. The best time to prune live oaks is in late June through September and January through early February. Pruning live oaks during the rest of the year will make them more susceptible to the oak wilt disease.

## HOW TO PRUNE?

- A. Inspect the tree first and determine what needs to be pruned.
- B. Be careful never leave a stub. Always prune back to the branch collar or ridge or to a lateral bud. When removing a branch always prune back to the main trunk or the next largest branch. Don't cut into the branch collar.
- C. Always make a clean cut and never jagged. A smooth cut will heal the quickest.
- D. On large branches use the three cut method as illustrated to the right.

### PROPER TREE PRUNING

- Use this method to remove a limb with a saw, so that the limb does not "tear" down the remaining branch or trunk.
- Lopping shears should be used on branches smaller than 3/4" in diameter.
- Remove branches larger than 3/4" (with hand or chain saw) using the following three-cut method:

1. Undercut 12"-24" up from the branch collar. This stops the bark from tearing.
2. Make the second cut from the top all the way through the branch, 2" to 3" above cut 1.
3. The final cut should be just beyond the branch collar. Support the stub so it does not tear the bark.



# RECOMMENDED TREES FOR THE

COMMON AND BOTANICAL NAME	TREE TYPE	MATURE HEIGHT	CROWN SPREAD	GROWTH RATE
 <b>Anaqua</b> - <i>Ehretia anacua</i> - N	E	40'	40' - 60'	Slow
<b>Ash, Rio Grande or Fresno</b> - <i>Fraxinus berlandieriana</i> - N 	D	45'	30' - 50'	Fast
 <b>Bald Cypress, Montezuma or Ahuehuete</b> - <i>Taxodium mucronatum</i> - N	E	50'	30' - 50'	Med.
<b>Ebony, Texas or Ebano</b> - <i>Pithecellobium ebano</i> - N 	E	40'	40' - 60'	Slow
 <b>Elm, Cedar or Olmo</b> - <i>Ulmus crassifolia</i> - N	D	50'	40' - 60'	Med.
<b>Guajillo</b> - <i>Acacia berlandieri</i> - N 	D	15'	20' - 25'	Med.
<b>Guayacan or Soapbush</b> - <i>Guaiacum angustifolium</i> - N	E	15'	20' - 25'	Slow
<b>Hackberry, Sugar or Palo Blanco</b> - <i>Celtis laevigata</i> - N	D	50'	40' - 60'	Fast
 <b>Mesquite, Honey</b> - <i>Prosopis glandulosa</i> - N	D	25'	20' - 40"	Med.
<b>Oak, Live or Encino</b> - <i>Quercus virginiana</i> - N 	E	50'	40' - 60"	Med.
 <b>Persimmon, Texas or Chapote</b> - <i>Diospyros texana</i> - N	D	20'	30' - 40'	Slow
<b>Retama</b> - <i>Parkinsonia aculeata</i> - N 	D	25'	20' - 30'	Fast
 <b>Soapberry, Western or Jaboncillo</b> - <i>Sapindus drummondii</i> - N	D	50'	30' - 40'	Fast
<b>Tenaza</b> - <i>Pithecellobium pallens</i> - N	D	15'	20' - 25'	Slow
 <b>Tepeguaje or Great Lead-tree</b> - <i>Leucaena pulverulenta</i> - N	D	40'	40' - 60'	Fast
<b>Texas Mountain Laurel or Frijolillo</b> - <i>Sophora secundiflora</i> - N 	E	25'	25' - 30'	Slow
 <b>Wild Olive or Anacahuita</b> - <i>Cordia boissieri</i> - N	E	20'	20' - 30'	Slow
<b>Palm, Chinese Fan or Palma China</b> - <i>Livistona chinensis</i> 	E	25'	30'	Slow
 <b>Palm, Mexican Fan or Palma Alta</b> - <i>Washingtonia robusta</i>	E	60'	30'	Slow
<b>Palm, Texas Sabal or Palma De Micharos</b> - <i>Sabal texana</i> - N 	E	50'	30'	Slow

D - Deciduous, E - Evergreen, N - Native to Lower Rio Grande Valley

# E LOWER RIO GRANDE VALLEY

MOISTURE CONDITION	LIFE- SPAN	BENEFITS	COMMENTS
<i>Low</i>	<i>50+</i>	<i>Wildlife, white flowers, orange fruit</i>	<i>Drought tolerant, gnarled trunk, rough leaves</i>
<i>Moderate</i>	<i>30 - 40</i>	<i>Wildlife, Shade</i>	<i>Limb decay from over pruning</i>
<i>Mod. to High</i>	<i>50+</i>	<i>Valuable wood, nesting sites</i>	<i>Thrives in wet soil</i>
<i>Low</i>	<i>50+</i>	<i>Wildlife, wood used for crafts</i>	<i>Handsome dark foliage, white spring flowers</i>
<i>Low to Mod.</i>	<i>50+</i>	<i>Wildlife, fall color</i>	<i>Drought tolerant</i>
<i>Low</i>	<i>30 - 50</i>	<i>Wildlife, wood used for tool handles</i>	<i>Fragrant white flowers</i>
<i>Low</i>	<i>30 - 50</i>	<i>Wildlife - food</i>	<i>Blue to purple flowers</i>
<i>Low</i>	<i>To 30</i>	<i>Shade, wildlife</i>	<i>Fast grower</i>
<i>Low to Mod.</i>	<i>50+</i>	<i>Strong wood, fragrant blooms, light shade</i>	<i>Adaptable to many conditions, good yard tree - light shade</i>
<i>Moderate</i>	<i>50+</i>	<i>Shade, wildlife</i>	<i>Large spreading tree, dense shade</i>
<i>Low</i>	<i>30 - 50</i>	<i>Edible fruit, nesting sites</i>	<i>Wood for furniture</i>
<i>Low to Mod.</i>	<i>To 30</i>	<i>Food for wildlife</i>	<i>Drought tolerant, yellow flowers - summer</i>
<i>Low</i>	<i>30 - 50</i>	<i>Wildlife, fruit eaten by birds</i>	<i>Highly adapted for shade</i>
<i>Low</i>	<i>30 - 50</i>	<i>Wildlife, nesting sites</i>	<i>White, puffy, fragrant flowers</i>
<i>Moderate</i>	<i>30 - 50</i>	<i>Wildlife, nesting sites</i>	<i>White balled-shaped flowers</i>
<i>Low</i>	<i>To 30</i>	<i>Purple fragrant flowers - spring</i>	<i>Small ornamental tree, freeze tolerant</i>
<i>Low</i>	<i>30 - 50</i>	<i>Wildlife, white flower &amp; fruit</i>	<i>Bold leaves contrast large flowers</i>
<i>Low</i>	<i>50+</i>		<i>Highly ornamental, refined look</i>
<i>Low</i>	<i>50+</i>		<i>Long tapered trunk</i>
<i>Low</i>	<i>50+</i>	<i>Wildlife, Thornless</i>	<i>Only Palm tree native to Texas, cold tolerant</i>



**Live Oak** *Quercus virginiana* - Native



**Texas Mountain Laurel**  
*Sophora secundiflora* - Native



**Ebony**  
*Pithecellobium ebano* - Native



**Honey Mesquite** - *Prosopis glandulosa* - Native





**Texas Sabal**  
*Sabal texana* - Native



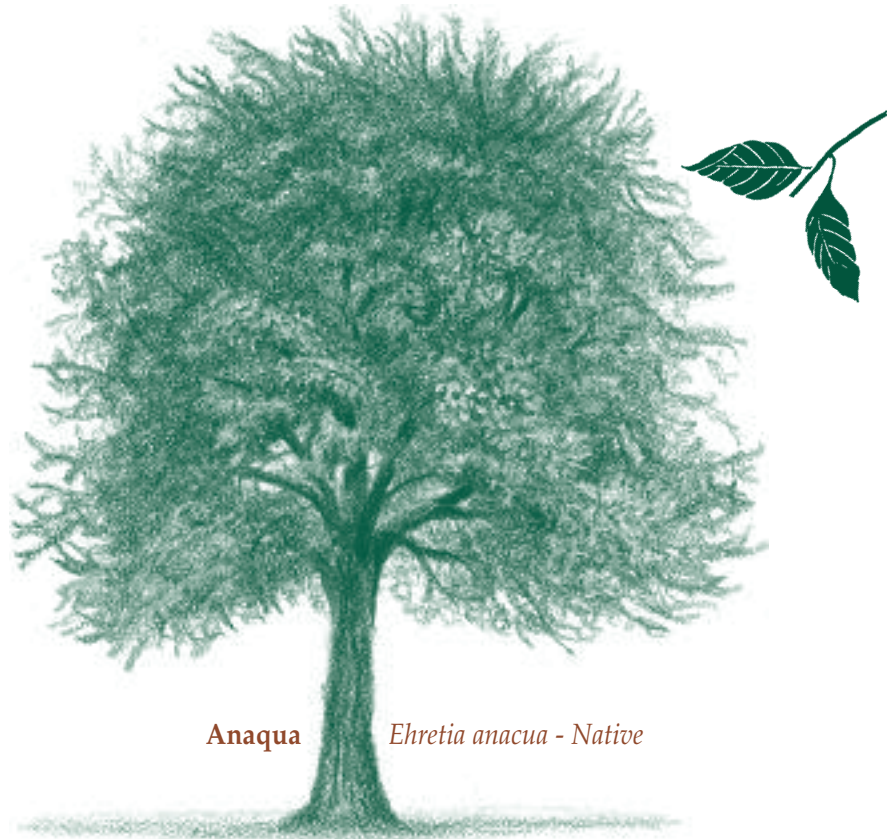
**Rio Grande Ash** - *Fraxinus berlandieriana* - Native



**Texas Persimmon** - *Diospiros texana* - Native



**Wild Olive** - *Cordia boissieri* - Native



**Anaqua** *Ehretia anacua* - Native



**Montezuma Bald Cypress** - *Taxodium mucronatum* - Native



**Cedar Elm** - *Ulmus crassifolia* - Native

## PALM TREE CARE

*Think Trees...*



### WHEN TO PLANT

Best time to plant is during the growing season when the soil is warm, late spring through early fall. Severed roots must be replaced by new roots if the plant is to survive. Warm soil temperatures are needed to encourage this new growth or the plant may rot before growth begins.

### HOW TO PLANT

When moving a palm, the crown (the growing tip of the palm) must be protected. Tie the fronds together at the top and brace with a length of a 2x4 lumber tied to the trunk. After planting remove the 2x4 lumber leaving the fronds tied together for several months, until new fronds grow out.

To assure a higher survival rate of planting, the palms should be kept in a shady area and the root ball moist. The failure of transplanted palms can often be attributed to unprotected root balls drying out for several days in full sun before being planted.

Palms should be planted in well-drained soil, rich in organic material and with adequate water and nutrient-holding capacity. Sandy loams with good sub-surface drainage are preferred over clays with impervious pans or parent material.

In general, plant palms at the same level as they were planted in the pot or grown in the nursery. In sandy soil the palm may be planted about six inches deeper than their original depths. However, if the soil has a high clay content, do not plant deeper because they won't have adequate drainage.

Taller palms (>6') should be staked or guyed for stability for at least three months.

Water the palm well and regularly until winter, then water less frequently.

### PRUNING

Best time to prune is in the spring, removing only unwanted brown fronds.

Trimming off green fronds reduces the palm's ability to produce food.

Excessive trimming lessens the palm's ability to withstand cold and drought. Do not prune or plant in fall or winter.

### FERTILIZATION

To determine the fertilization need, take a soil test of the fill material. The required formulation should be applied lightly every 90 days rather than once a year (one-fourth of the recommended amount quarterly throughout the year).

Avoid pruning palm trees whenever possible. Most palms shed their fronds naturally, but others drop the fronds after some time. When it is necessary to prune the trees, never remove fronds that do not hang below a line parallel to the ground. Never pull or rip off fronds. Permanent wounds to the trunk can occur allowing for fungus or rot invasion and produces ever-enlarging holes in the trunk.





# HOW TO CARE FOR ESTABLISHED TREES

## **INSPECTION**

Before investing time and money in your tree, perform a thorough inspection to determine the health of the tree. If a tree is in poor health, with dying and decaying branches or trunk, it's probably wiser to remove the tree and plant a young, healthy tree. It will cost less to prevent a problem than to cure one, so treat any problems when they first occur. Contact your local arborist or tree care professional if you are uncertain about what should be done.

Stem decay and crown dieback are symptoms of poor health and indicate problems that began several years before. Also, smaller leaf size and reduction in the extension of shoots are signs that the tree's health has recently changed.

## **MULCHING**

Using an organic mulch around the base of your tree is probably one of the best things that you can do for the tree. Some of the benefits of mulch are:

- Stabilizes soil temperatures and retains soil moisture which reduces soil cracking that can damage small roots.
- Reduces competition from grasses and weeds which rob water and nutrients from the tree.
- Improves soil fertility as the organic mulch decomposes.
- Helps prevent soil compaction and improves the soil structure.
- Increases aeration and improves temperature and moisture condition.
- Eliminates the use of lawn mowers and weed eaters around the base of the tree. This equipment will damage the trunk and can kill the tree.

Organic mulches include shredded leaves and twigs, decomposed grass, or composted wood chips.

The mulch should be 2 to 4 inches thick and should extend out past the edge of branches for smaller trees. For newly planted trees extend at least 2 feet from the base of the tree.

## **FERTILIZING**

Do not use weed and feed fertilizer near trees.

Fertilizers provide three major nutrients: nitrogen, phosphorous, and potassium.

- A. Nitrogen - most critical, maintains the green color in the leaves and promotes normal twig growth.
- B. Phosphorous - assists in the maturation of tissues and stimulates root growth. Particularly important in flower, fruit, and seed production.
- C. Potassium - assists in the manufacturing of sugars and starches, helps tissues mature properly, and heightens the color of flowers.

Apply in the late fall through early spring. Choosing a fertilizer depends on soil pH, organic matter content, and soil composition. Consult your local garden center for a fertilizer blended for this area, preferably a slow release type.

Younger trees, less than five inches in diameter, should be fertilized yearly. Older trees usually don't need additional fertilizer because of their extensive root system.

## **WATERING**

Proper watering is one of the most important factors in producing top quality trees. Check the soil and only water if dry. Improper watering may consist of too little, too much, the wrong method, or incorrect timing.

Trees should be watered, around the drip line, slowly to allow the water to soak in. Watering to a depth of 10" to 16" deep will allow the roots to penetrate deeper into the soil.

Trees lose water through a process called transpiration. If roots don't absorb water as rapidly as the leaves transpire, the plant wilts. Transpiration rate will be greater with higher wind speed, low humidity, and warmer temperatures.

# A ADDITIONAL TREES FOUND IN THE LOWER RIO GRANDE VALLEY

*These trees are planted in the Lower Rio Grande Valley but some are not highly recommended.*

**(N) Brasil or Bluewood** - Small tree with branches ending in thorns with distinctive bright, lime-green leaves. Moderate to slow grower.

**(N) Coma del Sur or Saffron Plum** - Small to medium size, spiny, evergreen tree with fragrant, small, clustered, greenish-white flowers. Moderate to slow grower.

**Crape Myrtle, Standard** - A small deciduous tree growing from 15 to 30 feet, best known for its flowers.

**Golden Raintree** - One of the very few flowering trees, excellent as a small lawn tree, or for shading a patio. Moderate growth.

**Hackberry, Spiny** - Small to medium size tree. Flowers bloom in late spring, small round yellow-orange fruit.

**(N) Huisache, Texas** - Medium sized tree, densely branched, armed with long, paired, straight spines. Rapid growth, quick shade tree with bright orange fragrant blooms in spring.

**(N) Jopoy** - Small tree, about eight feet tall with whitish bark and a rounded top, slow growing, requires shade.

**Palm, Pindo** - Small palm growing to 15 feet, heat and drought tolerant, moderately slow growth and low maintenance. Good palm near power lines.

**Palm, Queen** - Low freeze tolerance. Must be planted in a freeze protected area.

**(N) Paloverde, Texas** - Small spiny tree with zig-zagged branches, drought tolerant. Spines are straight and short. Moderate growth.

**(N) Spanish Dagger** - Slow growing, usually only about ten feet tall. Hard to find in nurseries

**(N) Willow, Black** - Large tree with an irregular crown, yellow flowers one to two inch long cylindrical spikes. Fast growing (1.3 feet/year).

**(N) Wright's Catclaw** - Small tree armed with recurved catclaw-like prickles on twigs. Becomes a very effective security hedge. Moderate to fair growth.

**Citrus** - Planted for many reasons; dark green leaves, fragrant and colorful blossoms, delicious fruit. The following are some common varieties that do well in the Rio Grande Valley.

**Colima or Lime Pricklyash** - A native citrus that provides good cover and fruit for wildlife. Catclaw-like prickles on twigs and trunk.

**Grapefruit** - Ruby Red, Star Ruby, Rio Red, Henderson and Ray Ruby.

**Kumquat** - Small evergreen tree with edible fruit. Looks similar to small oranges.

**Lemon** - Eureka, Elizabeth, Meyers and Ponderosa.

**Oranges** - Marrs, Navel, Valencia and Hamlin.

**Tangerine** - No specific variety

**Tangelo** - Cross between a grapefruit and tangerine. No specific variety.

*(N) Symbol for Native Trees.*

## NOT RECOMMENDED

*These trees may have various problems that make them less desirable or cause them to be short lived. One can plant them if you can tolerate their problems or are willing to provide additional maintenance.*

**Brazilian Pepper** - Highly invasive and difficult to eradicate, fruit drop.

**Chinaberry or Canelon** - Highly invasive and difficult to eradicate, fruit drop, weak wood, fruit intoxicating to birds under certain conditions.

**Chinese Tallow** - Highly invasive and difficult to eradicate, iron chlorosis, damage from freeze leads to early decline.

**Canary Island Date Palm** - Subject to lethal yellowing disease.

*Consult your local nursery professional and discuss with them your planting area and soil conditions. Just because some trees are not recommended does not mean that they won't survive in this area.*



# TEXAS BIG TREE REGISTRY

## *Partial Listing Of Trees (Only From Cameron, Hidalgo, Starr, & Willacy Counties)*

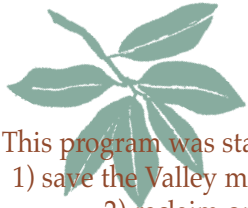
The Texas Big Tree Registry is coordinated by the Texas Forest Service and conforms to American Forests, National Register of Big Trees. For more information on Texas champion trees and nomination procedures, contact the Texas Forest Service at (979) 458-6650 or your local forester.

For more information on the Texas Forest Service, contact:  
 Forest Service Development Department  
 301 Tarrow Drive, Suite 364  
 College Station, Texas 77840-7896  
 phone (979) 458-6650  
 Website: <http://txforestsservice.tamu.edu>

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NAME	CIR.	HT.	CR. SPR	YR.
* <b>ANACAHUITA</b> Cordia boissieri Hidalgo County Owner: A. S. Farrel	76"	25'	38'	2002
* <b>ASH, BERLANDIER</b> Fraxinus berlandierana Cameron County Owner: Martha Duncan	252"	48'	72'	2003
* <b>BALD CYPRESS, MONTEZUMA</b> Taxodium mucronatum Cameron County Owner: Thomas H. Watkins	287"	68'	89'	2002
* <b>BLACKBEAD, EBONY</b> Pithecellobium flexicaule Hidalgo County Owner: Hidalgo County Irrigation District #2	173"	53'	60'	1990
* <b>BLUEWOOD</b> Condalia hookeri Hidalgo County Owner: Hidalgo County Irrigation District #2	77"	30'	26'	1989
* <b>CAESALPINIA, MEXICAN</b> Caesalpinia mexicana Hidalgo County Owner: City of Weslaco	48"	45'	60'	2003
** <b>TEXAS SABAL</b> Sabal texana Hidalgo County Owner: James & Dorthy Robinson	61"	50'	15'	2002
** <b>TEXAS SABAL</b> Sabal texana Cameron County Owner: Thomas H. Watkins	61"	45'	20'	1995

*Trees within five points of each other are listed as national co-champions and marked with (\*\*).  
 Trees marked with and (\*) are national champions.*



# DON'T BAG IT PROGRAM

This program was started by the Texas Agricultural Extension Service as an environmental action that would:  
1) save the Valley money by significantly reducing the volume of waste material hauled to its land fills, and  
2) reclaim organic matter for use by anyone engaged in gardening. The program specifically encourages the reuse of grass clippings and tree leaves.

These materials are very easy to compost. A year-long program of home lawn care with special watering, mowing, and fertilizing techniques proved to develop a better lawn at less cost and decreased the clippings handled or discarded.

For more information contact your local Extension office for your county.

### Cameron County

650 E. Highway 77  
San Benito, Texas 78586  
(956) 361-8236

### Hidalgo County

Box 600  
Edinburg, Texas 78540  
(956) 383-1026

## LIST OF NURSERIES

### BAYVIEW:

River's End Nursery - (956) 233-4792

### BROWNSVILLE:

Gentry's Garden Center - (956) 350-9805  
Palm Gardens Nursery - (956) 546-1348  
SSP Design - (956) 547-9788  
Tony's Nursery - (956) 541-5322

### EDINBURG:

Reyes Nursery - (956) 3 80-1528

### HARLINGEN:

G.I.F. Nursery & Landscape - (956) 425-6009  
(956) 245-1750  
Grimsell Seed Co. - (956) 423-0370  
Heep's Nursery - (956) 423-4513\*  
Mother Nature's Creation - (956) 428-4897\*  
Ned's Full Service Nursery - (956) 425-8733  
Stuart Place Nursery - (956) 428-4439  
Wild Bird Center - (956) 428-2211\*

### LA FERIA:

Bence Nursery - (956) 797-2021

### McALLEN:

C.S. Waugh's Nursery - (956) 686-5591  
Grand Oak Junction Garden & Gifts - (956) 631-6670  
Valley Garden Center - (956) 682-9411

### MISSION:

Shary Acres Nursery - (956) 581-7783

### RAYMONDVILLE:

Caldwell's Jungle Nursery - (956) 689-3432

### RIO GRANDE CITY:

Rancho Lomita Nursery - (956) 486-2576\*

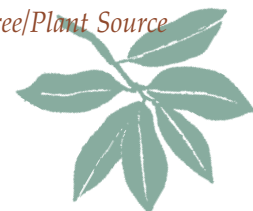
### SAN BENITO:

River Oaks Nursery - (956) 399-4078

### WESLACO:

Mid-Valley Garden & Pond - (956) 973-1998  
Valley Nature Center - (956) 969-2475\*

\* Native Tree/Plant Source



# TREES FOR WILDLIFE

A common thread that runs through the fabric of America is our love for wildlife. Whether it is a squirrel in our back yard or a hovering hawk hunting the edges of a city park, wildlife is a valued resource to protect and enjoy. But to share our communities with wildlife takes understanding and planning. Not surprisingly, trees play an important role. By understanding a few basic principles, you can attract songbirds and other desirable wildlife to your home or neighborhood.

## What Wildlife Needs

Whatever the wildlife, the key to its presence is habitat—the place where it lives. Habitat consists of three important elements, all of which are necessary in order for wildlife to find a home.

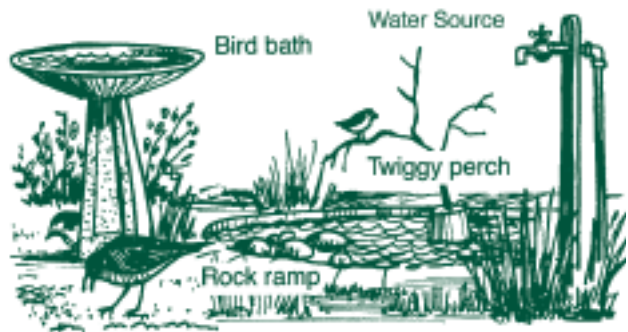
### Food

Each different tree and shrub species has a different food value and attracts different animals. Having a wide variety of trees with high food value is the single best way to increase your pleasure in viewing wildlife.



### Water

Water is as essential for wildlife as it is for humans. Provide it and you will be rewarded with more birds, butterflies, and other wildlife. Shown below are a few ways water can be provided in a home landscape.

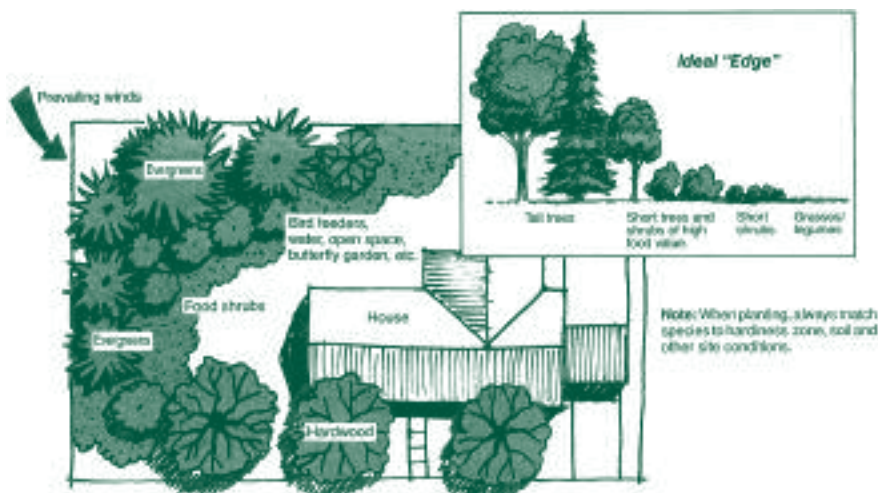


### Cover

Cover provides protection for breeding, nesting, sleeping, traveling, and hiding from enemies. Ideal cover for a wide range of animals is provided by dense plantings. In urban settings, even a single tree will help, but all the better if you have space for a group of evergreens or a hedge. Wild tangles, vines, and thorny shrubs in odd corners or narrow spaces also provide excellent cover.

## Useful Vegetation Patterns to Help Wildlife

The arrangement of food sources, protective cover, and water will make a big difference in the kinds and quality of wildlife you attract. A few principles:



- The same arrangement of trees that provides humans with wind protection and shade also works well for wildlife.
- To see more birds and provide for their safety, plant cover trees within 10 to 15 feet of water sources.
- When possible, provide unbroken corridors (rows of trees, hedges, a brushy fence row, etc.) between wooded areas.
- Provide "edge" areas where woods or shrubbery meet a lawn or old field. Edge areas provide a combination of food, sunlight, shade, and security.



# BACKYARD WILDLIFE HABITAT PROGRAM

Through the Backyard Wildlife program, you will learn how to restore wildlife habitat in your own yard, balcony, workplace, or even your entire community. Once you create your habitat, you can submit an application and get your property certified as one of more than 30,000 official National Wildlife Federation Backyard Wildlife Habitat sites around the country and the world.

Once certified, you will receive a handsome certificate, suitable for framing, that designates your property as part of the National Wildlife Federation's national registry of habitat sites. You will also be eligible to display an attractive yard sign for display in your habitat. Participation in the Backyard Wildlife Habitat program will help you save a place for wildlife right in your own backyard and community, while opening your eyes to the natural world around you, to be nourished by its wonders.

## Information on Native Wildscape Certification for Residential, Commercial and Rural Property:

### Texas Wildscapes Backyard Habitat Program

[www.tpwd.state.tx.us/nature/wildscapes](http://www.tpwd.state.tx.us/nature/wildscapes)

Nonegame & Urban Program  
Texas Parks & Wildlife Program  
4200 Smith School Road  
Austin, Texas 78744  
(512) 389-4644

### Backyard Wildlife Habitat Program

[www.nwf.org/backyardwildlifehabitat](http://www.nwf.org/backyardwildlifehabitat)

National Wildlife Federation  
11100 Wildlife Center Dr.  
Renton, Va. 20190-5362  
(703) 438-6000 / 1-800-822-9919

## Trees that attract Birds/Butterflies

This is a list of trees that do well in the Rio Grande Valley and attract birds and butterflies.

<i>Fiddlewood</i>	<i>Native</i>	<i>Birds</i>
<i>Chapote</i>	<i>Native</i>	<i>Birds</i>
<i>Bottlebrush</i>	<i>Non-native</i>	<i>Hummingbirds</i>
<i>Mexican Flower Fence</i>	<i>Native</i>	<i>Birds/Butterflies</i>
<i>Guayacan</i>	<i>Native</i>	<i>Birds/Butterflies</i>
<i>Mulberry Tree</i>	<i>Native</i>	<i>Birds</i>
<i>Wild Olive</i>	<i>Native</i>	<i>Butterflies</i>
<i>Barbados Cherry</i>	<i>Native</i>	<i>Birds/Butterflies</i>
<i>Papaya</i>	<i>Non-native</i>	<i>Birds</i>
<i>Vitex</i>	<i>Non-native</i>	<i>Birds/Butterflies</i>
<i>Citrus</i>	<i>Non-native</i>	<i>Birds/Butterflies</i>

## If they are unlikely to cause harm... Let Some Old Trees Live

Mature and over-mature trees provide:

- The only suitable habitat for many species of owls, warblers, tree frogs and other desirable wildlife.
- Larger crops of acorns, seeds and other wildlife food.
- A community of treetop insects that are essential for many songbirds.
- Insects for food needed by woodpeckers.
- Hollow places for wild honey bee hives.



## Some Ways You Can Help

- Leaving dead trees and broken branches is generally not recommended arboricultural practice. However in safe, out-of-way places these can enhance wildlife. In windbreaks, corners of lots and other places away from buildings and pedestrians, let a dead tree stand.
- When cutting firewood, plan ahead to allow drying time for live trees and utilize these from thinnings and improvement cuttings, leaving and snags for wildlife.
- If wind breaks the top of a tree, especially a conifer, do not automatically remove it. The jagged top is an excellent nest site for many species. The tree is probably safer than before the storm, and top branches will soon turn upward, covering the damage.

## A Word About Pesticides

When it is absolutely necessary to use chemical to control insect pests, remember:

- (1) Read and follow the label directions or hire a licensed applicator,
- (2) spot spray rather than apply over a wide area,
- (3) apply only when the wind is calm, and preferably in the evening when bees and other nectar feeders are less active,
- (4) use sparingly, and
- (5) choose a chemical specific to the pest.

# RESOURCES FOR TREE GUIDE

## ADVICE ON NATIVE PLANTS

### Arroyo Colorado Audubon Society

www.kiskadee.org  
P.O. Box 531582  
Harlingen, Texas 78553-1582

### Friends of the Wildlife Corridor

www.corridorfriends.org  
(956) 783-6117

### Native Plant Project

www.nativeplantproject.org  
P.O. Box 2742  
San Juan, Texas 78589

Publications : Native Trees, Native Shrubs, and Native  
Cacti, Ground Covers & Vines  
See website for online version or available through  
Valley Nature Center (956) 969-2475

### Nature Conservancy of Texas - <http://nature.org>

State Headquarters (210) 224-8774 (San Antonio)  
Carter Smith (361) 882-3584 (Corpus Christi)  
Lisa Williams (956) 580-4241 (McAllen)  
Maxwell B. Pons, Jr. (956) 546-0547 (Brownsville)  
Donna Berry (956) 546-0547 (Brownsville)

### Texas Forest Service

<http://txforestservicetamu.edu>  
Peter D. Smith (979) 458-6650 (College Station)  
Karen Woodard (361) 825-3338 (Corpus Christi)

### Texas Master Naturalist - [www.rgvctmn.org](http://www.rgvctmn.org)

### Texas Parks & Wildlife - [www.tpwd.state.tx.us](http://www.tpwd.state.tx.us)

Delores Valdez (361) 289-5566 (Corpus Christi)  
Jesus Franco (956) 571-5359 (Weslaco)  
Roy Gonzales (956) 546-1952 (Brownsville)

### U.S. Fish & Wildlife Service - [www.fws.org](http://www.fws.org)

Santa Ana National Wildlife Refuge  
(956) 784-7500

### Valley Nature Center - [www.valleynaturecenter.org](http://www.valleynaturecenter.org) (956) 969-2475 (Weslaco)

## NATURE HAPPENINGS IN THE LOWER RIO GRANDE VALLEY

### TEXAS STATE PARKS

**Texas State Park Tours** - <http://texas.state-park.org>  
Tours focus on native plants & their uses  
(956) 519-6448

**Bentsen State Park** - [www.tpwd.state.tx.us/bentsen](http://www.tpwd.state.tx.us/bentsen)  
Mission, Texas 1-800-792-1112

### NATIONAL PARKS/REFUGES

**Laguna Atascosa National Wildlife Refuge**  
<http://southwest.fws.gov/refuges/texas/laguna.html>  
Nature Bike Rides & Nature Walks  
Rio Hondo, Texas (956) 748-3607

**Santa Ana National Wildlife Refuge**  
<http://southwest.fws.gov/refuges/texas/santana.html>  
Tram Tours, Guided Nature Walks  
Alamo, Texas (956) 787-3079

## RIO GRANDE VALLEY BIRDING/ BUTTERFLY FESTIVALS

**International Birding Festival** - [www.brownsville.org](http://www.brownsville.org)  
Brownsville, Texas - Mid-July  
(956) 546-3721

### Rio Grande Valley Birding Festival

[www.rgvbirdfest.com](http://www.rgvbirdfest.com)  
Harlingen, Texas - Early November  
1-800-531-7346 / (956) 423-5440

### Texas Butterfly Festival - [www.texasbutterfly.com](http://www.texasbutterfly.com)

Mission, Texas - 3rd week in October  
1-800-580-2700 / (956) 585-2727

### Texas Tropics/Monterrey Birding & Nature Festival

[www.mcallenchamber.com](http://www.mcallenchamber.com)  
McAllen, Texas - Late March  
1-877-622-5536 / (956) 682-2871

### The Great Texas Birding Classic

[www.tpwd.state.us.gtbc](http://www.tpwd.state.us.gtbc)  
Statewide event - Late April  
1-888-892-4737

# RESOURCES FOR TREE GUIDE

**Wild in Willacy Nature Festival**  
www.raymondvillechamber.com  
Raymondville, Texas – End of October  
(956) 689-3171

## OTHER

**Bird & Butterfly Farm** – (956) 233-6402  
Los Fresnos, Texas

**Gladys Porter Zoo** – www.gpz.org  
Brownsville, Texas  
(956) 546-7187

**National Arbor Day Foundation**  
www.arborday.org  
100 Arbor Avenue, Nebraska City, Nebraska  
(402) 474-5655

**Rio Grande Valley Birding & Butterfly Map**  
www.valleychamber.com  
Rio Grande Valley Partnership  
(956) 968-3141

**Rio Grande Valley Nature Magazine**  
Harlingen, Texas  
(956) 421-5750

**Sabal Palm Grove Audubon Sanctuary**  
www.audubon.org/local/sanctuary/sabal  
Last largest remaining Sabal palm forest/ecosystem  
- native plant and bird tours.  
Brownsville, Texas (956) 541-8034

**Valley Nature Coalition** www.rgvnaturecoalition.com  
Nancy Millar –956/682-2871 (McAllen)

**World Birding Centers of the Rio Grande Valley**  
www.worldbirdingcenter.org (Site Locations)

## REFERENCES/FURTHER READING

*A Field Guide to Texas Trees,*  
Benny J. Simpson, 1989, Gulf Publishing,  
Texas Monthly Press, Houston, Texas

*Checklist of Woody Plants Native to the  
Lower Rio Grande Valley of Texas,*  
Joe Ideker (deceased) 1994 revision

*Native Texas Plants, Landscaping Region by Region,*  
Sally Wasowski with Andy Wasowski, 1991,  
Texas Monthly Press, Austin, Texas

*Native Trees of the Lower Rio Grande Valley,*  
Native Plant Project

*Texas Trees: A Friendly Guide,*  
Paul W. Cox & Patty Leslie, 1988, Corona Publishing  
Texas Monthly Press, San Antonio, Texas

*Tree City USA Bulletins,*  
The National Arbor Day Foundation, 100 Arbor Avenue,  
Nebraska City, Nebraska 68410

*Trees, Shrubs & Cacti of South Texas,*  
James H. Eueritt & D. Lynn Drawe, 1993,  
Texas Tech Press, Lubbock, Texas

*Trees, Shrubs & Woody Vines of the Southwest,*  
Robert A. Vines, 1960, University of Texas Press,  
Austin, Texas

*A Guide for Selecting and Planting Native  
Shrubs and Trees on South Padre Island and  
in the Laguna Madre Area,*  
Valley Proud Environmental Council, 1999,  
Harlingen, Texas

*A Guide for Selecting and Planting Native Cacti,  
Groundcovers, Shrubs, Trees, Vines and Wildflowers in  
the Rio Grande Valley of Texas and Mexico,*  
Valley Proud Environmental Council, 1999,  
Harlingen, Texas

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## Mission Statement

The mission of the **Valley Proud Environmental Council**, a non-profit 501(C-3) organization, is to preserve the natural beauty and environment of the Lower Rio Grande Valley of Texas and Mexico, by forging partnerships between grassroots volunteer organizations and the public and private sectors to improve the quality of life, to enhance economic development and tourism, and to conserve public and natural resources through education and public awareness activities, including those that encourage proper tree planting and maintenance, solid waste management and responsible behavior by all those who live and visit here.

We greatly appreciate your support to make the LOWER RIO GRANDE VALLEY a better place to live, work and raise our children.

To become a member, please call or write:

**VALLEY PROUD ENVIRONMENTAL COUNCIL**

513 East Jackson Street, Suite 304 • Harlingen, Texas 78550

Telephone - (956) 412-8004

[www.valleyproud.org](http://www.valleyproud.org)



## Mission Statement

The **Brownsville Public Utilities Board's** mission is to create value for customers and the community as the provider of choice for utility services.

The Brownsville PUB has been honored as a **Tree Line USA Utility** for tree care excellence by the **National Arbor Day Foundation**.

[www.brownsville-pub.com](http://www.brownsville-pub.com)



## Mission Statement

The ordinance that created the **Brownsville Beautification Committee (BBC)**, states that the BBC is, "To beautify city-owned property through planting and landscaping; to participate in the creation of city ordinances that enhance the beauty of Brownsville and to act as a catalyst for special projects related to city wide beautification efforts."

Our vision is to plan, implement and maintain community beautification projects through public relations, citizen involvement and political action to enhance the quality of life for the citizens of Brownsville.