



NATIONAL CONSERVATION
COMMISSION

Most Common Sins of Barbadian Urban Forestry



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P. Ricardo Marshall (2004)

In traversing the urban districts of Barbados, it was discovered that Barbadians are engaging in a number of incorrect planting practices. This booklet is intended to highlight the most common sins identified and offer suggestions to improve techniques and practices in urban forestry in Barbados.

Introduction

Urban Forestry

"The sustained planning, planting, protection, maintenance and care of trees, forests, green spaces and related resources in and around cities and communities for economic, environmental, social and public health benefits to people."



What is an Urban Forest?

An urban forest is essentially the forest where we live. It is an important and very necessary part of every urban landscape. The urban forest is also frequently looked upon as an urban ecosystem and part of a city's green infrastructure. A reduction in the number of trees translates directly into a diminished environment and a loss of biodiversity.



Benefits of Urban Forests

In order for policymakers and the citizens to dedicate resources to their city's trees, it is important that people recognize the value and benefits of healthy urban forests.

- Trees are important energy savers
- The urban trees clean the air by removing up to 26 pounds of carbon dioxide and releasing about 13 pounds of oxygen every year. Leaves and twigs of a mature tree capture up to 50 pounds of airborne dust and dirt particles each year.
- Trees clean and reduce stormwater runoff by absorbing rainfall and slowing its velocity. This reduces sediment volume and erosion.
- Urban trees provide food, shelter, and nesting sites for birds, wildlife and microorganisms both above and below the surface.
- Trees add character and real estate value to neighborhoods. Outdoor recreation, jogging and biking is encouraged due to increased shaded areas. This may also reduce incidence of crime due to increased activity outdoors.
- Trees create sound buffers, making urban areas quieter, cooler and more aesthetically pleasing to residents and visitors. They may also soften, complement and enhance architecture or even screen out objectionable views.



Sin #1

Not Utilizing Available Space In Urban Areas

There are many open spaces within urban areas that are suitable for planting trees.

Examples include school compounds, parks, churchyards and malls. Recognizing and utilizing these open spaces will transform once unsightly areas into more aesthetically pleasing green spaces.

Architects should also be encouraged to designate space (green areas) for trees on all new construction and redevelopment projects on both the domestic and commercial levels.



Sin #2

Denuding Land of Trees for Infrastructural Development

The practice of totally denuding areas to give way for domestic and/or commercial development should be discontinued.

Too often sites that started out with lovely mature trees are replaced by concrete and asphalt. Special attention should be taken in the design stage to incorporate the existing healthy mature trees into the overall landscape.

If the removal of a tree is inevitable permission must be sought from the Chief Town Planner.

Further, before a healthy tree is removed all viable alternatives should be considered, e.g. – moving it to a more suitable location as an alternative to cutting it down.

Sin #3

Poor Planting Site Preparation

- Special care must be exercised when preparing the hole for planting. Failure to do this may inhibit root growth, which compromises the tree's ability to withstand storm winds etc.
- Dig a hole about 6 - 12 inches wider and deeper than the root mass of the plant.
- Loosen the soil at the sides and bottom of the hole to improve drainage. Further, loosen the soil on the sides of the hole to facilitate root spread.
- In cases where there is insufficient planting space, the roots usually stay within the original hole and would result in the destruction of the planters and other structural damage.

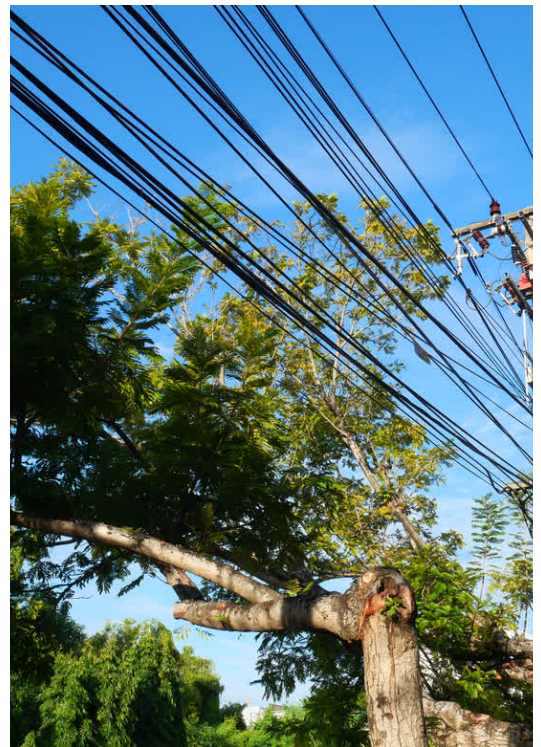


Sin #4

Planting The Wrong Tree In The Wrong Place

Planting the wrong tree in the wrong place will ultimately lead to increased maintenance. Most trees grow between 12 - 15 feet. Therefore one must ensure that the tree is:

- A safe distance from power and telephone lines. (NB. Never prune trees that have encroached on power lines. Contact the relevant authority for assistance).
- A comfortable distance from houses. Never compromise views of street corners, traffic lights, or signs.
- Never plant over or beside sewerage and water lines.
- When selecting a tree for a particular location, it is wise to match the tree species to the site conditions. This consideration should be both spatial (relating to space above and below the surface) and climatic.





Sin #5

Planting Trees Where There Is No Space or In Restricted Growing Spaces

When determining whether a particular tree is suitable to be planted, consider the space limitations of the site.

Although green spaces are desired and encouraged on domestic and commercial sites, failure to consider the above may result in personal and/or structural damage and a decrease in the aesthetic value of the property.

Is there enough space below the surface to encourage a healthy root system?

Is there enough space at ground level to facilitate trunk development?

Is there enough space overhead for canopy height and spread?

Sin #6

Planting Poor Quality Or Damaged Trees

Planting young trees with central branches that are either broken or missing is not advised. Tree stock that is of poor quality will ultimately result in unhealthy mature trees that are structurally unsound. This not only impacts on the aesthetic value of the tree, but may also be regarded as a potential hazard to life and property.



Sin #7

Not Protecting Young Trees

Young trees planted in urban areas need to protect, primarily because they share the same space with humans and animals. It is therefore wise to install protective barriers (tree guards) around small trees to avoid trampling and soil compaction.

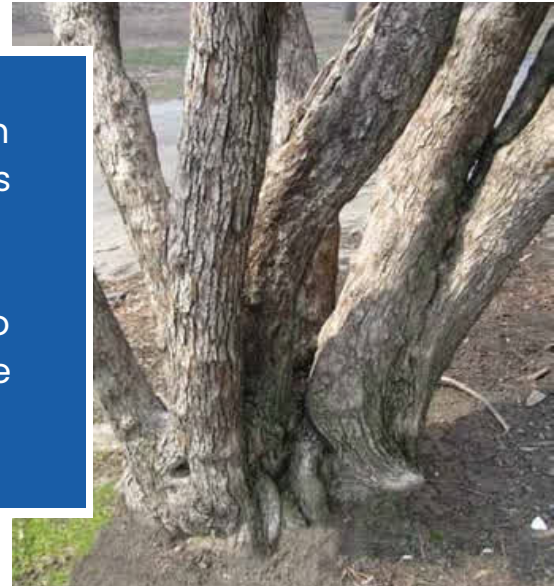
It is sometimes also necessary to stake newly planted trees to avoid wind damage. It is advised however that newly planted trees should only be staked if absolutely necessary. As soon as the trees are sufficiently established and tall enough to be noticed these measures may be discontinued.

Sin #8

Covering The Trunk And/Or Root Crown

Covering the trunk or root crown with soil or mulch creates the type of environment that promotes disease and decay.

The soil level should be even around the tree to maintain an even grade. However, ensure that there is adequate space for trunk and root development.



Sin #9

Improper Pruning

Improper pruning of trees will compromise the health of the trees, resulting in a reduced lifespan. Topping weakens the tree by promoting rapid new growth with weak attachments. When removing branches, avoid flush cuts. Flush cuts destroy the branch collar that forms a natural barrier against the spread of decay into the trunk. However, the correct periodic pruning will:

- Improve the tree's appearance and structure.
- Help reduce the risk of disease or pest infection.
- Reduce potential hazards and damage associated with storms.
- Reduce potential hazards to life and property.
- Individual homeowners may prune small trees, but are cautioned to employ the services of a trained arborist or tree-care professional to prune large trees, which more often than not require special hydraulic equipment e.g crane, pulleys etc.

Sin #10

Pruning Only As A Result of Hurricane Damage

Pruning should be preventable not remedial. Pruning ahead of the hurricane season may minimize the damage to your dwelling or business.

Additionally, maintenance pruning, once done correctly, will promote a tree that is structurally strong and aesthetically pleasing. Special attention should be paid to trees that are more susceptible to wind damage.

Sin #11

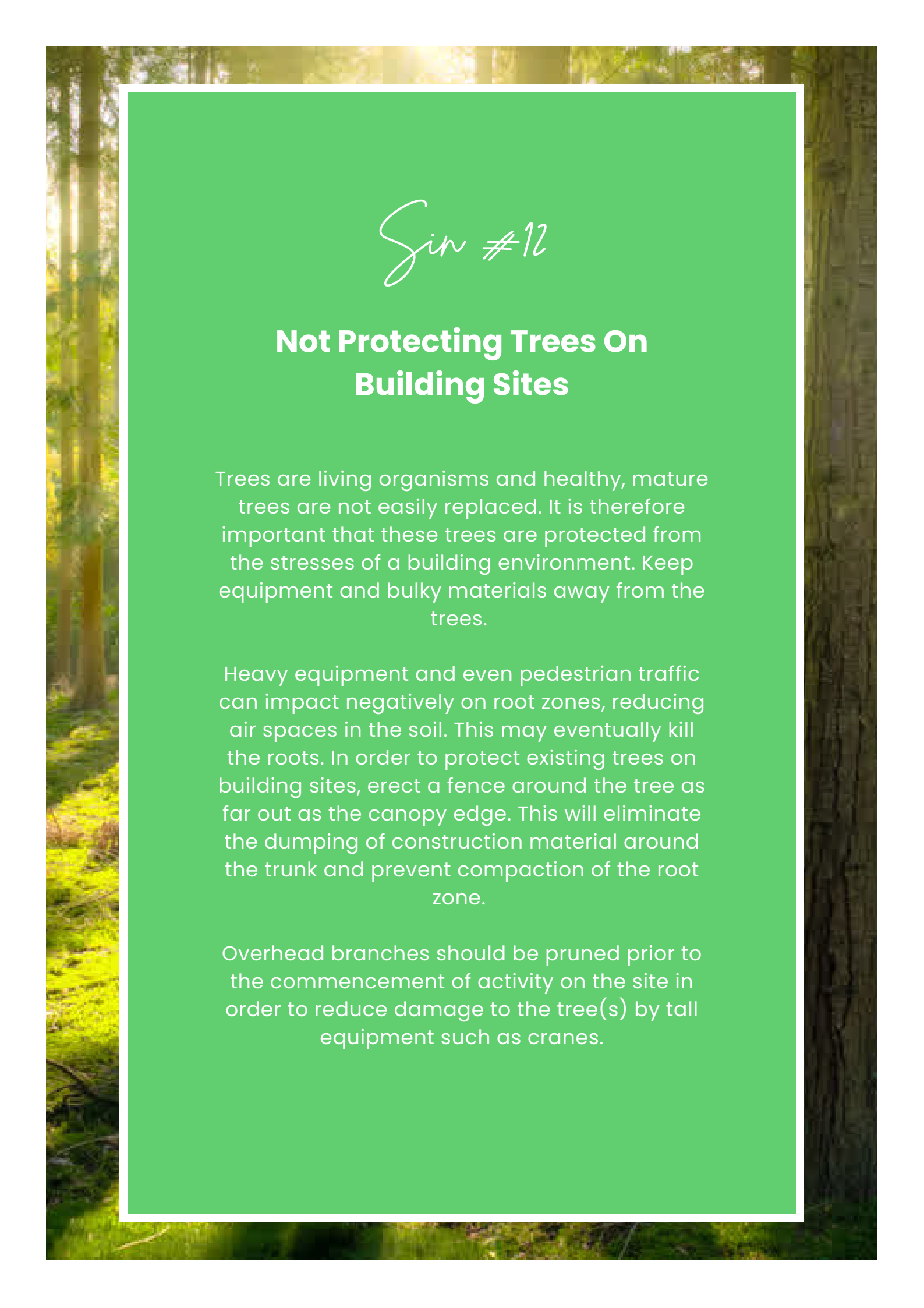
Accidental Wounding Of Root Systems



Too often roots are wounded during the clearing of sites in preparation for the development of some kind.

As a preventative measure, consider erecting a simple fence around the tree as far out as the edge of the canopy.

Major roots that have been cut do not regenerate to their original condition. Injured roots weaken the foundation of the tree, rendering it more susceptible to disease and wind throw.



Sin #12

Not Protecting Trees On Building Sites

Trees are living organisms and healthy, mature trees are not easily replaced. It is therefore important that these trees are protected from the stresses of a building environment. Keep equipment and bulky materials away from the trees.

Heavy equipment and even pedestrian traffic can impact negatively on root zones, reducing air spaces in the soil. This may eventually kill the roots. In order to protect existing trees on building sites, erect a fence around the tree as far out as the canopy edge. This will eliminate the dumping of construction material around the trunk and prevent compaction of the root zone.

Overhead branches should be pruned prior to the commencement of activity on the site in order to reduce damage to the tree(s) by tall equipment such as cranes.



Sin #13

Keeping A Diseased Or Decaying Tree Too Long

Although we do not advocate the removal of trees, we must recognize and accept that all trees have a natural lifespan (some longer than others) and that some species are more susceptible to termite infestation. Therefore, diseased and/or dying trees should be removed.

Failure to remove these trees may eventually result in the loss of life and/or damage to property. However, always replace the trees with one that is healthy and is better suited to the site conditions.

Sin #14

Insufficient Or No After Care

It is vitally important that newly planted trees receive the necessary care after planting. The level of maintenance will differ based on the particular species and site conditions. However, there are some basic principles that must be observed.

- Water newly transplanted trees at regular intervals. It is important that you do not overwater. The amount of water required is only what the soil can absorb.
- Fertilize trees during the second wet season after planting.
- Weeds stifle young plants and steal water and nutrients from the tree. It is therefore necessary to periodically remove weeds.



National Arbor Day

September 22nd

Several concerned agencies joined together to form the National Arbor Day Committee and to re-establish Arbor Day in Barbados after realising the need to reduce deforestation on the island.

A decision was taken to celebrate this day on September 22nd which is very significant in our history, through the promotion of tree planting nationwide. It was the day that hurricane Janet devastated Barbados destroying a large number of the island's mature trees.

One of the main objectives is to initiate activities aimed at further protection of the environment, which would include water conservation, prevention of soil erosion and the protection of biodiversity species, thus enhancing the island's beauty.

Educating the populace, especially the youth, about the importance of the environment and the need to have and plant trees – be it at their homes, at their schools or within their communities is another major focus.

In addition the contribution of service clubs must be recognised as they have played an integral role within the communities. These clubs have always been willing to assist in distributing and planting trees throughout the island.

The best time to plant a tree
was 20 years ago. The
second best time is now

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