A Guide to Replacing Hawaiian Seagrape with Native Plants

For more information, please contact:
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This project is supported by the GEF Small Grants Programme
http://www.sgpbahamas.org/
This booklet is intended as a guide to help the home gardener or landscaper identify and manage Hawaiian seagrape and other invasive plants. Inside you will find helpful gardening tips, information about The Bahamas’ strategy to combat invasive plants and a helpful guide to selecting native alternatives to invasive plants you may have in your yard. This booklet is intended to encourage the use of native plants to increase biodiversity and support a healthy environment in Abaco.

This booklet was funded by the Global Environmental Fund Small Grants Program under the project title “Promoting biodiversity by replacing invasive Hawaiian seagrape plants with native vegetation on Abaco, Island”. This project supports FRIENDS’ 2012-2014 strategic plan goal of reducing invasive Hawaiian seagrape on Abaco.

Mission: Friends of the Environment works to preserve and protect Abaco’s terrestrial and marine environments in order to achieve sustainable living for the wildlife and the people of Abaco.

For more information:

Center for Invasive Species and Ecosystem Health. [http://www.invasive.org/browse/subinfo.cfm?sub=6390](http://www.invasive.org/browse/subinfo.cfm?sub=6390)
Friends of the Environment. [www.friendsoftheenvironment.org](http://www.friendsoftheenvironment.org)

Photos:
Abaco Parrot by Perry Maillis
Snakes by Nancy Albury

Notes
SUGARLAND NURSERY
GARDENING TIPS

By Mike Parotti

- **Step 1, identify your plants.** Before landscaping, take a look around and identify all the invasive plants so that you can plan to remove them and replace with native plants.

- **Use Natural Fertilizer.** Compost sargassum to make an excellent natural fertilizer. First, prepare the seaweed by letting it sit for a while and allowing rain to rinse the salt off.

- **Recycle newspaper.** When planting a new tree place strips from 2-3 pieces of newspaper in the bottom of the hole before adding the plant and soil. The newspaper stays moist, which helps the plant. Also, the paper eventually breaks down and adds to the soil.

- **Collect rain water!** Use a rain barrel to save rain water and use it for your garden. Consider adding troughs to the roof of your garden shed or garage in order to collect extra rain water.

- **Use a Natural Insecticide.** Soapy water mixed with a tea made from neem leaves* will get rid of the "white fly pest". (*Mike says Neem makes a great insecticide!)

The following is a list of native and naturalized plants that are available from Sugarland Nursery. You may need to order ahead of time; most native plants can be sourced on request. Call 577-0455.

<table>
<thead>
<tr>
<th>Native Plant</th>
<th>Naturalized Plant</th>
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</thead>
<tbody>
<tr>
<td>Buttonwood (silver and green)</td>
<td>Native lemon</td>
</tr>
<tr>
<td>Orange Geiger</td>
<td>Key Lime</td>
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<tr>
<td>Yellow Elder</td>
<td>Sour Orange</td>
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<tr>
<td>Horseflesh</td>
<td>Guinep</td>
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<tr>
<td>Lignum vitae</td>
<td>Seagrape</td>
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<tr>
<td>Madeira</td>
<td>Brasiletto</td>
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<tr>
<td>Cassia</td>
<td>Aloe (Bahamian and Mexican)</td>
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<tr>
<td>Pigeon plum</td>
<td>Prickly Pear Cactus</td>
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<tr>
<td>Cocoplum</td>
<td>Dildo Cactus</td>
</tr>
<tr>
<td>Strong back</td>
<td>Barbed Wire Cactus</td>
</tr>
<tr>
<td>Five Finger</td>
<td>Bay Cedar</td>
</tr>
<tr>
<td>Sugar Apple</td>
<td>Bay Lavender</td>
</tr>
<tr>
<td>Sour Sop</td>
<td>Bay Geranium</td>
</tr>
<tr>
<td>Tamarind</td>
<td>Sea Oats</td>
</tr>
<tr>
<td>Sapodilly</td>
<td>Sea oxeye daisy</td>
</tr>
<tr>
<td>Sugar Cane</td>
<td>Sailor Caps/Periwinkle (incl. white medicinal variety)</td>
</tr>
<tr>
<td></td>
<td>Palms - (Thatch and Silver Top)</td>
</tr>
<tr>
<td></td>
<td>Mastic</td>
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</tbody>
</table>

**About Hawaiian Seagrape**

- **Common Name:** Hawaiian seagrape, Hawaiian half-flower
- **Scientific Name:** Scaevola taccada
- **Region of origin:** Pacific
- **Status in Bahamas:** Alien Invasive
- **Typical Use:** Hedge, shrubs

**Left:** A close up of Hawaiian seagrape shows how the plant got the nick-name “Half-flower”.

**Right:** Small white berries which float help the plant spread throughout the islands.

Hawaiian seagrape seeds.

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Photo from: Flora of Singapore

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Sargassum by Matt Hallet
How to remove Hawaiian Seagrape?

The object is to get near the various multi stems that make up the sea grape.

1. Start by cutting away as much of the numerous branches that are in your way, leaving two- to three-foot of main stems exposed. This will allow you to grab the base of these stems, one at a time, with strong leverage to gradually pull the stem out with as many roots as possible attached. Start with the smaller, outer stems first and work your way into the larger, older stems last, as these will likely have the most roots attached.

2. You may not get all the roots, so you'll have to keep an eye on re-sprouting bushes in a month or two, which will then be easier to pull out. You may have to do this a third time to get everything out. The branches and roots should be disposed of, preferably to the dump.

3. If you are replanting, depending of course on your particular site, you may want to try groups of native plants, such as five or six 18-inch tall sea grapes, planted 2-3 feet on center, that will form a substantial grove, with smaller plants around the edges or at least sheltered from the predominant winds of your site.

Tips:
• Do not mulch Hawaiian Sea grape to place back in your garden because the pieces of roots will grow new plants - think of the Hydra of Greek Mythology!
• Once you remove the Hawaiian Sea grape check the ground early and often over the next month or so. These plants are much easier to remove when they are a few inches high!
• Till up the soil and add water and fertilizer when you plant your new trees. Your new plants may need regular watering for a week or two if there is no rain, after that they should be established and will take care of themselves.

What you will need:
Loppers
Bow Saw
work gloves
Appropriate clothing
Trash bags
native plants
Determination!

What do I?:
• Save money on landscaping and water usage
• Better protect my property from storm damage
• Ensure privacy and increase property value
• Attract wild birds
• Naturally control pests

Plant Native!
• Selectively clear your lot only enough for the footprint of your home, driveway etc. By avoiding clear-cutting your property you save valuable top soil and help prevent erosion.
• Don’t underbrush in areas you aren’t going to use. The native scrub understory (and overstory) provides food and habitat for native birds and other wildlife AND act as a perfect natural privacy fence for your yard.
• Native plants are practically maintenance-free, are very wind and salt tolerant, and require little water.

Be Considerate of Native Fauna:

Be kind to snakes. Three species of snake reside in Abaco - The Bahama Boa Constrictor, Brown Racer and Worm Snake. These are all non-venomous. Snakes are valuable for gardeners and homeowners because they eat rats, roaches and other pests!

Monitor your pet. Keep cats indoors, especially at night when they are more prone to hunt. Attach a bell to your cat’s collar to act as an early warning system for birds and lizards that it may prey on. Those birds and lizards are the ones who help control pests in your garden! Spay/Neuter your pets to help reduce the number of feral cats and dogs on the island.

Native plants provide food and shelter for native and migrating birds. Having a variety of native plants in your yard means you will be likely to attract some interesting birds.

Abaco Boa by Nancy Albury
Worm Snake by Nancy Albury
Abaco Parrots eating Gumelemi berries,
by Perry Maillis
Abaco Boa by Nancy Albury
Worm Snake by Nancy Albury
Plant these native alternatives to Hawaiian seagrape:

- Seagrape
- Cocoplum
- Sea Lavender
- Buttonwood
- Spider Lily
- Sea Oats
- Sea Oats
- Sea Oats
- Sea Oats

About Invasive Alien Species

What is an Invasive Alien Species?

Alien species are any type of organism that originates from another country or region of the world. This can include animals, plants, fungi and types of microorganisms.

Alien species are most often transported by humans, either by travel or trade. This is one of the reasons why immigration forms ask if you are carrying food or have been to a farm recently; they are hoping to prevent the transport of new species via produce or even soil on the soles of your shoes.

Ships traveling long distances often take on ballast water in their port of origin and release that water at their destination. This provides a pathway for organisms in that water to be transported across the world and end up in a place that they wouldn’t arrive in through natural processes.

Because these species may arrive in small numbers some do not survive because they are unable to find mates to reproduce, or the environmental conditions do not provide what they need. However, if the species do find suitable habitat, food, mates, and other necessary elements they can survive in their new environment. Invasive alien species push the boundaries beyond survival and overtake native organisms, out-competing them for food and space.

When invasive alien species establish themselves, they can weaken the natural environment by reducing the diversity of native species. For example, when Hawaiian seagrape or Casuarina take over a coastal area previously occupied by a mix of native Seagrape, Sea lavender, Sea oats and Ink berry.
The Convention on Biological Diversity notes common characteristics of Invasive Alien Species as:
- rapid reproduction and growth
- high dispersal ability
- ability to physiologically adapt to new conditions
- ability to survive on various food types
- ability to survive in various environmental conditions

Areas disturbed by human development are more susceptible to the establishment of invasive alien species. Take a look along our roadsides and at clear cut property and you will notice invasive plants taking root.

How you can help:
- Prevent the spread of invasive species. Follow the Voluntary Code of Conduct for the Gardening Public and the code for Landscape Architects.
- Eradicate or Control where possible. This is challenging, but isolated areas may exist where it is possible to remove the invasive species.
- Restore. Where possible, restore the area to its natural state. If you remove invasive plants, replace them with native alternatives to help hold the soil and re-build the habitat.

<table>
<thead>
<tr>
<th>Common Uses</th>
<th>Invasive Species</th>
<th>Good Substitutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windbreaks, hedges, medium sized trees</td>
<td>Casuarina, Hawaiian seagrave</td>
<td>Green &amp; Silver Buttonwood, Native sea grape, Green Coco plum</td>
</tr>
<tr>
<td>Flowering trees and shrubs</td>
<td>Orchid tree, Brazilian pepper, Schefflera, Fig/ Ficus</td>
<td>Native frangipani, Geiger tree, Lignum vitae, Necklace pod, Yellow elder, Bay Cedar</td>
</tr>
<tr>
<td>Ground cover and accents</td>
<td>Hawaiian seagrave, Brazilian pepper</td>
<td>Railroad vine, Sea purslane, Sea oxeye daisy, Sea oats, Spider lily, Bay geranium, Sea rocket</td>
</tr>
<tr>
<td>Palms</td>
<td>Traveler’s Palm, Manila Palm / Christmas Palm</td>
<td>Sabal or cabbage palm, Silver topped palm, Buccaneer palm, Thatch palm</td>
</tr>
</tbody>
</table>

There are many native substitutes to popular non-native landscaping plants. Planting native may cost a few cents more, but those costs pay off in the long run in lower maintenance, watering and replacement costs.
Voluntary Code of Conduct for Landscape Architects
(Bahamas National Invasive Species Strategy)

- Work with local plant ecologists, horticulturists, nurseries, botanic gardens, conservation organizations and others to determine what species in your region either are currently highly invasive or show aggressive potential.
- Increase interaction with other professionals and non-professionals to identify alternative plant material and other solutions to problems caused by harmful invasive plants.
- Take advantage of continuing education opportunities to learn more about the invasive species issue.
- Identify and specify non-invasive species that are aesthetically and horticulturally suitable alternatives to invasive species in your region.
- Eliminate specification of species that are invasive in your region.
- Be aware of potential environmental impacts beyond the designed and managed area of the landscape plan (for example, plants may spread to adjacent natural areas or cropland).
- Encourage nurseries and other suppliers to provide landscape contractors and the public with non-invasive plants.
- Collaborate with other local experts and agencies in the development and revision of local landscape ordinances. Promote inclusion of invasive species issues in these ordinances.

Species recommended for Eradication

<table>
<thead>
<tr>
<th>Species recommended for Eradication</th>
<th>Species recommended for Control</th>
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</thead>
<tbody>
<tr>
<td>Casuarina glauca</td>
<td>Albizia lebbeck</td>
</tr>
<tr>
<td>Melaleuca quinquenervia</td>
<td>Antigonon leptopus</td>
</tr>
<tr>
<td>Mucuna pruriens</td>
<td>Bauhinia variegata</td>
</tr>
<tr>
<td>Scaevola taccada</td>
<td>Casuarina equisetifolia</td>
</tr>
<tr>
<td>Schinus terebinthifolius</td>
<td>Delonix spp.</td>
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<tr>
<td></td>
<td>Eichhornia crassipes</td>
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Species recommended for Control

<table>
<thead>
<tr>
<th>Species recommended for Eradication</th>
<th>Species recommended for Control</th>
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<tbody>
<tr>
<td></td>
<td>Almond</td>
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<tr>
<td></td>
<td>Castor Bean</td>
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<td></td>
<td>African Tulip Tree, Flame of the Forest</td>
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<td></td>
<td>Schefflera, Queensland Umbrella Tree</td>
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<td></td>
<td>Star Jasmine</td>
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<td></td>
<td>Wedelia (carpet daisy)</td>
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All plant species listed here are invasive in The Bahamas. Some of the species recommended for eradication have the greatest negative impact among invasive plants. Although, the Suckering Australian Pine may make the list because it doesn’t spread as easily as Casuarina, so it would be simpler to eradicate. The list of species recommended for control is much longer and care should be taken to manage these in areas where they are causing damage to the environment. See the Voluntary Code of Conduct to learn how you can help stop the spread of invasive plants.
Top Three Invasive Plants of Concern in Abaco

http://www.friendsoftheenvironment.org/abaco/invasive-plants/

Voluntary Code of Conduct for the Gardening Public
(Bahamas National Invasive Species Strategy)

- Ask for only non-invasive species when you purchase plants. Plant only environmentally safe species in your gardens. Work towards and promote new landscape design that is friendly to local ecosystems.
- Seek the best information on which species are invasive in your area. Sources could include botanical gardens, nurseries, horticulturists, conservationists and Government agencies.
- Remove invasive species from your property and replace them with non-invasive species suited to your site and needs.
- Do not trade plants with other gardeners if you know they are species with invasive characteristics.
- Request that botanical gardens and nurseries promote, display and sell only non-invasive species.
- Help educate your community and other gardeners in your area through personal contact and in such settings as garden clubs and other civic groups.
- Ask garden writers and other media to emphasize the problem of invasive species and provide information. Request that garden writers promote only non-invasive species.
- Invite speakers knowledgeable on the invasive species issue to speak to garden clubs, schools and other community groups.
- Seek the best information on control of invasive plant species and organize neighbourhood work groups to remove invasive plant species under the guidance of knowledgeable professionals.
- Volunteer at botanical gardens and natural areas to assist ongoing efforts to diminish the threat of invasive plants.
- Participate in early warning systems by reporting invasive species you observe in your area to the relevant authority, i.e. the BEST Commission, Department of Agriculture or the Botanical Gardens.
- Assist garden clubs to create policies regarding the use of invasive species not only in horticulture, but in activities such as flower shows.
- Urge florists and others to eliminate the use of invasive plant material.