

Weeds are Still “Weeds” in Paradise

by “Weedman” Dan Clark

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While working on wildland weeds for the Florida Department of Environmental Protection and the City of Sanibel, I often thought that the plants we learned to despise (usually accompanied by a great deal of respect) were from enticing, tropical, far-away places. When you scan the origins of the plants targeted for management and control in Florida found in Ken Langeland and Kathy Burks’ book, *Identification & Biology of Non-Native Plants in Florida’s Natural Areas* (Langeland and Burks, 1998), visions of places like Africa, Southeast Asia, Australia, Madagascar, and Tropical America are conjured in the imagination. I can’t count the number of times I thought to myself, “It sure would be cool to be someone like Dan Thayer (South Florida Water Management District), Dr. Jim Cuda (University of Florida) or Greg Jubinsky (Florida Department of Environmental Protection) and go visit some of those places and see our invasive exotic plants in their native range behaving appropriately. It’d also be pretty cool to work with people of other countries to exchange information on plants we’re concerned about and see what plants they’re combating.”

For me, wildland weed work and graduate school years passed and a wise friend of mine, Dr. Randall Stocker of the University of Florida’s IFAS Center for Aquatic and Invasive Plants, told me that if I was interested in weeds and tropical places, we needed to write a grant to get there and take a look. Now on the surface, writing a grant to a federal agency that includes extended periods of time conducting weed research in a tropical paradise seems a bit “over the top,” but upon reevaluating and removing a request for a 45’ sailboat, our grant proposal had the gist of your typical North Georgia kudzu research proposal except we’d substitute Carnival for winter. After grant approval and the big move, I quickly found that when you move from the Southeast United States to a small Caribbean Island that is a world-class vacation destination, your personal and professional friends become even closer, especially around the time Santa comes to Spring Break. Since I’d like



Maho Bay, Virgin Islands National Park (St. John)

to think that I choose friends of a high caliber, I don’t fault a single one.

On a slightly serious note, Caribbean weed research, management and control are not all rum drinking on a hammock gently swinging in the trade winds. Some of it is, but mostly it entails the tried and true methods of getting out in the woods with armloads of field and scientific apparatuses and contraptions, sweltering in the heat, and being cut, scratched, poisoned and bit by sundry flora and fauna. The lure of the tropics is strong when you visit on a cruise ship, however interns that have worked here find themselves longing for the cool autumn days in Tennessee when they don’t have to cut and drag tree limbs in the Anacardiaceae family through a cactus/thorn scrub.

Seemingly a boondoggle by my inner circle, the research project and National Park Service partnerships have been met with approval from the U.S. Department of Agriculture, the National Park Service, and surrounding Caribbean nations. Like many areas in the United States, invasive exotic plants in the Caribbean are not well understood. There is little scientific literature discussing the effects of these plants on native ecosystems, how to manage and control them, and what really belongs (is native) versus what we, the “experts” (who are often introduced, invasive, exotic species ourselves) profess to be non-native.

These are the age-old battles you’re already familiar with. Reviewing the *Flora of St. John* (Acevido-Rodriguez, 1996), I found that of the approximately 750 plant species described on the island, about 18 percent are non-native. The ratio is similar but slightly lower than that of Florida. The lower ratio is probably due to the fact that over 60 percent of the island is preserved as the Virgin Islands National Park. More important than the percent of non-native flora is the coverage of that flora.

A cursory examination of the distribution and abundance of invasive exotic plants in the U.S. Virgin Island natural areas is a part of the work underway. Another facet of the work involves applied research in the Virgin Islands National Park to look at the effects of several invasive exotic plants on the native flora. After introduction to the islands, species such as *Triphasia trifolia* (Rutaceae) and *Melicoccus bijugatus* (Sapindaceae) have become naturalized and have drastically expanded their range over several hundred years. Stem counts for *T. trifolia* have exceeded 38,000 per hectare and questions regarding the effects of these plants hopefully will be answered soon. Restoration using native plants after removal of invasive exotics also is being examined.

As important as it is to ask and answer questions about invasive exotic plants, it is

equally important to formulate a management plan and strategy to control these plants in natural areas. The National Park Service has recognized this fact and formed Exotic Plant Management Teams (EPMT) around the United States and in Hawaii to combat the exotic plants infesting nearly 2.6 million acres of NPS land. The teams are designed after the strategic coordinated response efforts used in wildland fire fighting. This year, the NPS expanded the Florida Partnership EPMT to include the Caribbean and it is now called the Florida/Caribbean EPMT. The same partnership (Florida DEP and NPS) that has been so effective in managing and controlling invasive exotic plants in Florida since 1999 is working similarly in the Caribbean.

Working with Tony Pernas, NPS Exotic Plant Management Specialist and Florida/Caribbean EPMT Liaison, the first weed management project of its kind known in the Caribbean has been funded and is scheduled to commence this winter on Buck Island just north of the U.S. Virgin Island of St. Croix. This 174-acre island is the terrestrial portion of the Buck Island Reef National Monument and eight invasive exotic plant species are targeted for initial treatment over a six-week period. Although the project may seem small in relative size to many in the United States, the topography and logistics make it difficult. However, positive results are expected. Several plant and animal species listed as federally threatened or endangered, and territorially protected, should benefit from the removal of nearly all invasive exotic plant species on the island.

While working in close proximity to so many different nations that have similar flora and issues of plant invasion and importation, I've been communicating with representatives of some of them to begin to form Caribbean Basin partnerships on behalf of the U.S. National Park Service. To date, the Director of the National Regional Parks of Martinique, the Minister of Agriculture and the Environment of the Dominican Republic and staff of several other Caribbean nations are beginning to discuss the management and control of invasive exotic plants in natural areas of their countries. Collaborations are blossoming between the U.S. National Park Service and other Caribbean nations for the exchange of technical expertise and other information related to management

and control of invasive exotic plants in Caribbean natural areas.

A final thought surrounds a main concern of local citizens of the U.S. Virgin Islands with regards to managing invasive exotic plants with a long history in the Caribbean. Many species and individual plants have significant historical value and definitive knowledge of their exact origin is sometimes sketchy. Trees still exist that provided shade for slaves working on sugar cane plantations in the 17th century, many species were brought by Europeans during the discovery and colonization of the islands in the early 16th century, and some species are thought to have been brought here from Tropical South America by the aboriginal Taino Indians thousands of years ago. It could be overwhelming to consider the many issues surrounding culturally and historically significant exotic plants in an area where many people truly care about and connect with them at a deep level. I had never considered the issue at the magnitude it is here where one can readily see trade routes from Venezuela being developed a couple of thousand years ago with nominal vessels like sailing canoes. In the area of the Virgin Islands alone, one can look out from a tall mountain (1500') and see 50-60 different islands easily reached in one day by paddling. After pondering the dilemma, I saw a need to shed some of my "purist" attitude and concede that there are some exotic plant individuals in the Virgin Islands and in the National Park (and some whose species demonstrate truly invasive potential that has already been realized) that need to be protected for these values in spite of their current biological drawbacks. I have begun to prompt park managers to examine ecosystems under their stewardship and manage species for the purpose stated in the park's mission: "To conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." That stewardship can include preserving specific individuals while controlling many of the same species within the park. The public and park staffs have been receptive to this notion so far.

The invasive plant work in the Caribbean is fulfilling and there is much to



Triphasia trifolia

do. Life here is fraught with challenges but the rewards are equally splendid. After being a member of the U.S. Coast Guard for 21 years, I never thought some people would know me only as "The Weedmon," and not by my name. Oh well, as long as they know which weeds I work with. I wonder what Thayer, Cuda, and Jubinsky did today? Oh well, back to the hammock, rum needs some ice!

For more information, contact Dan Clark at Daniel_Clark@nps.gov

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