

Small and Big Measures of Success — A Nice Surprise

by Chris Lockhart, photos by Sam Wright, Fairchild Tropical Botanic Garden

The white flowers of a small ground cover plant dotted the disturbed landscape, catching the eye of Florida Natural Areas Inventory (FNAI) biologist Chris Lockhart. During a routine invasive plant survey at John U. Lloyd Beach State Park (Lloyd SP), she discovered them spreading onto a bed of mulched Australian pine (*Casuarina equisetifolia*). Chris pointed it out to Park Service Specialist Carmelo Duesler and took a small sample to identify over lunch. What a lunch time treat! It was easily determined to be the federally endangered beach clustervine (*Jacquemontia reclinata*)!

The area of discovery was one of a few sites where this Category I invasive non-native plant has been removed from Lloyd SP over the past several years, along with Brazilian pepper (*Schinus terebinthifolius*), punk tree (*Melaleuca quinquenervia*), lather leaf (*Colubrina asiatica*), beach naupaka (*Scaevola taccada*) and mahoe (*Talipariti tiliaceum*).

In the 1970s, before Lloyd SP became a state park, numerous areas were overcome with the shade-providing but gangly Australian pines. Typical of an Australian pine infestation, few plants grew in the understory except other invasive plants such as air potato (*Dioscorea bulbifera*) and oyster plant (*Tradescantia spathacea*). This was likely due at least in part to compounds in the leaves of the pines that retard the germination and growth of seedlings (1, 2, 3) and a thick duff layer, allowing the trees to tower over their territory with little competition. The “she-oaks,” as they are called in Australia, are more closely related to oaks than pines, which accounts for their very hard, dense wood. Although great for shade, the sterile ground under these trees provides poor wildlife habitat; and along the beach, their gnarly roots can entangle sea turtles that come ashore to nest.

Restoration is a gradual process. After decades (or, in this case, roughly a century) of tree invasion, the basis of recovery is formed by removal, replanting and monitoring. Mangroves have since been planted along Lloyd SP’s entrance road, offering wildlife habitat, erosion control and a shaded drive. Native trees, shrubs and groundcover plants have gradually grown to fill in the gaps. And gaps there were, especially in areas where the Australian pine once formed dense stands.

The project to remove Australian pine and other invasive plants from Lloyd SP was completed in 2005. Mulch remained and various good and bad trees, shrubs and groundcover plants began to claim territory in the newly found sunlight. In the late 1980s or early 1990s, a sighting of the beach *Jacquemontia* was reported from Lloyd SP. Until now, its presence could not be substantiated. The recent find has stimulated new interest.



Flower close-up, *Jacquemontia reclinata*

Botanists Amy Jenkins (FNAI) and Sam Wright (Fairchild Tropical Botanic Garden) were hot on the trail. Sam visited Lloyd SP a couple of times, not only to confirm the rare find, but to document the extent of the population. What started as a small delight turned out to be one of the larger populations of beach *Jacquemontia* in Florida.

Sam described some reactions to the find. “There was an invasive removal crew at John U. Lloyd the day I went to survey the plants. I told them about the *Jacquemontia* appearing after the invasive plant removal. One crew member responded by saying ‘that makes me happy...That can keep me going for another three months.’ I think it would be great for these and other crews to know that their work really is improving conditions for rare plants. Native plants and habitats are more resilient than we give them credit for. With restoration projects we sometimes don’t have the patience (for whatever reason) to allow natural succession to revegetate an area. We feel the need to plant right away, but the seed bank is there and it’s just waiting to be released. Time and time again I have observed rare plants reappearing after invasive removal.”

The Florida Department of Environmental Protection, Division of Recreation and Parks has done (and continues to do) a terrific job on the removal of invasive non-native plants and subsequent restoration. There are currently over 130 species listed as invasive non-native plants by the Florida Exotic Pest Plant Council (www.fleppc.org), and plenty of work remains. Restoration efforts give the native flora and fauna a new chance



for life. It's a struggle sometimes, with the pressure of urbanization and threats of climate change, but discoveries like this lift the spirits of scientists, nature lovers and work crews alike. There's hope for some of our rare species out there – one step at a time.

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Orange flags mark individual Jacquemontia plants growing through Australian pine leaf litter and mulched invasive plants.

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