

# FRIENDS OR FOES? THE PROBLEM OF SOUTH FLORIDA'S INVASIVE MANGROVES

## The Problem

In the 1940s, renowned American botanist David Fairchild planted two specimens of the common Asian mangrove *Bruguiera gymnorhiza* at his home in Miami (today a botanical garden known as The Kampong). Approximately 30 years later, at Fairchild Tropical Botanical Garden, horticulturists planted a second exotic species of mangrove from Asia, *Lumnitzera racemosa*.

For decades both species remained contained to their respective locations. However, both species “escaped” and have since naturalized and spread.

The aquarium trade, a popular activity in Florida, is also a cause for concern. Many species of mangroves can be procured online to decorate tanks to look like natural shorelines.

### *Bruguiera gymnorhiza* (L.) Lamk.



Photo credit: Everglades Cisma



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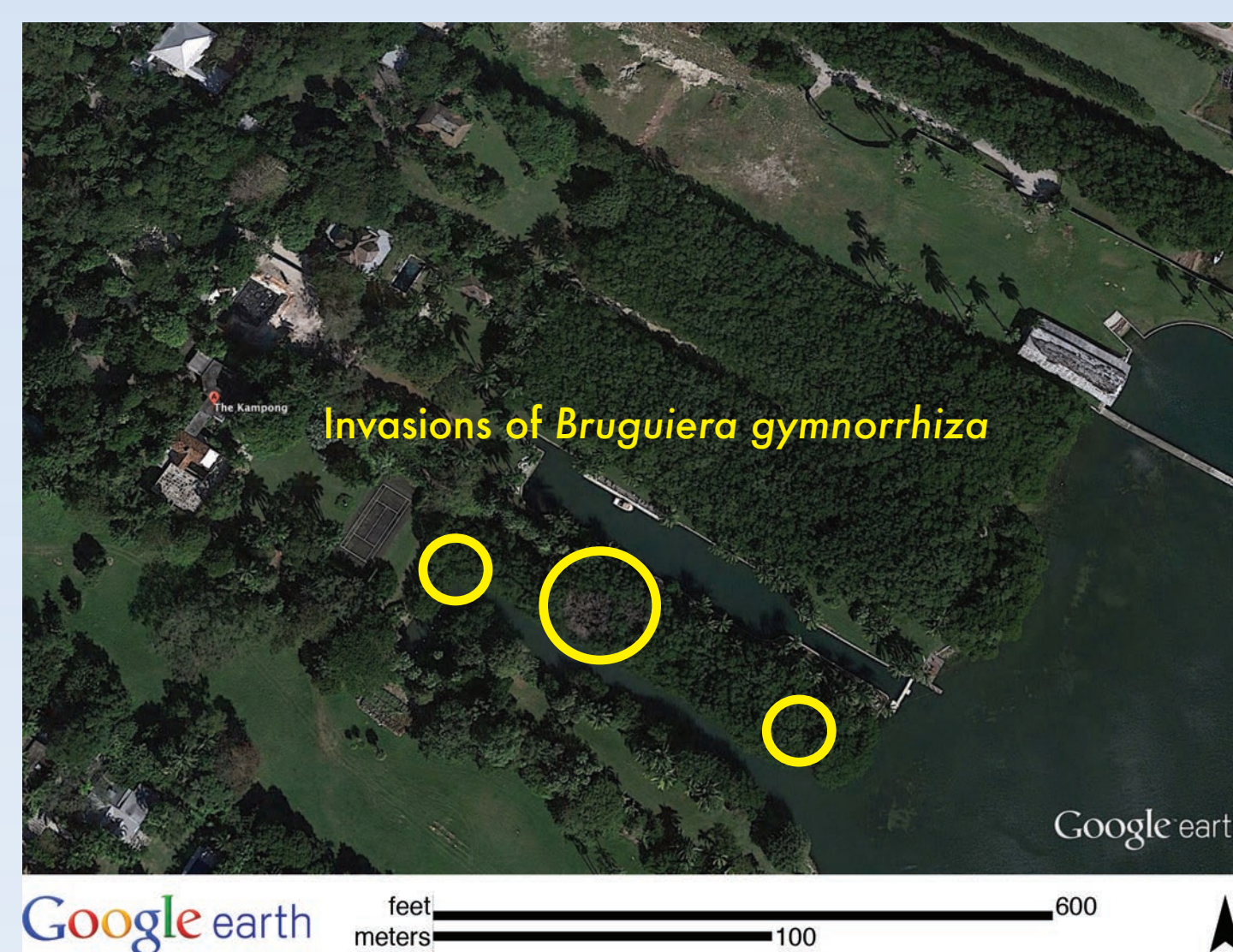
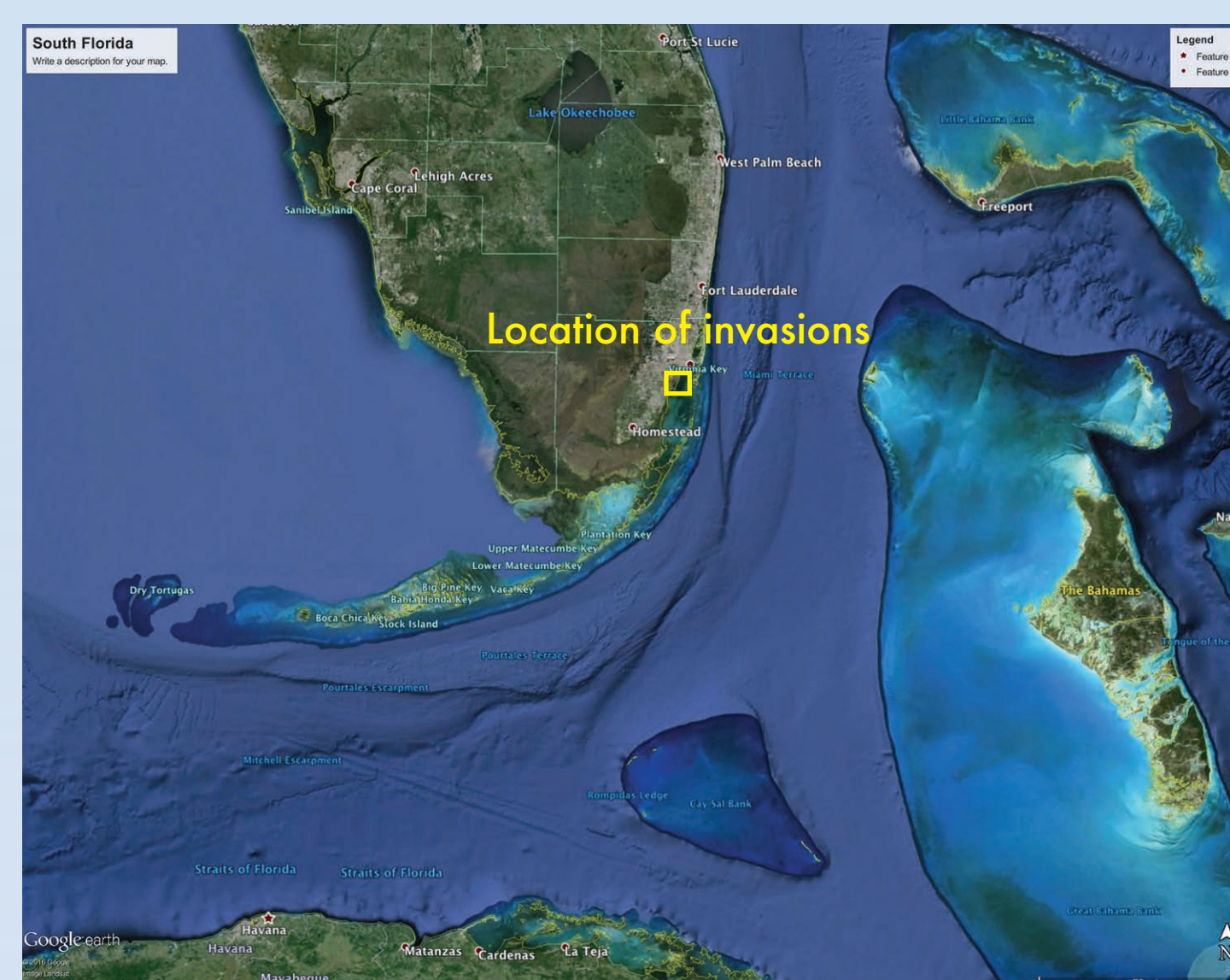
Photo credit: Everglades Cisma

## Current Status

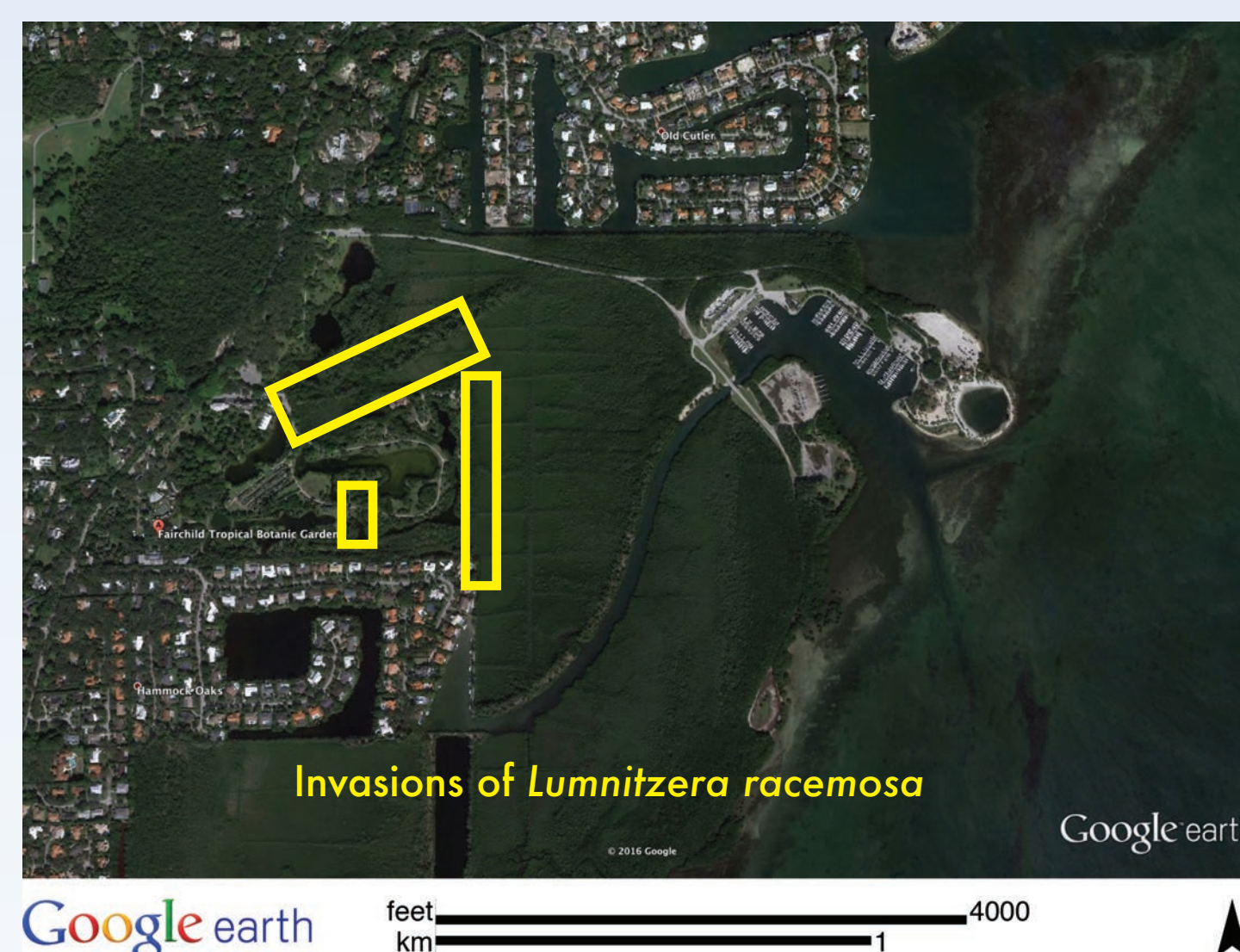
The *Lumnitzera* invasion was initially found in 2008. By 2010 the invasion near Fairchild Gardens had covered ~20 acres. The invasion forced the initial removal of 20,000 plants. In 2012, around 17,000 saplings were removed, 7500 in 2014, and 1380 in 2015. From these numbers it appears that the *Lumnitzera* invasion is slowly being controlled.

A similar story line emerges for *Bruguiera*. Nearly 90 saplings were found in the botanical garden, motivating the decision to remove the parent tree. Since the removal, many saplings continued to appear and another mature tree was discovered half a mile from The Kampong. Scientists suggest that the Kampong trees had been releasing propagules, floating mangrove seeds into nearby water bodies for over half a century.

### Sites of invasions



### The Kampong



### Fairchild Tropical Garden

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## Our Proposal

Uncertainty remains as to the complete success of the eradication efforts. An essential part of an effective precautionary approach to management of invasive mangrove species requires integration of such an approach into the legal framework.

*Lumnitzera racemosa* and *Bruguiera gymnorhiza* should be listed on the Florida Noxious Weed List. The Mangrove Trimming and Preservation Act should be referenced as the authority by which state and local agencies can engage in eradication and management strategies for these species. Finally, a Florida Invasive Species Council should be established in order to promote horizontal and vertical integration between different levels and areas of government. This council should facilitate invasive species policy in the state by commissioning scientific studies, adopting risk assessment techniques to prioritize eradication, overseeing thoughtful and impactful use of funding, and assisting with planning strategies and management techniques.

### *Lumnitzera racemosa* Willd.



Photo credit: Jennifer Possley

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