Phyllanthus fluitans: A New Invasive Species in the Peace River
A Brief History

- Scientific Name: *Phyllanthus fluitans*
- Common Name: Red root floater
- Native to swamps and rivers in Central and South America from Mexico to Peru, Paraguay, Bolivia, and Brazil
- Genus *Phyllanthus* contains 650-1,200 species worldwide, but only two are aquatic:
  - *P. fluitans* (floating)
  - *P. leonardianus* (submersed) from Zaire.
Description

- It is a floating aquatic.

- The foliage leaves are arranged in two vertical rows, as leaves on opposite sides of a stem, light blue-green in color, 1 to 2 cm long, and they typically lie on surface of the water.

- Each foliage leaf has two large pockets, these pockets being located to the left and right of the leaf median, respectively.

- Flowers are minute (ca. 2 to 4 mm wide) and whitish.
Chronology of Florida Occurrence

- Found August 27, 2010 in a canal attached to the Peace River near Fort Ogden by Dr. George Wilder from the Naples Botanical Garden who reported it to FWC

- In September/October 2010, after intense surveying, it was determined the furthest northern extent was 26 river miles upstream from the most southern location

- In November 2010, SWFWMD staff treated all *P. fluitans* plants found in the entire 26 mile stretch of the river

- In 2011, scattered plants were found from Arcadia south probably pushed out of wetlands due to high water events
Peace River Watershed
Surveying

Conducted by:
- Boat
- Walking

Credit: Michael Sowinski FWC
Credit: Charles Cook DEP BMMR
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Control Measures

SWFWMD staff sprayed the aquatic herbicide Knockout (active ingredient diquat dibromide) to kill the plants.

Before Treatment

After Treatment

Photo Credit: Michael Sowinski FWC
Mis-identification

May be confused with:

- *Salvinia minima*
- Immature water lettuce (*Pistia stratiotes*)

Duckweed

Red root floater

*Salvinia minima*

Water Lettuce
Reproduction

Plants reproduce by:

- Seeds
- Runners/stem fragments

Credit: Kelle Sullivan FWC
Growing Requirements

- pH 5.0 to 8.0 (slightly acidic)
- Water temperature 70-86°F or 21-30°C
- Soft to medium hard water
- Bright lighting (does poorly in shade)
- Needs iron and micronutrients to thrive

- According to FDEP’s Lists Of Impaired Waters for Cycle 2 Group 3 Basins verified on 1/15/10 the Lower Peace River is impaired for iron
Getting the Word Out!

- Co-authored an article with Dr. Wilder for Wildland Weeds (Fall 2010, Volume 13, Number 4)

- FWC Weed Alert was made and distributed

- Visited nurseries, canoe rental businesses, and parks from Arcadia north to talk with property managers

- Completed an article for Aquatics (Winter 2011, Volume 33, Number 3)
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Michael Sowinski – Florida Fish & Wildlife Conservation Commission
2001 Homeland-Garfield Road, Bartow, FL 33830
michael.sowinski@myfwc.com
Office: 863-534-7074 x230, Fax: 863-534-7181