

Invasive seagrass *Halophila stipulacea* discovered on Saba

Park ranger Jelle van der Velde has identified the presence of *Halophila stipulacea* at the Queen B. II mooring east of Fort Bay. The discovery, made last month, is the first time this invasive species of seagrass has ever been recorded on the island. All five other Dutch Caribbean Islands (Aruba, Bonaire, Curacao, St. Eustatius and St. Maarten) have documented the presence of *H. stipulacea* since it was first encountered in Lac Bay, Bonaire, in 2010 (Engel, 2013).

A native seagrass of the Red Sea and parts of the Indian Ocean - and established in the Mediterranean Sea since the opening of the Suez Canal in 1869 - *H. stipulacea* is believed to have first entered the Caribbean region in 2002 (Smulders et al., 2017). It has since spread rapidly through the region. The exotic seagrass is fast growing compared to the native species *Thalassia testudinum* and tolerates higher levels of salinity, irradiance and temperature as well as a wider range of substrate types (Smulders et al., 2017).

Invasive species have a wide range of potential environmental impact, including outcompeting local species for space. The arrival of *H. stipulacea* is of great concern as the dense mats it forms can outcompete native seagrass species and impair the functioning of local seagrass ecosystems (Smulders et al., 2017). Seagrass meadows composed of *H. stipulacea* are less structurally complex than *T. testudinum* and not as firmly rooted, and are therefore likely to alter ecological

functions such as coastal protection, productivity, habitat structure and food availability (Smulders et al., 2017).

Monitoring at Lac Bay, Bonaire, found that *H. stipulacea* threatens the native seagrass species *T. testudinum*, the preferred food of the endangered green turtle (*Chelonia mydas*) (Becking et al., 2014; Smulders et al., 2017). From 2011 to 2015, cover of the exotic seagrass increased from 6% to 20%, while cover of *T. testudinum* decreased from 53% to 33% (Smulders et al., 2017). On St. Eustatius, monitoring for the 2015 Statia Marine Expedition uncovered seagrass fields dominated by *H. stipulacea* (Hoeksema, 2016).

While there are still many unanswered questions about how quickly *H. stipulacea* spreads and what factors influence its growth within the Caribbean region, one study (Tussenbroek et al., 2016) found a correlation between growth of the invasive species and pollution. The extremely dense seagrass meadows found at about half of the studied sites on Bonaire and St. Maarten had consistently higher nutrient concentrations. Another study carried out on Bonaire attributes fast growth of *H. stipulacea* to the higher temperatures and light availability in shallow bays (Smulders et al., 2017). Careful monitoring of the newly discovered *H. stipulacea* on Saba is needed to gather more information about how the invasive seagrass affects native biodiversity and what influences its expansion.



Halophila stipulacea, photo by: © NOAA

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