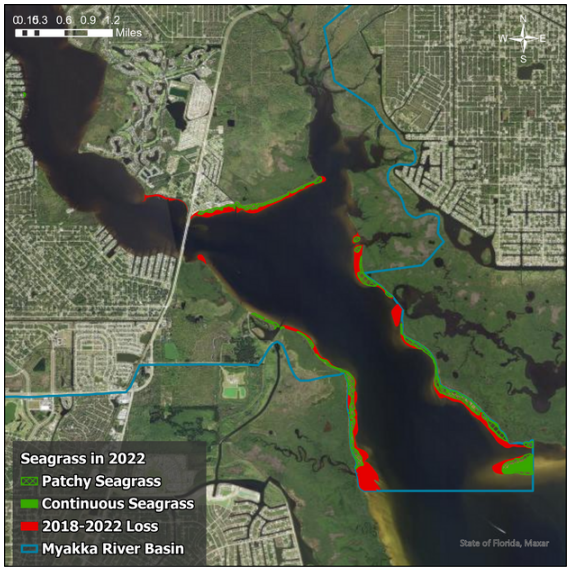
Seagrass in Tidal Myakka River

Fish, Wildlife, & Habitat Protection

Summary

The Myakka River is Florida's only federally designated Wild and Scenic River. It lies between Tampa Bay and Port Charlotte. The Myakka River is 68 miles long with the lowest 20 miles being brackish water with tidal influence. The watershed is fairly undeveloped so the riverine ecosystem is about as intact as in the southern half of the state. Note that Tidal Myakka River seagrass meadows comprise a small portion of the total acreage for Charlotte Harbor area and are mainly influenced by freshwater flows from the river.



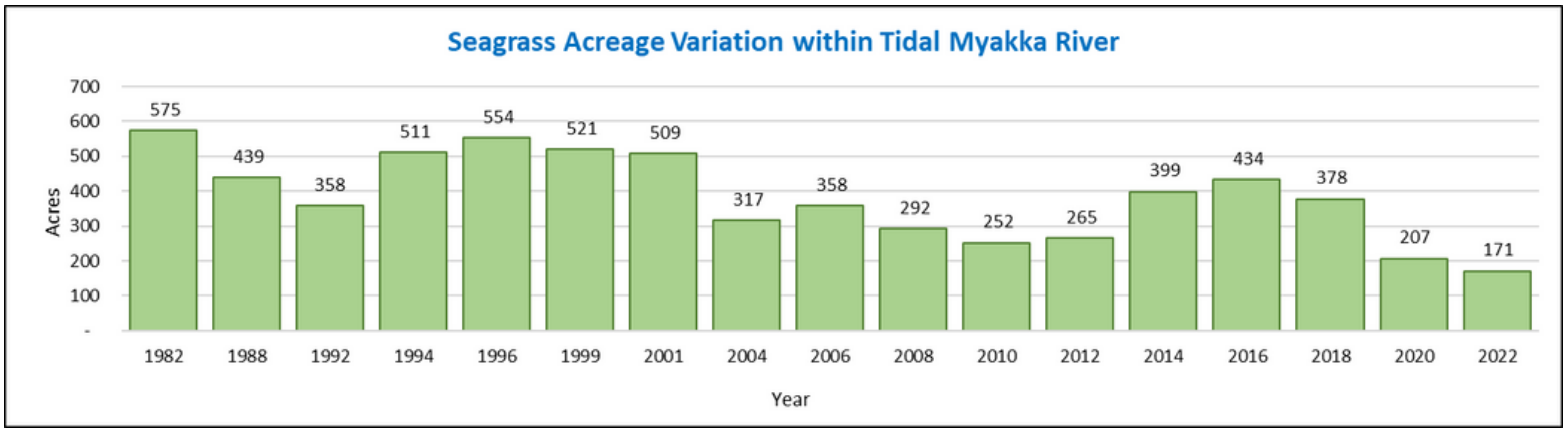
Seagrass Measures Water Quality & Improves Estuary Health

Seagrass beds provide many benefits. It is nursery habitat for fish and shellfish and it contributes to better water quality by trapping sediments, storing carbon, and filtering nutrients from stormwater runoff. Seagrass requires clean water and ample sunlight to grow, and therefore it is used by agencies and local governments as a way to measure water quality. This is documented in two ways:

- Mapping changes in seagrass acreage and location over time with aerial photography (spatial coverage). This is valuable for estimating seagrass locations, acres and broad changes over time.
- On-the-ground monitoring of changes in species composition, estimation of bottom cover in a seagrass bed (abundance), and maximum depth in which seagrass can grow due to light availability and water clarity (deep edge). This monitoring works to characterize the density, complexity, and stability of those seagrass meadows.

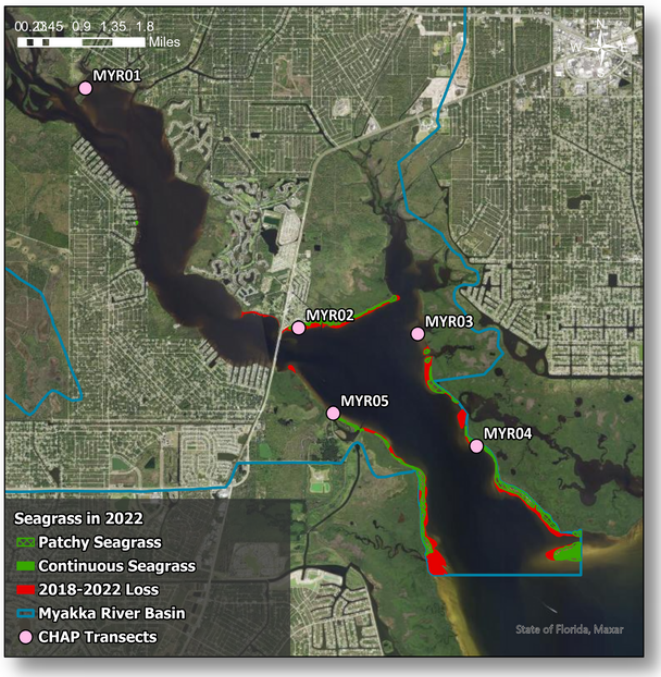
Seagrass Acreage

The graph below depicts results from bi-annual seagrass mapping in the Tidal Myakka River from 1982–2022. Although seagrass acreage was increasing from 2010-2016, it began to decline in 2018 and demonstrated more losses from 2018 to 2022. Between 2018 and 2022, the Tidal Myakka River lost 207 acres of seagrass, representing a 55% loss overall. The reason for this decline is complex and likely involves several factors. This includes impacts from recent storm events such as Hurricane Irma, increased temperatures and rainfall, additional nutrient runoff from land, as well as prolonged red tide and algae blooms in the region. The CHNEP continues to work with our partners to better understand causes and investigate solutions. Learn more about what the Partnership is doing protect and improve water quality in the Myakka River (CHNEP.org).



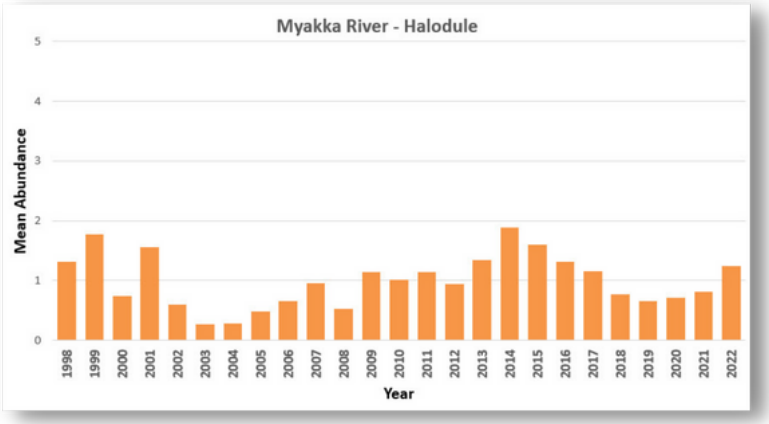
Monitoring Sites

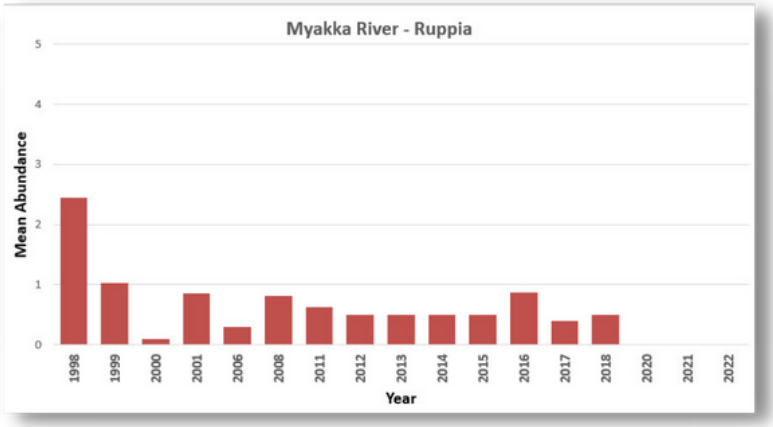
The map to the right shows locations of monitoring sites (highlighted in pink) in selected meadows in the Myakka River by the Florida Department of Environmental Protection Aquatic Preserve staff. Annual seagrass monitoring in the Harbor examines species types, density, distribution and how deep the grass will grow (this is dependent on light availability).

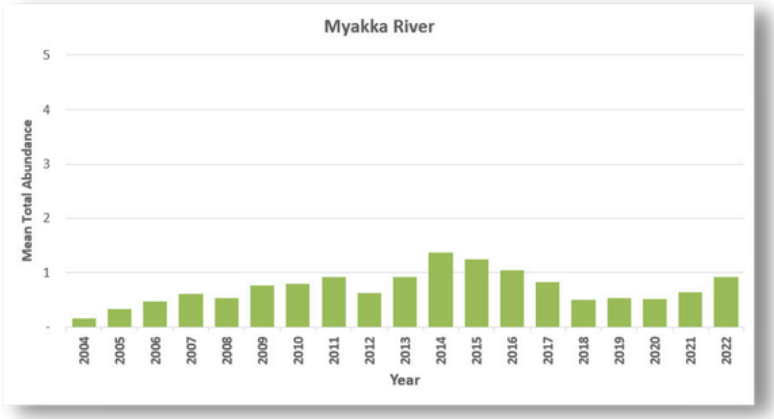


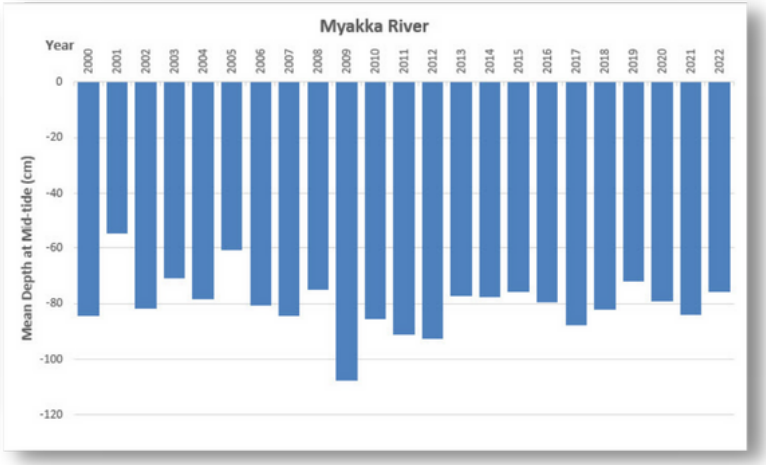
Seagrass Diversity and Health

The bar graphs here depict the changes in presence of different species of seagrass found at monitored locations in the region. In the Tidal Myakka River this includes Shoal grass (Halodule wrightii) and Widgeon grass (Ruppia maritima), which is found in areas that are less salty, for the years 1998–2021. Shoal grass experienced declines at multiple monitoring locations starting as far back as 2015, preceding the decline in overall acreage observed in the region between 2018 and 2020, Widgeon grass was not found at monitoring sites in 2020 or 2021.









For more information, please visit the CHNEP Water Atlas at chnep.wateratlas.usf.edu.