# Seagrass in Tidal Peace River

Fish, Wildlife, & Habitat Protection

## Summary

The Peace River Basin spans 105 miles from the Green Swamp to Charlotte Harbor. From its headwaters in Polk County, the Peace River meanders through swamps, pine flatwoods, hardwood hammocks and marshes before it fans out into the Charlotte Harbor estuary. The watershed is low and flat, peppered with shallow lakes and wetlands and is impacted by development, agriculture, and mining.

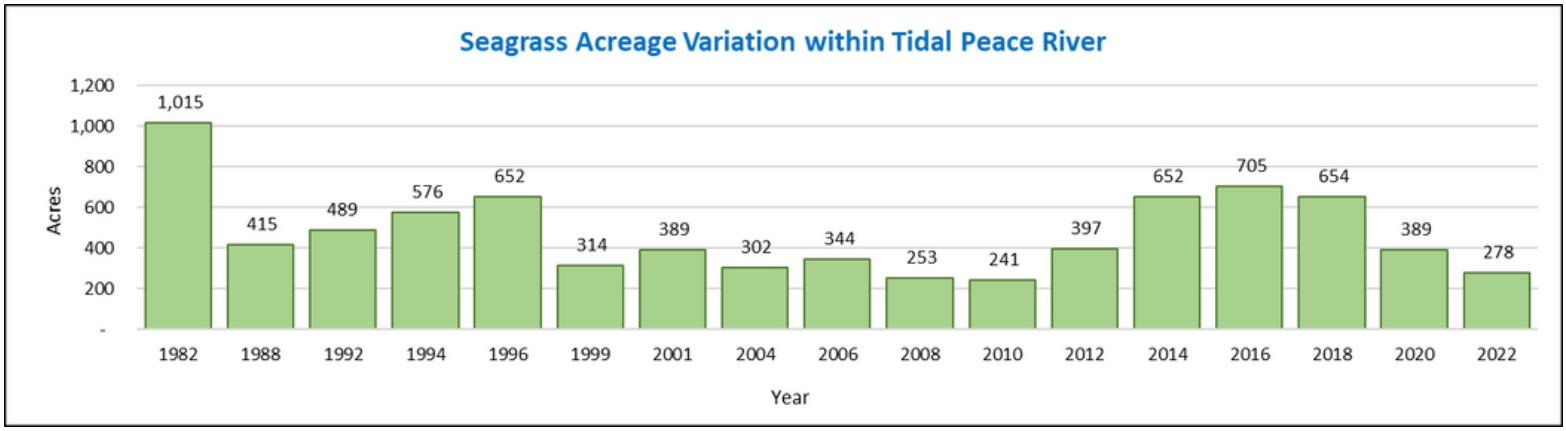
## Seagrass Measures Water Quality & Improves Estuary Health

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 seagrass mapping, done once every two years, in the tidal portion of the Peace River from 1982–2022. Seagrass acreage began to decline between 2016 and 2018 and demonstrated more losses from 2018 to 2022. Between 2018 and 2022, the Tidal Peace River lost 376 acres of seagrass, representing a 57% 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 Peace River (CHNEP.org).

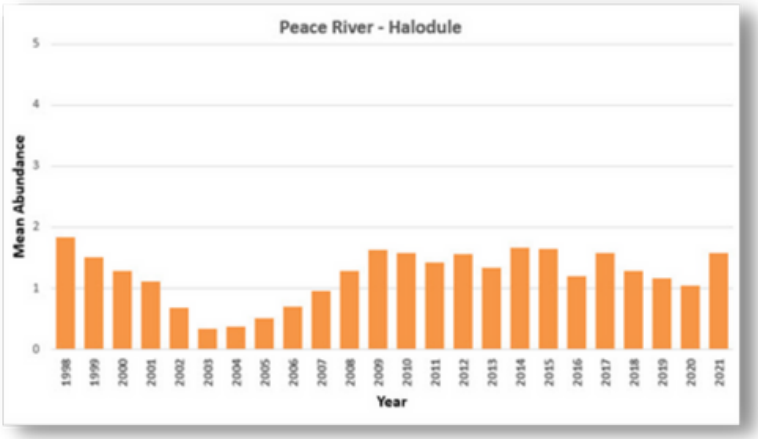


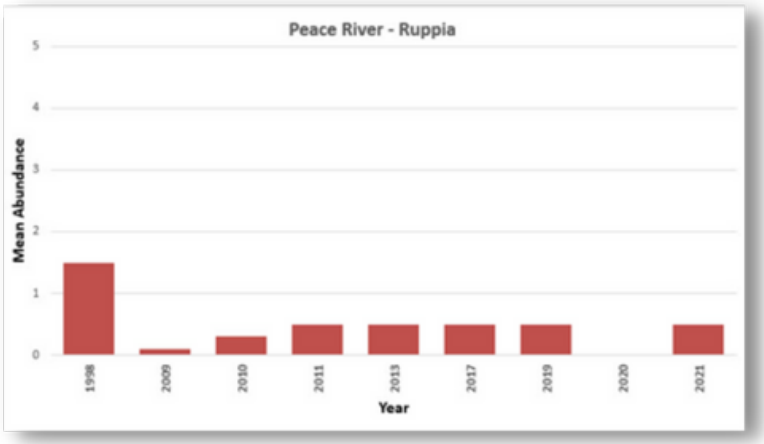
## Monitoring Sites

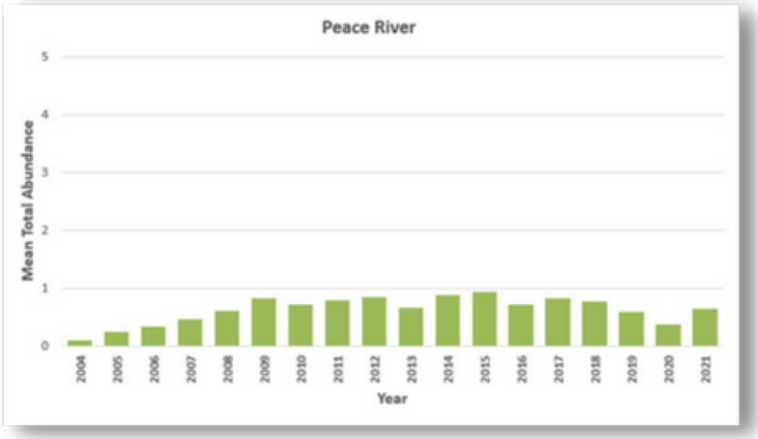
The map to the right shows locations of monitoring sites (highlighted in pink) in selected meadows in the Peace River by the Florida Department of Environmental Protection Aquatic Preserve staff. Annual seagrass monitoring in the Harbor examines species types, density, distribution and how deep the grass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

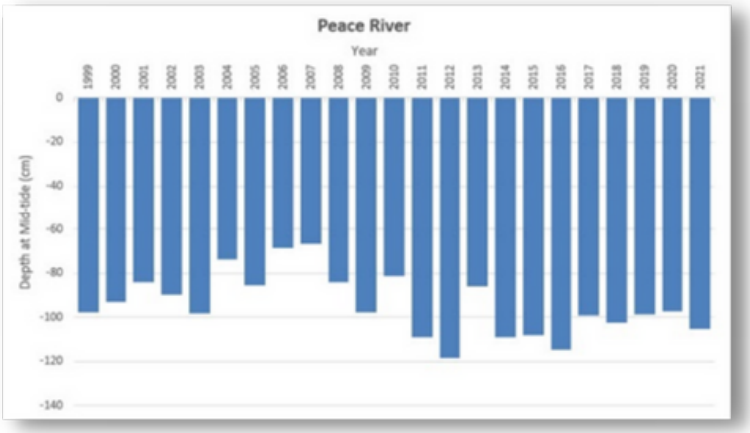
## Seagrass Diversity and Health

The bar graphs here depict the changes in presence of different species of seagrass found at monitored locations in the region. In the Tidal Peace 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. Overall, seagrass experienced declines starting as far back as 2016, preceding the loss in seagrass acreage seen between 2018 and 2020. However, data collected in 2021 demonstrate modest gains (though not full recovery) in total seagrass abundance. Shoal grass has gained abundance overall since 2003, with declines in some years, and another recent gain in 2021. Widgeon grass was not found at monitoring sites in 2020, although reappeared in low abundance in 2021.




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