



Invasive Aquatic Plant Management

April 14, 2026

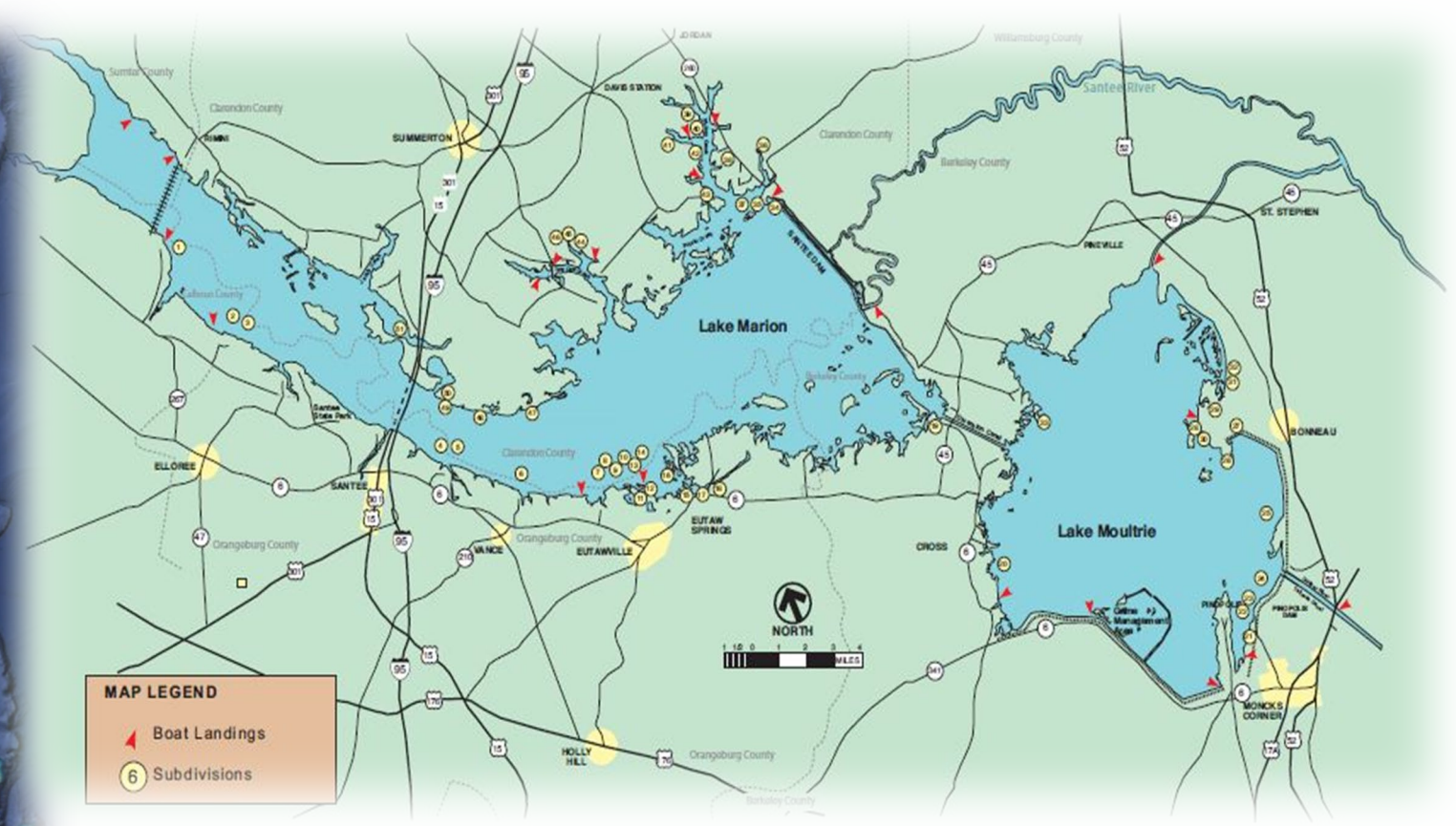
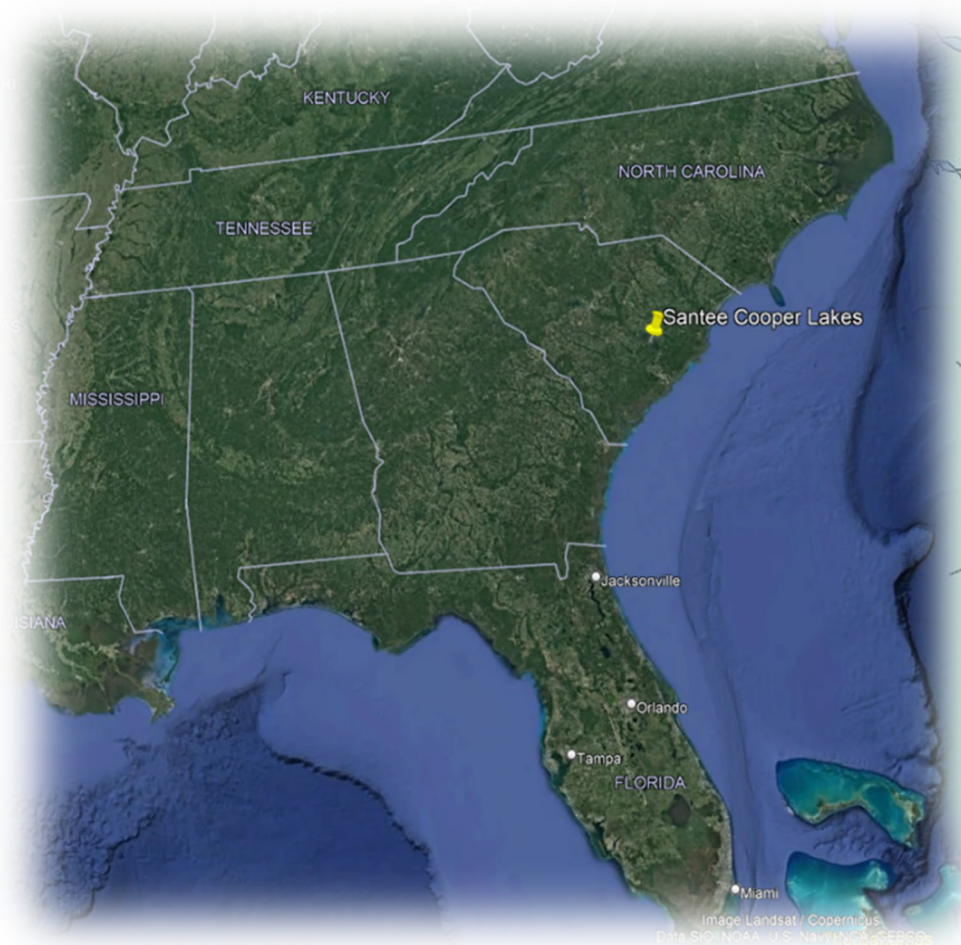
Santee Cooper

Publicly Owned State Utility

- Provide electricity to ~2 million people and drinking water to >200,000 residents in Berkeley, Calhoun, Dorchester, and Orangeburg counties
- Own and operate two large reservoirs:
 - Lake Marion ~100,000 acres
 - Lake Moultrie ~60,000 acres
- Not tax supported, all operations are funded by utility rate payers



Santee Cooper Lakes



Lake Marion- 100,607 acres Mean Depth 13'
Lake Moultrie- 59,874 acres Mean Depth 19'

Fertile Ground for Invasives

1940s – Alligator Weed (*Alternanthera philoxeroides*)

1950s – Water Primrose (*Ludwigia hexapetala*)

1960s – Brazilian Elodea (*Egeria densa*)

1980s – Hydrilla (*Hydrilla verticillata*)

1990s – Water Hyacinth (*Pontederia crassipes*)

2000s – Crested Floating Hear (*Nymphoides cristata*)

2010s – Giant Salvinia (*Salvinia molesta*)

2020s – Eurasian Watermilfoil (*Myriophyllum spicatum*)
Cuban Bulrush (*Cyperus blepharoleptos*)



Monitoring Invasive Vegetation

Staff time on the water - “Our Eyes”

Spray requests from the public – “Public Eyes”

Satellite Multispectral Analysis – “Eye in the Sky”



Aquatic Vegetation Management

Integrated Pest Management

- Chemical Controls
- Biological Controls
- Public Outreach and Education



Invasive Plant Alert!




Crested floating heart (invasive)

has been identified in the Santee Cooper Lakes. This invasive weed is capable of overwhelming an ecosystem by displacing native plants and poses a threat to fishing, boating and other activities.

The plants can most easily be distinguished by their flowers, as well as the underside of the floating leaves. Crested floating heart, the invasive species, has a smooth underside and a dotted (not blue) underside, down the center of its flower petals. Big floating heart has prominent veins and a very rough surface texture on its underside, and its flower petals have no such like structure down the center. The underside of big floating heart is also much darker in color.



Big floating heart (native)



IF YOU SEE CRESTED FLOATING HEART, PLEASE REPORT IT TO SANTEE COOPER OR SCNR.

Santee Cooper 803-755-2872
843-761-6200, ext. 4564

SCNR 803-755-2872
invasives@santeecoop.com



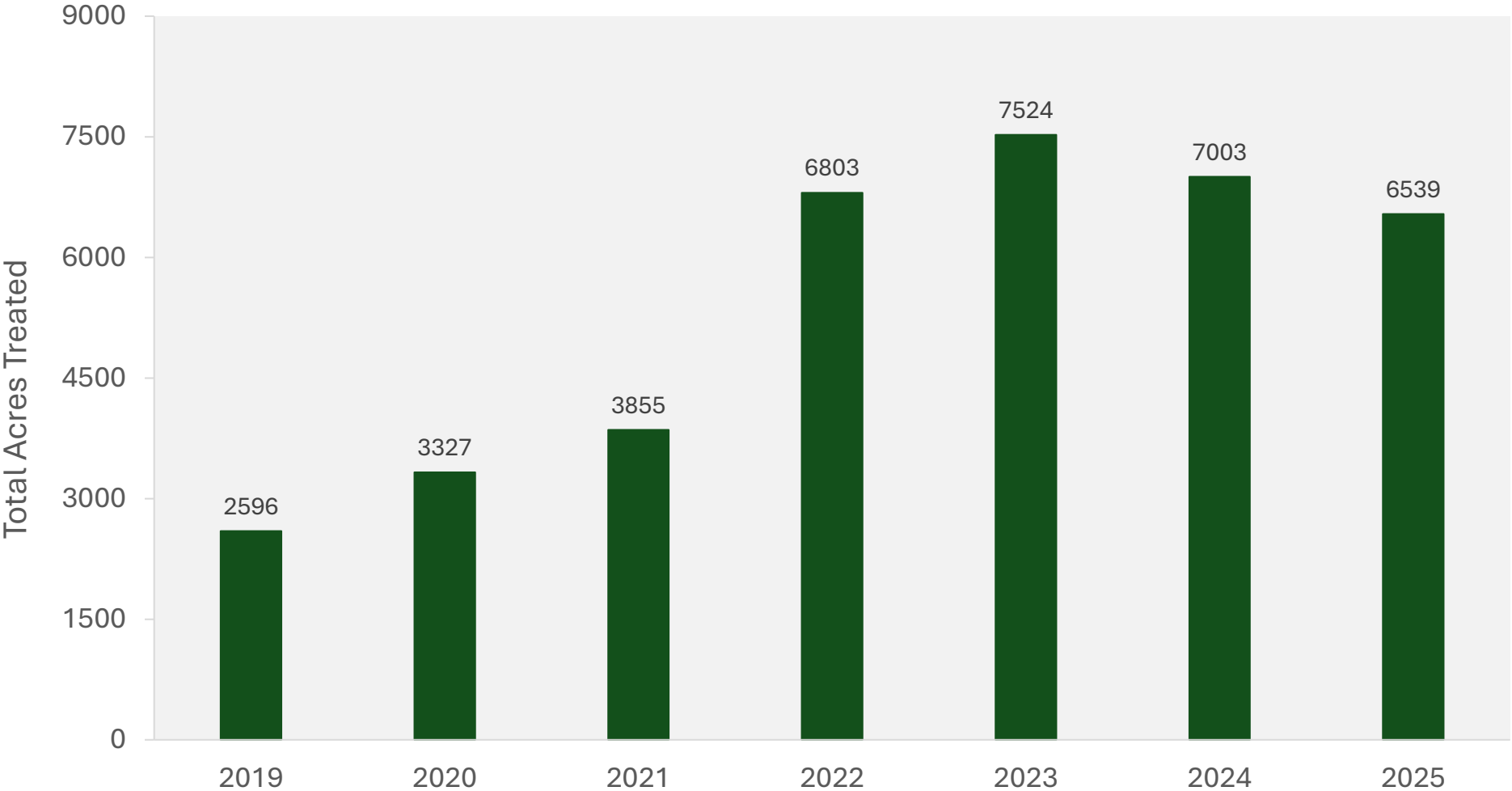
Chemical Control – 2025 Acres Treated



Species	Total Acres Treated
Giant Salvinia	5,410
Hydrilla	351
Crested Floating Heart	232
Filamentous Algae (sp.)	180
Water Hyacinth	178
Alligatorweed/Water Primrose	127
Cuban Bulrush	9
Eurasian Watermilfoil	6



Acres Treated – Year over Year



Biological Control - Hydrilla

- First brought to the U.S. in 1963 to help control aquatic plants in aquaculture facilities in Alabama and Arkansas
- First stocked in the Santee Cooper system in 1989 to control ~40,000 acres of hydrilla
- 768,500 were stocked from 1989 – 1996, controlling hydrilla but also negatively impacting native submerged vegetation
- Grass Carp are not monophagous and will consume a variety of submerged aquatic plants
- Grass Carp stocked in South Carolina are tested by SCDNR to verify they are triploid

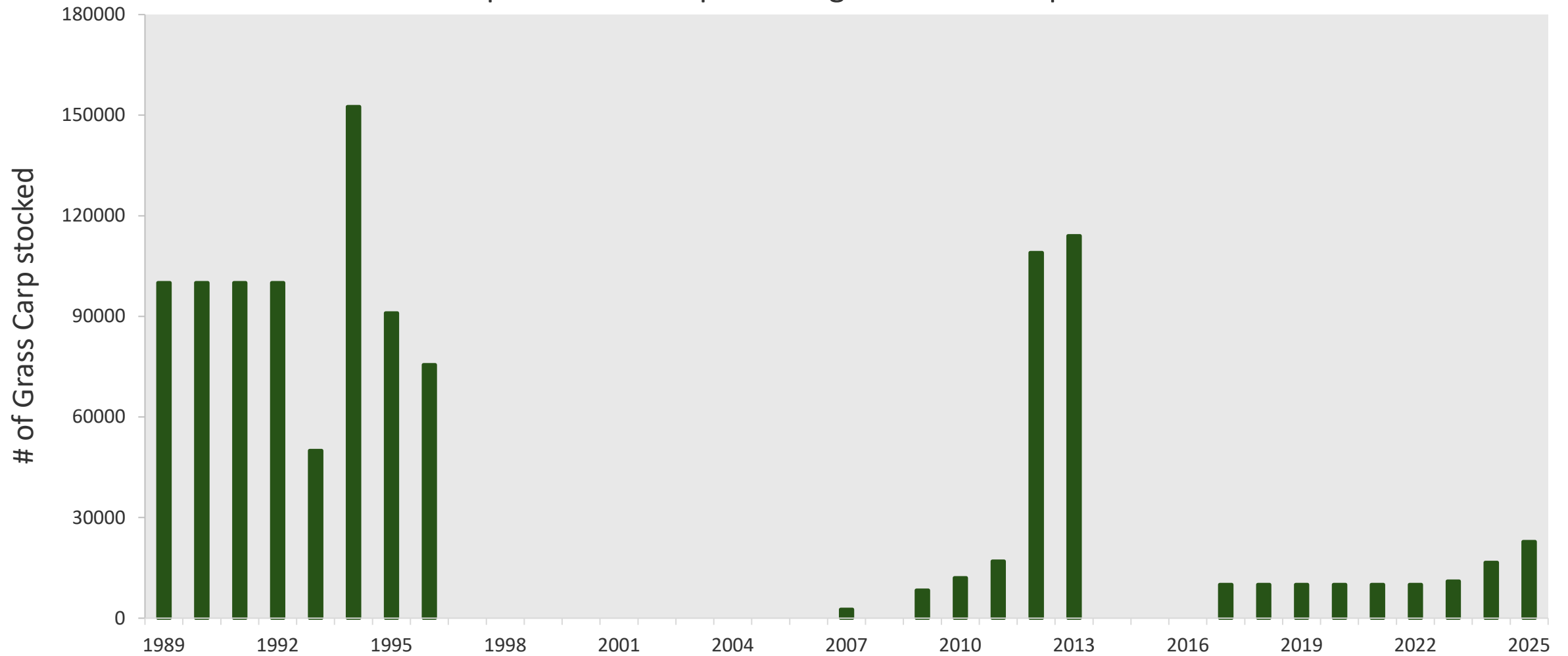


Triploid Grass Carp – *Ctenopharyngodon idella*



Grass Carp Stocking

Triploid Grass Carp Stocking in Santee Cooper



Biological Control – Giant Salvinia

- Native to South America
- Monophagous to salvinia
- Adults chew small holes in salvinia leaf
- Females deposit eggs in holes chewed in nitrogen rich salvinia buds
- Larvae feed externally on leaf bud and roots before tunneling into the rhizome and base of the leaf



Giant Salvinia Weevil– *Cyrtobagous salviniae*

Biological Control – Giant Salvinia

- First released in Texas and Louisiana in 2001
- First released in the Santee Cooper system in 2023
- Santee Cooper constructed a greenhouse in 2022 to rear Giant Salvinia Weevils
- Received weevils from LSU and USACE to begin the greenhouse operation
- Released 100,000 – 150,000 annually from 2023-2025



Photo taken by LSU - Nahomi Umana and Victoria Moreno

Greenhouse Interior

- Six 10'x20'x2.5' rearing tanks
- Each tank has ~3000 gallons
- 1" foam insulation board behind the pond liner.

Tank immersion water heater.



Weevil Stocking Site 2023



- Weevils stocked in July, August and September 2023
- ~107,000 stocked
- 20% adults and 80% larvae

Giant Salvinia Weevil Update



- Weevil populations have survived multiple winters, and we are encouraged by results at the stocking locations

Questions/Comments



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