

7/23/2021

# 2021 Native Aquatic Plant Program

SJRA Lake Conroe Division



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[COMPANY NAME]

**Current state of the SJRA nursery:**

The Native Aquatic Plant Nursery is located on the San Jacinto River Authority (SJRA) campus at the Lake Conroe Dam and maintained by SJRA staff. The nursery consist of eight troughs that are 4ft wide by 16ft long with a possible water depth of 2ft (fig 1). Four of the troughs are currently devoted to emergent plant species such as water willow, bull rush, spike rush and pickerel weed. The remaining four troughs are dedicated to submergent species, such as Vallisneria, American Lotus, White Water Lily and American Pond Weed. The depth of water is regulated by bulk head fittings installed on each trough at various depths and a livestock tank water float to ensure appropriate water level. The water float is connected to the nursery’s water supply system which is fed by a well on campus. Shade cloth is used during the hot summer months to mitigate the stress on newly propagated plants and mitigate algae growth. During the fall and early spring, plants are propagated to ensure a harvest for the following year and the most mature plants will be the first ones selected for planting in the summer.

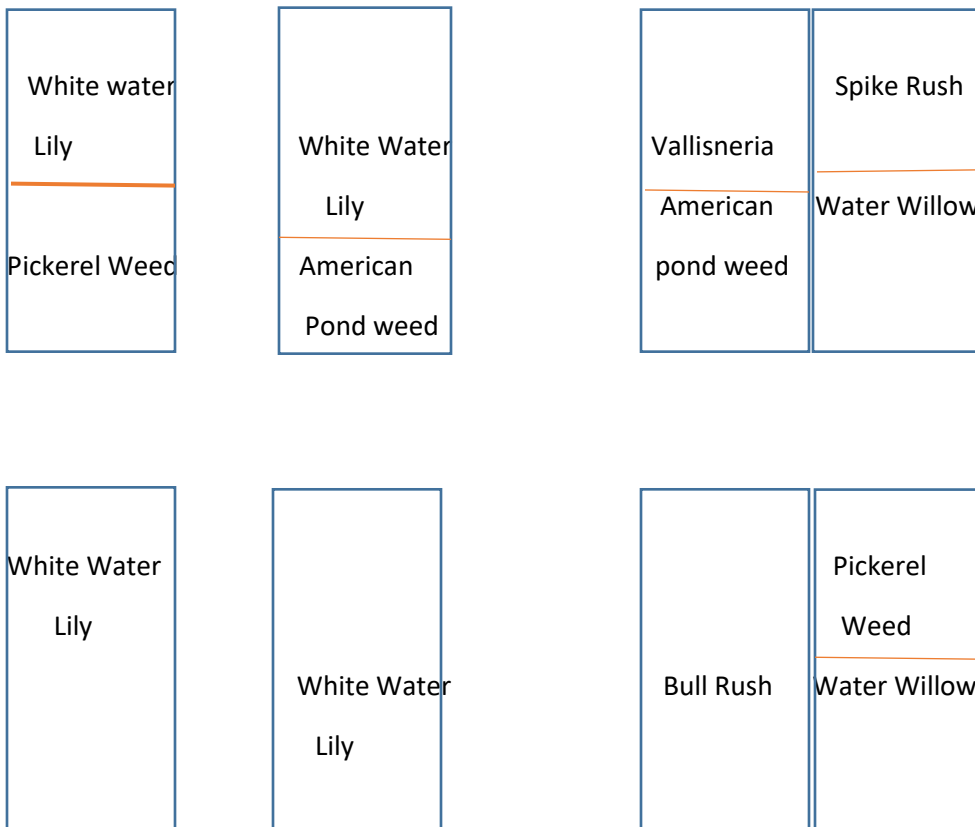


Fig. 1 Diagram of the runs in the nursery and the current plants that reside

### **Monitoring Native Plant Growth and Spread:**

There are 41 cages (Fig 2) in the Northern Part of Lake Conroe that the SJRA, Texas Parks and Wildlife Department (TPWD) and the Lake Conroe Bass Club have constructed in order to establish native plant species and keep the grass carp from consuming them. The idea is to allow the plants to become well established inside of the cage, then once matured the plant will spread outside of the cage, as well as fragment apart and float to new locations in hope of establishing new colonies of native plant species.

Cages are surveyed multiple times throughout the growing season (spring to fall) to check the integrity of the cages and any new native plant colonies nearby. First the plants will be checked to see what percentage survived from the previous plantings or what percentage of new growth took place. New plant colonies that have become established outside of the cage will be mapped and monitored for the success of native plant habitation. All mapping and survey data will be collected via the Arc Collector application, created by ESRI.

### **Propagation and plant restocking:**

This was the first time in several years that the SJRA decided to purchase plants from a grower to help restock the nursery. A third party vendor was able to grow and supply the SJRA with the following:

- 50 – Pickerel Weed
- 50 – Spike rush
- 50 – Vallisneria
- 75 – American Floating Pondweed
- 50 – Spatterdock
- 75 – Yellow Water Lily

Propagation is also done throughout the growing season by SJRA staff at the onsite nursery. Propagation does supply about %75 to %50 of the plants each season, but they do need to be supplemented with outside growers some years to keep up with the planting goals.

### **2021 Early season survey:**

On 5/6/2021 the SJRA Lake Conroe Operations team conducted a native plant survey in Caney Creek on Lake Conroe. The survey was done on the SJRA airboat and launched out of the US Forest Service boat ramp at Scotts Ridge. The team was able to survey and collect 41 of the 41 sites (Table 1). Just like last season, we observed an abundance of vegetation, both inside and outside of the cages. Large patches of Vallisneria and Pond Weed were found in shallow water, which has not been seen in many years. The cages that had plants were bursting out of the cage and starting to grow in large patches immediately outside of the cage. The cages were working as designed and providing the protection from grass carp needed to re-establish native species. Water willow is well established and was found in clusters along the entire shoreline in large stands. The Bull Rush, Spike Rush and Picklerweed were found in abundance in the upper reaches of Caney Creek.

**2021 First planting:**

On 5/28/2021 SJRA employees went out on the Caney Creek branch to complete the first planting of the season. Six different species of plants, such as American Lily, Pickerelweed, Pondweed, Spike Rush, Vallisneria and water willow were planted on this event in four protected coves (Fig 3). The idea of planting in protective coves is that it will keep wave action down and therefore keep the freshly planted plants from becoming dislodged from the sediment. The sites that were planted were not inside the cages due to the water level of the lake being high at 201.40. When the water level is high, it makes it difficult to work in the cage since only a small amount is visible above the water level. All submergent species, such as American Water Lily, American Pondweed and Vallisneria were planted in about 2ft of water. The emergent species, such as Pickerelweed, Spike Rush and Water Willow were planted in about 1ft of water.

**2021 Second Planting:**

On 6/25/2021 three of the Lake Conroe Division employees launched at Cagle Campgrounds to plant the cove where cages 40 and 41 are located (Fig 2). Plants were not planted in the cages but around the cages and on the adjacent shorelines. White Fragrant Water Lily, American Pondweed, Water Willow and Vallisneria were planted.

Cage#	Species	Species	% Full
1	Hydrilla		100
2	American Lily		75
3	Empty		100
4	Pondweed		100
5	American Lily	Hydrilla	100
6	American Lily		50
7	Pondweed		50
8	American Lily	Hydrilla	100
9	Hydrilla		50
10	Pondweed		100
11	Hydrilla		100
12	Pondweed		100
13	Empty		0
14	Hydrilla		100
15	Empty		0
16	American Lily		75
17	American Lily		75
18	Hydrilla	American Lily	100
19	Hydrilla		100
20	Empty		0
21	Empty		0
22	Hydrilla		100
23	Hydrilla		100
24	Hydrilla		100
25	Pondweed		100
26	American Lily	Vallisneria	75
27	Pondweed		100
28	American Lily	Pondweed	75
29	Empty		0
30	Empty		0
31	Vallisneria		50
32	Vallisneria		50
33	Hydrilla		100
34	Vallisneria		25
35	Empty		0
36	American Lily		75
37	Vallisneria		50
38	Empty		0
39	American Lily		50
40	American Lily		50
41	Pondweed		100

Table 1: Species per cage and percent full

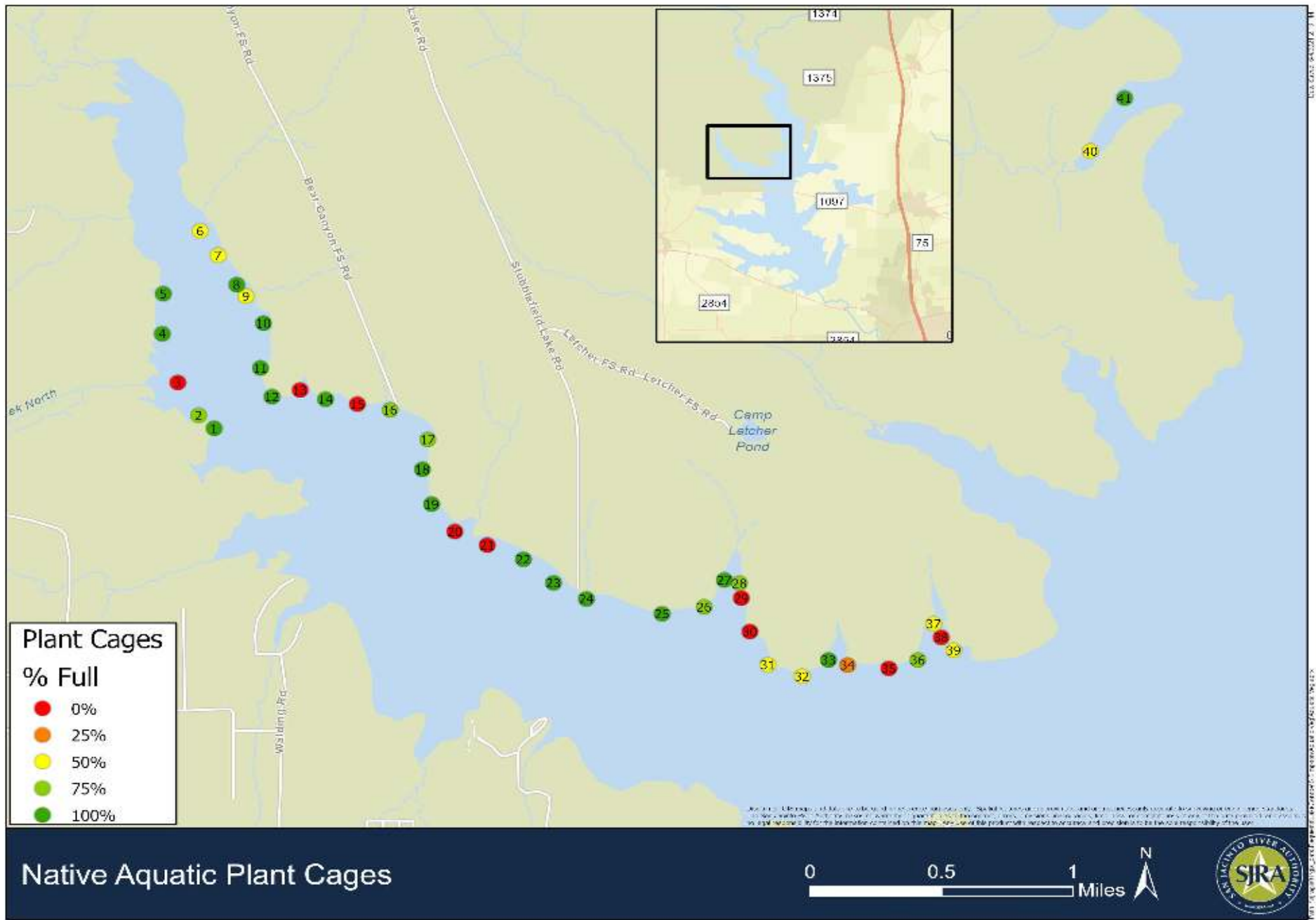


Fig 2: Native Aquatic Plant Cages



Fig 3: Native Aquatic Shoreline Plants

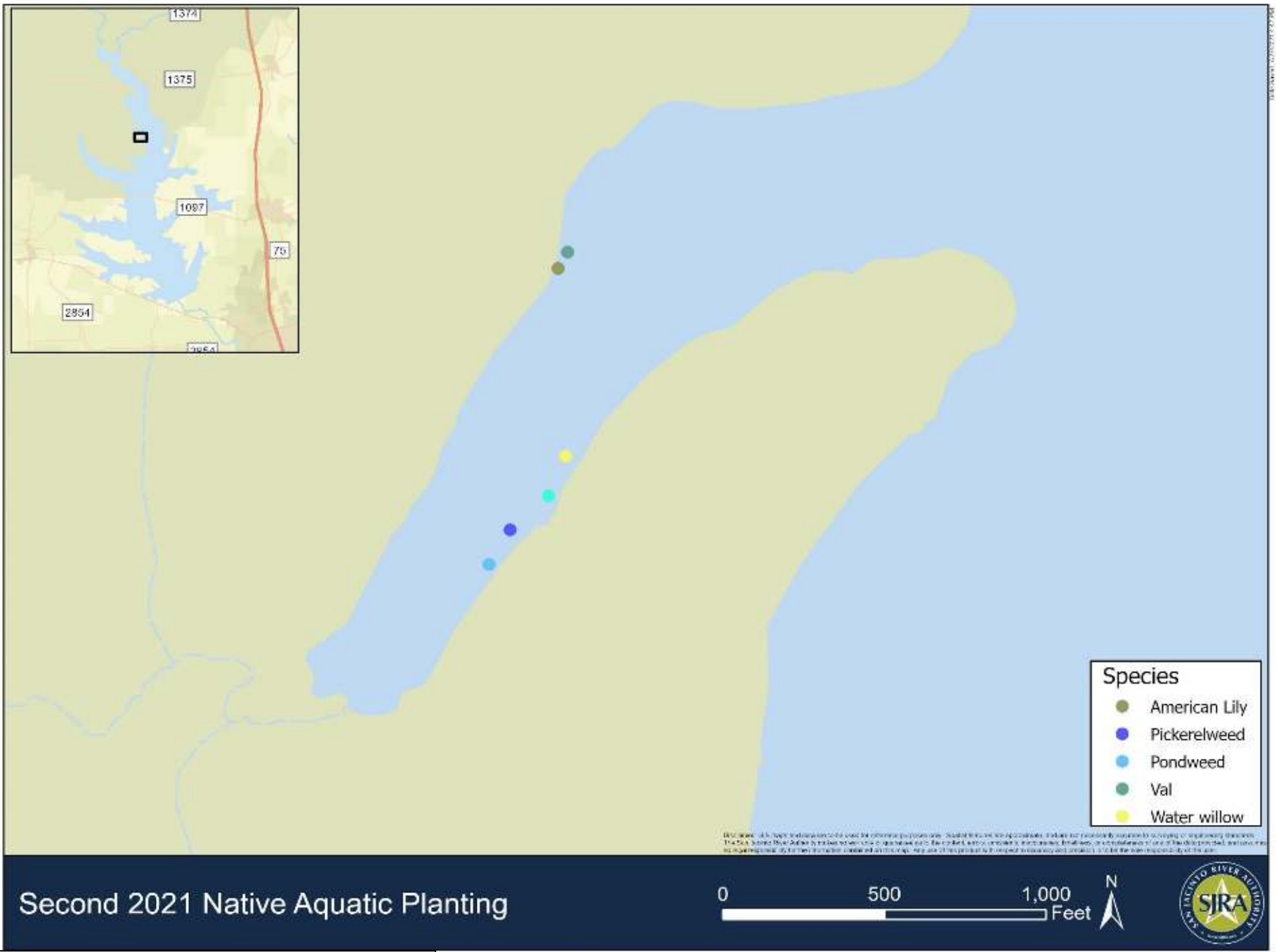


Fig 4: Second Native Aquatic Planting 2021