

# **Invasive Plant Management on Grand Isle Properties of The Nature Conservancy (TNC)**

**September 30, 2018**

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A Report of the:

**Barataria-Terrebonne National Estuary Program**

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EPA Tracking Number: 2016-27

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## **Final Report**

### **Invasive Plant Management on Grand Isle Properties of The Nature Conservancy**

**David Baker: Baker Botanical Consulting, LLC.**

**July 1, 2018 to September 30, 2018**

The project was to manage the Mexican Petunia and Chinese Tallow on The Lafitte Woods Grilletta Tract and remove as much Chinese Tallow as possible on the Exxon planted forest. We divided the project into two phases for the limited time frame that was allowed by the project. Phase 1 was the removal and management of the Grilletta Tract and Phase 2 was Chinese Tallow removal from The Nature Conservancy's forest on the Exxon property.





**Phase 1:** Mexican Petunia Treatment and Tallow Eradication.

Method for the treating and cutting of Mexican petunia was to cut with a hedge trimmer then spraying with Roundup. The hedge trimmer was used to cut into the dense partridge pea to find the petunia in several areas of the property. Tremendous vine coverage required a repetitious effort of cutting and spraying to reach all the noticeable plants. Approximately two acres was cut and sprayed.



The photo above shows the results of the first cut and spray treatment on the tract. The spider lily in the middle left of the photograph was completely covered in partridge pea. The brown vine in the back left is the result of cutting the morning glory and partridge pea. This was done to open areas of access to the Mexican petunia.





The method for Chinese tallow removal was to cut the tree down and immediately treat the stump with Garlon 4. Herbicide is applied directly to the cut stem with a paint brush. Cut stems were then cut into smaller pieces and removed from native trees when necessary.





The image above shows the small stand of < 20 cm diameter Chinese tallow on the west side of the Grilletta Tract. Individual trees were cut and treated immediately. The stems in the foreground and background were cut and bucked up into smaller pieces. You may also see the yellowed Mexican petunia in the picture. The petunia in this picture had received treatment a few days prior to the photograph.





### **Results for Mexican Petunia Removal:**

Two acres of the tract was cut and treated. Where native plants were present and or being stressed, the petunia was cut back more aggressively to allow the native vegetation to benefit from the removal. Several areas of the property required vine removal to allow access to the petunia as well as other natives. Partridge pea was cut off of planted live oaks to aid in the health and accelerate the growth. The petunia could be found under this layer and was also carefully treated.

Twenty-two Chinese tallows were cut and treated (as seen in the photos above). Of the 22, 20 stems were below 10 centimeters (cm) in diameter and 2 stems were greater than 20 cm. Most of the large stems were found on the west side of the property, parallel with the raised boardwalk.



## Phase 2:

We eradicated as much Chinese tallow as possible from the Exxon forest that was established in September of 2001. The forest is divided into 9 blocks that were created by sidewalks and small roads when the land was Exxon housing decades ago. The most easterly 6 blocks had the largest number of Chinese tallow. The south-eastern blocks seem to be growing the best with far less tallow than the northern-most blocks.



The method used for eradication was to cut the stem near the base and paint it with herbicide. Trees were treated as soon as possible after being felled, and a dot of spray paint was applied to mark the trunk as treated. Felling trees was always done in the direction of least disruption to native trees and shrubs. In areas where tallows were most dense, individual trees were dropped on top of one another and branches and stems cut back to increase the rate of decay and to aid in the prevention of seed germination.





In the photo above you can see the Chinese tallow steps that were treated and painted. The area above is the far north-western block of the area and was completely overrun by 20 cm diameter trees. Tallow was carefully dropped in this area to minimize the damage created by dropping large trees.





Photo shows tallow seen in the same block. Twenty large tallow were removed from the central area of the northwestern block. Layering of trees was done to minimize damage to planted stems. Within this area several hundred Chinese Tallow seedlings were pulled up by hand prior to tree cutting. The increased light resulting from the removal of the larger trees would have accelerated the growth of the existing stand of seedlings, so as many as possible were removed.

#### **Results of Chines Tallow eradication:**

One hundred thirteen stems were cut out of 6 of the 9 blocks of the planted forest. Average diameter of trees removed was 22 centimeters in diameter with every tree holding full canopies of fruit. Over 500 seedlings of 1 meter in height or less were pulled up and treated when necessary. An estimated 200,000 to 400,000 seeds were removed and prevented from reaching maturity. Nearly all perimeter trees were eradicated to increase large native trees along the edge of each block, while further reducing the spread of Chinese tallow seeds across Grand Isle.



**Recommendations for the Future:**

Invasive plants have no boundaries and can take over an environment rapidly. Intervention before a landscape is taken over is the key to a successful habitat. Once an invader is noticed it is best to aggressively remove it. Once the plant is established it takes twice as much effort to remove and restore the site. The concept of being able to buy land for preservation purposes is no longer realistic. Management plans need to be written and implemented in the short and long-term.