

Observations Concerning the Spread of Non-native Plants in the Wake of Hurricane Events

by Riley Hoggard

The northern Gulf coast has experienced a number of tropical storm events in recent years, specifically Hurricane Ivan in 2004 and Hurricanes Dennis, Katrina, and Rita in 2005. With a number of park sites along the Florida, Mississippi, Louisiana, and Texas coasts, The National Park Service has experience in restoration following storms, plus realistic expectations of additional plant infestations. Examining the spread of non-native species following the earlier storms provides some insight on what to expect along the Mississippi coast in the wake of Hurricane Katrina.

Following Hurricane Ivan, Gulf Islands National Seashore observed a substantial spread of torpedograss (*Panicum repens*). The highly invasive grass was observed mainly along the northern shorelines of the barrier islands and the southern shorelines of the mainland where a sizeable margin of it became established between the water and the uplands. Drainage ditches and other areas that would have been inundated with persistent storm surge seemed also to be particularly susceptible to torpedograss establishment. In areas where a natural understory remained, torpedograss has rarely been seen.

The spread of previously existing cogongrass (*Imperata cylindrica*) appears to have been facilitated through the loss of both canopy and understory, as well as the ground disturbance resulting from cleanup and restoration activities. Chinese tallow (*Sapium sebiferum*)

re-infested previously treated sites and infested new sites with even minimal canopy loss or mechanical disruption.

Certain non-natives are being watched but not actively controlled such as rattlebox (*Sesbania punicea*). Following Hurricane Opal in 1995, rattlebox infestations were short lived with no observable change in the native plant cover. Mobile Bay experienced a major rattlebox infestation following Opal that only persisted for about two years. With no control, rattlebox disappeared without displacing any of the natives and Mobile Bay has essentially been clear of rattlebox since.

In anticipation of the spread of Chinese tallow into Hurricane Katrina canopy-damaged and blow-down areas, Jean Lafitte National Historical Park has undertaken a policy of preemptive strikes. Using crews of volunteers, employees, and National Park Service Exotic Plant Management Teams, the park has begun to remove existing tallow trees from multiple sites within the Barataria Preserve in an effort to remove the source material.

The spread of non-native plants is facilitated and enhanced by tropical storm events. Unfortunately, this spread can be over hundreds of miles. A case-in-point is Padre Islands National Seashore. Several weeks after Hurricane Katrina, the park's south Texas beaches were covered with the rotting vegetative matter of giant cut grass (*Zizaniopsis miliacea*). Cut grass is used extensively in Louisiana, especially around New Orleans, on flood control levees to stabilize the soil and prevent erosion. Although no new cut grass growth has been observed on Padre's beaches, is it just a matter of time?

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