

ROSEAU CANE DIE-BACK

WHAT IS THE PROBLEM?

Roseau cane is the dominant vegetation at the Bird's Foot Delta of the Mississippi River. Stands of cane protect oil infrastructure and navigation channels while providing habitat for wildlife. Massive areas have been dying since 2016.

HOW ARE WE ADDRESSING THE PROBLEM?

Using a multidisciplinary approach, scientists from several institutions are monitoring areas and performing research to develop management plans.

WHAT FIELDS ARE BEING STUDIED?



SCALE INSECT

Roseau cane scale feeds on the sap, which results in yellowing leaves and stunted growth. The worst infestations are in Plaquemines Parish. Research focuses on biological control and host plant resistance.



MICROBES

Field experiments indicate microbes from soils might play an important role in cane growth. We seek to understand whether soil microbes can enhance stress tolerance.



PLANT GENETICS AND RESISTANCE

There are several varieties of roseau cane in the lower Plaquemines Parish. By understanding genetic differences among populations of cane, we can select one resistant to stressors for propagation.



RESTORATION

The number of planted stems and their spatial arrangement are being tested across multiple water depths and soil types to determine planting strategies. This will help to optimize restoration efforts across the widely variable Bird's Foot Delta.

ABIOTIC STRESSORS

Increasing water depth from sea level rise, soil subsidence, and reduced sediment deposition decrease soil structure and increase toxin buildup in the soil.



REMOTE SENSING

Monitoring cane health over thousands of acres requires drones and satellites. Different sensors are used to measure vegetation coverage, assess die-back and determine the vegetation reclaimed after a disturbance.



HYDROLOGY

Reduction of stands could have drastic consequences in water movement and sedimentation. Measuring how water and sediment flow interact with cane can reveal long-term implications and result in strategies for maintaining navigability in the shipping channels.

