

OVERVIEW

Hurricane Michael made landfall as a Category 5 on October 10, 2018 and belled through Florida with maximum sustained winds of 160 mph, leaving **72 million tons of trees broken, uprooted or blown over** – that's 2.5 million log trucks worth of wood across **2.8 million acres** spanning **11 counties** in the Florida Panhandle. The **total timber loss** is conservatively estimated at **\$1.3 billion**, accounting for most of the \$1.5 billion in total damage to Florida agricultural commodities.

LANDOWNERS and SUPPLY CHAIN

The hardest hit areas are **some of the most forested counties** in Florida. **Eighty percent** of the impacted land is **owned by over 16,000 private forest landowners**, who are facing limited recovery options. Unlike annual crops, timberland insurance is not commonly available. With this overwhelming loss of income, **landowners have little incentive to reforest their land** – forest land that is not only a **vital resource for providing healthy watersheds**, but **essential to the local economies** who rely heavily on this industry.

Salvage operations have been **highly challenged** by the volume of timber on the ground, impeded road access, contractor availability and market conditions. **What was blown over would normally supply the mills in the impacted area for up to a decade.** Invasive species are likely to invade, affecting forest regeneration.

WILDFIRE THREAT

The **unprecedented volume of damaged trees** from Michael resulted in **dense pockets of vegetation** and will increase the **threat of invasive species**. There is an average of **58 tons of fuel per acre** in the impacted area – **10 times more** than before the storm. In the **catastrophic areas**, there are over **100 tons of fuel per acre**.

The exponential **increase in fuel loads** has created the potential for a significant **increase in the number, intensity and danger of wildfires** over the next three to ten years. **233 communities** are at **greater risk of wildfire** due to the downed trees and debris from Hurricane Michael. These communities are part of the **wildland urban interface**, where **homes and structures intermingle with forests and wildlands**.

TOTAL ESTIMATED DAMAGE to FLORIDA AGRICULTURE COMMODITIES: \$1.5 BILLION

- | | |
|--|----------------------------------|
| 1. Timber \$1.3 billion | 8. Other Field Crops \$7 million |
| 2. Cotton \$50 million | 9. Dairy \$6 million |
| 3. Cattle \$43 million | 10. Aquaculture \$5 million |
| 4. Peanuts \$23 million | 11. Fruits \$4 million |
| 5. Nurseries and Floriculture \$16 million | 12. Tree Nuts \$4 million |
| 6. Poultry and Eggs \$10 million | 13. Apiary \$2 million |
| 7. Vegetables \$9 million | |

Coined with having the **most destructive impact to a forest area**, it will take years – perhaps decades – to realize the full extent of the damage incurred by Hurricane Michael. Even so, the **detrimental effect to landowners, communities, timber resources and the forest products industries** in both the short-term and foreseeable future have been identified and recovery efforts will require extraordinary measures.



SUMMARY

During the first seven days following Hurricane Michael, **roadways were impassible** across much of the Florida Panhandle. Initial emergency response efforts by the Florida Forest Service (FFS) and all emergency management operations were focused on human safety.

Timber damage assessments followed immediately, requiring **flight observations** and **ground reconnaissance** by the FFS Forest Management Bureau. Additionally, a team of industry experts were consulted, and existing **Forest Inventory and Analysis** data was reviewed, resulting in the development of the Florida Forest Service’s initial 7-day timber damage assessment. This served as a **baseline** for initial recovery needs and provided approximate forest damage across the 11 Florida counties impacted by Michael.

As **areas became more accessible**, our Forest Resource Assessment and Recovery Team began conducting an **additional ground survey** utilizing a forest health protocol, also used by neighboring Georgia. The **743 data points** provided a more composite map, detailing and further quantifying the **unprecedented forest damage** sustained by Hurricane Michael in Florida.

