

ENVIRONMENTAL RESOURCE COMPLIANCE

ACTS OF NATURE

The District does realize that catastrophic events (i.e., hurricanes, severe fire events, floods, etc.) do occur in South Florida and they can severely impact wetland mitigation, and wetland and upland preserve areas. The severity of impacts can range from a few windblown trees to severe habitat destruction. It is our responsibility to review the impact aftermath with an objective and empathetic eye, while still being cognizant these areas need to provide adequate compensation as mitigation, preservation, etc.

Below is a draft protocol for several possible scenarios:

Flooding (not man induced):

Depending of the volume of water involved, time in inundation, and the stage of the project, impacts may result in a temporary submergence of emergent plantings, an uprooting of planted vegetation to a long term submergence and plant die-off or die-back. A short-term inundation might require just a replanting of uprooted emergent vegetation. Longer term inundation might result in more severe condition such plant die-off or die-back. One may want to allow a sufficient one year recovery (growing season) period to determine habitat response in these more severe cases. Should the area not recover after an adequate waiting period, the situation may require supplemental plantings.

Fire:

Fire is a natural management tool in habitat preservation. It decreases accumulated biomass, aides in nutrient recycling and preserves habitat type through the die-back of some woody plants. Catastrophic fires are severe events where, due to prolonged extreme temperatures, vegetation, seed banks as well as plant roots systems can be destroyed. It can take a many years for an area to recover from a catastrophic fire.

Fire can be part of the mitigation management plan (i.e., prescribed burning) or it can be caused by lightning or arson. Should an unplanned fire take place in or around a mitigation area, one should first determine the severity of the event. If it is a newly constructed mitigation area, has minimal accumulated biomass or has some degree of inundation, it may not burn very well. Well established mitigation areas (wetland and uplands) can benefit from fire events (prescribed or natural).

In the event of a catastrophic fire event, one must determine if remediation should be required. As with extreme flooding events, there will be significant dieback of vegetation. A sufficient time period may be required to determine the long-term effects of the fire. It will be critical to continue maintenance events to deter established of exotic and nuisance vegetation.

Hurricane and Extreme Winds:

Hurricanes can cause extreme damage to mitigation areas. Damages can include tree fall, uprooted plants and impacts from long periods of extreme high water (see flooding). Damage to these projects should be evaluated on a case by case basis. Created mitigation projects, still within the five year monitoring and maintenance period, need to still meet the required success criteria. Fallen newly planted trees and shrubs can be easily uprighted and staked. If done in time, survivorship is good. Typically, herbaceous material area gets wind damage and will look a little worse for wear for a while but usually recovers very well.

Larger leaning trees, in more mature systems, can pose more of a safety issue. Trees leaning towards dwellings and posing safety or structural hazards can be removed if desired. The trunks of cypress trees that have been snapped off midway up the tree should not be removed since the trunk can coppice (i.e., produce new growth).

Hurricane damage can also come later in the form of insect infestations (e.g., IPS and pines bark beetles, etc.). These insects typically attack stressed (from floods and/or wind) pine trees first, then sometimes move on to healthy trees. In accordance with standard forestry practices, one is to create a safe zone 200 feet out from the infected trees. All infected trees plus the safe zone trees are to be cut down and removed from the site. This approach can be extremely detrimental to the tree populations in small preserves. There should be an attempt to preserve healthy trees whenever possible. Systemic pesticides are available; however under no circumstances should these products be used in wetlands and/or adjacent to wetlands since they are typically highly toxic to fish and wildlife.

Should the infestation happen within the final years of the monitoring plan, attempt to salvage what healthy trees are left and have the permittee replant with some tree seedlings, or if there is an abundant tree seed source in the vicinity, maybe we accept that, knowing that pines will eventually repopulate the area.

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