Changes in Vegetation

Data from aerial vegetation surveys were compiled and combined with records of all known prescribed and wildfire events in the area. Stage level and water quality data were obtained from the South Florida Water Management District (SFWM D) DBHYDRO online database. A linear regression analysis was conducted to identify drivers of changes in cattail coverage. Model parameters that were explored included acreage burned in the 12 months preceding the surveys; mean, min, and max monthly average stage level; and yearly mean total phosphate levels (mg/L) measured on the outflow side (HWMA side) of the G200A. Stepwise regressions were conducted to select variables for three models predicting percent cattail coverage, yearly change in percent cattail, and percent sawgrass coverage.

Changes in Diversity Along the L23 in HWMA

The L-23 levee of Hole Land WMA was surveyed for small mammals between October 19 and October 29, 2014. One hundred aluminum Sherman traps were set along the eastern base of the levee at 400 foot intervals along the entire length of the levee for ten nights. Animals were identified to species, sexed, and weighed. Prior to release, newly captured individuals were marked on their underside with a red permanent marker. Relative abundance indices were calculated for each species captured. Data were then compared to surveys conducted between 1995 and 1997.

Conclusions: The operation of the G200A resulted in dramatic changes in Hole Land’s vegetation structure. Not only was hydroperiod affected, but the inflow of nutrient contaminated water promoted the explosion of cattail in the area. During the nineties when an active water schedule prolonged yearly hydroperiods, small mammal populations were likely concentrated closer to the L23 where elevation is highest. Despite declining trends in mammal encounter rates in both Hole Land and Rotenberger WMAs, the conditions resulting from the G200A pump failure may have slowed that trend in Hole Land WMA.