

Fire Returns to Native Palms in Coastal South Florida

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1. *Sabal palmetto* (Sabal palm) completely engulfed in flame.

The raw visual intensity of a raging fire burning through palms (Front Cover; Figs. 1 & 2) could cause the palm enthusiast to look on in horror. Fear not, frond friends, fire is no foe to these Florida palms.



2. Fire burning through large stand of *Serenoa repens* (Saw palmetto).

Fire was once very common along South Florida's coastal dune and coastal strand habitats. Fire caused by lightning was believed to have occurred every four to five years along South Florida's barrier islands (Austin et al. 1977). As in the pineland communities of Florida, periodic natural fires historically maintained the integrity and openness of coastal strand habitats while sustaining a high diversity of native flora and fauna. Prescribed burning is now a widely accepted management tool used for reducing fuel loads, managing exotics and restoring the native species composition of Florida's natural habitats.

On January 17, 2004 the Florida Department of Environmental Protection (FDEP) conducted a prescribed burn on 6.5 ha (16 acres) designated for coastal strand restoration at Bill Baggs Cape Florida State Park, Key Biscayne. Fairchild Tropical Botanic Garden biologists were invited to participate in monitoring the effects of the fire on the strand vegetation and assist as observers during the fire.

The burn crew utilized the method of back burning (burning against the wind), making the

fire more manageable, but also making the beginning stages very anticlimactic. At the start of the burn I noticed the slow movement and uneventful behavior of the fire. Upon ignition, the flames crept along slowly at a snail's pace through the low herbaceous understory. The fire methodically marched along as a 15 cm (6 in) tall army of small flames (Fig. 3) through the *Coccoloba uvifera* (sea grape) leaves. The mood of the fire changed dramatically once the fire reached either *Serenoa repens* (saw palmetto) or *Sabal palmetto* (cabbage palm). Once coming in contact with the flammable dead fronds at the base of the palms the fire quickly spread and engulfed each palm and within seconds transformed it into a towering inferno (Fig. 1 & Front Cover). I stepped back in

facing page:

3. Low intensity fire burning *Coccoloba uvifera* (sea grape) leaves.

4. *Serenoa repens* (saw palmetto) inflorescences produced less than 3 weeks after burn.





5. A few weeks after the fire, singed seedlings of *Sabal palmetto* make strong growth.

awe of the speed and the intensity that the fiery blaze burned through these native palms.

Both species of palm are well adapted to fire-maintained habitats and are known to recover quickly from fire. Immediate post fire responses of *Serenoa repens* include higher flowering frequencies and increased vegetation production (Abrahamson 1999), increased fruit production (Carrington et al. 2000) and increased total sugar and moisture content of rhizomes (Hough 1968). Less than one month after the Cape Florida burn, both palms had vigorous new growth. *Serenoa repens* produced inflorescences (Fig. 4). New *Sabal palmetto* seedlings germinated, while existing seedlings made rapid growth (Fig. 5).

With the use of management tools such as prescribed burning, land managers plan to restore the natural habitats of South Florida and once again return the native palms to their majestic

rule as the overseeing monarchs of the coastal strand.

LITERATURE CITED

- ABRAHAMSON, W.G. 1999. Episodic reproduction in two fire-prone palms, *Serenoa repens* and *Sabal etonia* (Palmae). *Ecology* 80: 100–115.
- AUSTIN, D.F., K. COLEMAN-MAROIS AND D.R. RICHARDSON. 1977. Vegetation of southern Florida. II–V. *Florida Scientist* 40: 331–361.
- CARRINGTON, M.E., J.J. MULLAHEY, G. KREWER, B. BOLAND AND J. AFFOLTER. 2000. Saw palmetto (*Serenoa repens*): An emerging forest resource in the southeastern United States. *Southern Journal of Applied Forestry* 24(3): 129–134.
- HOUGH, W.A. 1968. Carbohydrate reserves of saw-palmetto: seasonal variation and effects of burning. *Forest Science* 14: 399–405.