Firefighting teams battled against dozens of blazes in the park during the last fire season – many of which were started by humans. Photos: Justin Sullivan

and March alone is cause for concern.

"There appears to be an increase in the number of vagrants in the park, as well as in the number of fires started deliberately," says Philip Prins, SANParks fire manager for Table Mountain.

> Most of the fires that take place in the park are caused by humans

The park's Fire Management Department has implemented an increase in law enforcement patrols. According to Prins, most of the fires that take place in the park are caused by humans – whether through negligence or deliberately.

"Some human-caused fires result from camping fires left unattended, discarded cigarettes, and the illegal discharging of flares and fireworks," says Prins. There are many that are intentional and deliberate, he says.

"We can only guess as to the motives," says Carly Cowell,

A fire that scorched 1 256ha of land between Ocean View and Simon's Town is believed to have been started deliberately, as is a 57ha fire that took place in Deer Park. In Karbonkelberg, a fire that affected 513ha of land was started by school children. Unattended camp fires in Newlands Forest, Els Ravine and Platteklip Gorge – to name a few – also caused large areas to burn.

"Table Mountain is an open-access park, which makes it very difficult to control the numbers of people entering," says Prins.

In the aftermath, the park also faces the major challenge of clearing alien invasive plants that come up after fire. "If they are left to grow, they can cause more fires sooner than would naturally occur in the fynbos," says Cowell.

Sensitivity to climate change threatens fynbos diversity

Long periods of severe hot and dry weather are causing loss of plant diversity in fynbos, according to a new study published in the Proceedings of the National Academy of Sciences.

Fire is very important for sustaining and enhancing biodiversity in fynbos and many other ecosystems, but the cycle of regeneration is being negatively impacted by climate change.

The South African Environmental Observation Network (SAEON) highlighted concerns on the increasingly extreme summer weather in the study, in collaboration with researchers from the universities of Cape Town, KwaZulu-Natal, Buffalo, Connecticut, Yale, Pace and Stellenbosch.

Through monitoring over 50 vegetation plots in the Cape of Good Hope Section of Table Mountain National Park, the 44-year study found that species diversity has declined due to prolonged spells of hot, dry weather in the first year after fire. The major impact is found to be on graminoid species and species that sprout after fire.

SANParks rangers and Honorary Rangers were instrumental in locating some of these old plots,

Ross Turner of the University of KwaZulu-Natal, Stuart Hall of Stellenbosch University and SAEON's Jasper Slingsby investigate fynbos in the park. Photos: Adam Wilson

which became tricky to find over the years.

Some species showed a 0,5°C increase in maximum temperature tolerance.

Species that have low tolerance of high maximum temperatures have been disappearing, while those that have been colonising plots have a higher maximum temperature tolerance. Opportunities for successful regeneration of vegetation have become increasingly rare due to this sensitivity to climate change.

The study also found a legacy impact of invasion by alien plants, which were common in the area until the mid-1980s.

"This study confirms our need to clear aliens in the park, as the longer they are present the greater their impact on the diversity of the flora," says Carly Cowell, SANParks regional ecologist at the Cape Research Centre.

These shifts in the composition, structure and function of fire-prone ecosystems are a concern for summer-dry fire-prone ecosystems around the world.

"The bottleneck that extreme weather places on post-fire regeneration may compromise the stability of plant populations," says Jasper Slingsby, SAEON ecologist and lead author on the paper.

"Many species in ecosystems that regenerate in the first year after a fire event are subject to a form of climactic Russian roulette. As climate change intensifies, there are fewer empty chambers in the gun."

"This has been taken into account in our prescribed fire planning and we are looking at long-term climate models when planning burns," says Cowell.

SANParks scientists and rangers are monitoring at-risk species in Cape Point, and the effects of climate and fire on their survival.

FALL FOR THE PENGUIN

Heading to Simon's Town the to Boulders Penguin Colony t endearing creatures. You'll se common name 'jackass' as th They communicate with one displays. These monogamou comforting behaviour. African decline in numbers over the p their food sources, habitat de Photo: Petro Kotzé