

## **Wild fire at the Ankafobe Forest: reserve for *Schizolaena tampoketsana***

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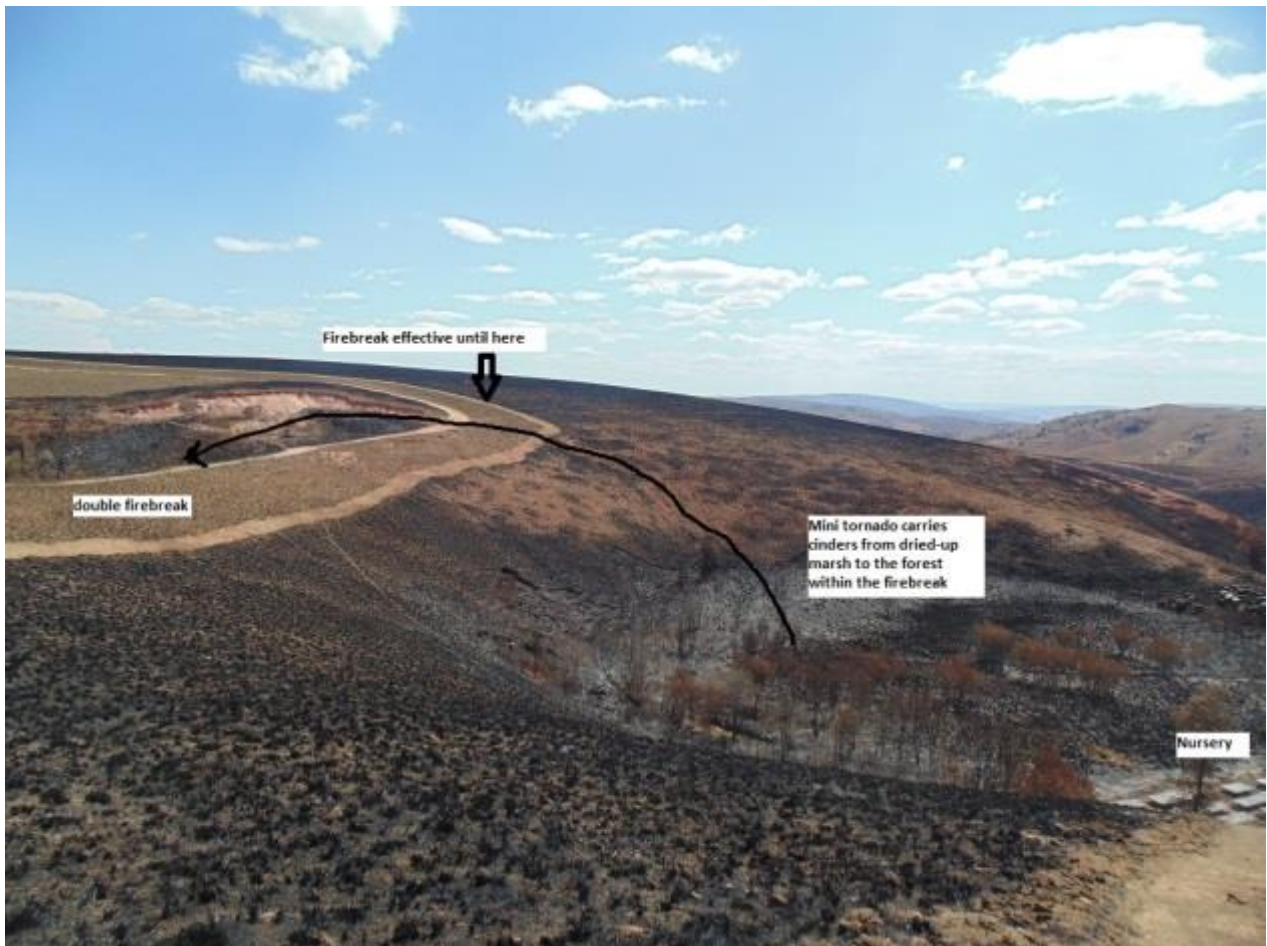
4th November 2014

The Ankafobe Forest is a tiny (33-ha) forest fragment located on the Tampoketsa of Ankazobe, a distinctive plateau cut by deep valleys on the Malagasy Central Highlands, a few hours' drive from the capital city of Antananarivo. It consists of three sub-humid evergreen forest patches located within adjacent valleys and surrounded by species-poor and low-productivity anthropogenic grassland. It is important primarily because it is a very rare vestige of Highland Forest and also because it contains most of the world's total population of one of Madagascar's rarest and most threatened trees, *Schizolaena tampoketsana* (Sarcolaenaceae). Missouri Botanical Garden has supported a community-based conservation project at this site since 2006 with the focus on three major activities: protecting the forest from wildfires, development, and forest restoration. Concerning the control of wildfires, each year we enable the community to maintain a 20 m wide fire break that totally encircle the site and also provide salaries for daily fire patrols during the dry season. With respect to development we have facilitated a range of activities including: the construction of two classrooms for the local school, the installation of four wells, the construction of a meeting room and roadside boutique, the installation of tourism infrastructure (trails, interpretive signs, and a camp site); and fish farming and bee keeping projects. Finally, concerning forest restoration, we aim to expand the native forest from its current location in the lower slopes and bottom of the valley, to the upper slopes. We are doing this by propagating a selection of native pioneer tree and shrub species in five local nurseries and then planting these seedlings on the anthropogenic savanna of the upper slopes. Recently, having observed high mortality and slow growth rate of seedlings planted previously in the harsh conditions of the upper slopes, we have invested in improving soil conditions and providing shade at the restoration sites by sowing green manures prior to planting the tree seedlings.

On 25<sup>th</sup> October 2014 a wild fire, currently of unknown origins, jumped the Manankazo River, south of the Ankafobe Forest, and, pushed by fierce winds, swept through the grasslands until it reached the double firebreaks of the Forest. Here, more than 200 members of the local association (called VOI-Sohisika), that is responsible for managing the forest, were waiting. They accompanied the fire as it consumed the grasslands along the entire south-western edge of the reserve and, whenever it leapt over the firebreak into the reserve, successfully extinguished the flames. Wild fires are an annual occurrence in the vicinity of the Ankafobe Forest and until this moment this fire and its successful control had been no different from any other, but then things started to get more serious. The fire entered into small valley just outside of the firebreak, where one of our five tree nurseries is located. Here, boosted by the abundant vegetation of a dried up marsh, the flames became very hot, too hot to approach, and fire-fighters concentrated on dampening both the nursery structures and the nursery's stock of 10,000 tree seedlings that were destined for our restoration endeavours. Despite their efforts the potting shed burst into flames and, while only one bed of seedlings actually burnt, many others seedlings were scorched and probably killed by the intense heat. As the team fought the fire at the nursery they witnessed an incredible piece of bad luck: a small tornado,

originating in the valley bottom, moved up the valley sides and over the firebreak, a distance of some 50 m, taking with it burning cinders from the marsh. The forest vegetation within the Reserve was now alight. During the next three days the increasingly exhausted fire-fighters sought to control the fire within the forest. During the day they made some progress and on one occasion even thought they had extinguished the fire; but at night the fire re-established its force. It was not until 28<sup>th</sup> October that a concerted effort along a trail transecting the forest enabled the team finally to stop the fire's progress.

In total the fire had burnt approximately nine hectares of the 33-hectare forest and also burnt a similar area of savannah where we had invested in restoration. Fortunately, most of the forest that burnt was secondary vegetation that had first burnt some ten years previously. In addition, we estimate some 6,000 seedlings in the nursery were killed. While these losses are significant it is probable that the entire forest would have been lost without the huge and dedicated participation by the local community in fighting the fire. We will now carefully consider how to reduce the risk of such events in the future and how we can quickly and effectively restore the parts of the forest that have burnt.



**How the wildfire entered the Ankafobe Forest.**

Selection of illustrative photos



Fire in the Ankafoke Forest



Fire-fighting at night



Nursery 21<sup>st</sup> October



Nursery 25<sup>th</sup> October



Fire fighting at the nursery



Ankafoke Forest 31<sup>st</sup> October