

No smoke without a fire

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After the devastating wildfires that ripped through a number of Overstrand communities just over a month ago, those affected began to clear away the rubble and debris, pull the pieces of their lives together and prepare to start over. This was the case at Camphill Farm and School in the Hemel-en-Aarde Valley where, miraculously, relatively little damage had been done to the infrastructure (The Village NEWS 30 January 2019). The digger loaders moved in, pipes were replaced and the School felt confident that within the next week or so, it would again be fully-functional.

Yet, several weeks later, this prospect has moved further and further away from realisation, as the community is faced with an environmental conundrum of epic proportions. While the clean-up was taking place, staff members were aware of wispy spirals of smoke rising from the ground here and there, but as the days went by they were alarmed to see these morph into dense clouds of smoke hanging over the Onrus River at the lower end of the property. Before long, the administrative staff were coughing and spluttering and grabbing for face masks. There was absolutely no chance of the children coming back to this environment, especially since several of them suffer from respiratory ailments.

They called in the Fire Department, which in turn, consulted with the Overstrand Environmental Department and soon there were specialists pouring in from the provincial and national Environmental Departments, CapeNature, SANBI and Working on Wetlands. They all agreed on what was causing the smoke, but no one knew exactly what to do about it.

It turns out that the surface fire had gone underground and formed what is known as a smouldering hot spot, or a peat or bog fire. If left to its own devices, it could go on burning for months, or even years, waiting for just the right conditions to flare up into a full-scale surface fire again. All it needs to keep going is sufficient oxygen, fuel and humidity and all of these are present in abundance. This

phenomenon is relatively common in countries like Ireland, Indonesia and Canada, and according to a forensic report produced after the 2017 Knysna wildfires, conclusive evidence indicates that at least one arm of that conflagration arose from a neglected smouldering hotspot.

As far as the Camphill peat fire is concerned, one of the aggravating factors is the ecological sensitivity of the site. The Overstrand Municipality (OM) comments: "This wetland is characterised as the only remaining piece of palmiet vegetation wetland, which plays a critical role in the functioning of the Onrus River and the Onrus Estuary and is of considerable ecological importance." It goes on to add that "the remaining wetland is currently the only natural filtering system that still keeps the estuary in balance".

According to the OM, "Unfortunately, this estuary's balance is easily tipped because it is such a small catchment (area) that is heavily infested with invasive alien plant species. The sub-surface fire currently smouldering at the foot-end of the wetland could result in an ecological disaster if the site is not protected and mitigating factors implemented to stop the fire from spreading into the palmiet vegetation." One of the challenges is, therefore, to stop the underground fire from spreading and the second is to extinguish it altogether, thereby also putting a lid on the toxic, carbon-laden smoke which is belching into the atmosphere, especially in the early mornings and evenings.

Environmental and wetland specialists continue analysing and monitoring the situation. During the past week some interesting facts emerged. Although government authorisation had been obtained to dig trenches across the wetland to prevent the fire from spreading, existing irrigation furrows were discovered, probably built in the 1950s/'60s, and are now being reinforced to fulfil this role. Drone-borne infrared cameras producing thermal images show that although the 2ha hotspot has gained in intensity, it has not spread.

By drilling down into the peat bed, it could also be determined that this wetland has been in existence for the