



Vulcan provides in-field training with multiple agency involvement to the Cape Winelands Fire Services and the VWS during a prescribed burn in Franschoek

Vulcan's elite firefighting crew a first in South Africa



Crew boss, Luncedo Rorwane works in thick smoke and steam during mop up operations

Vulcan Wildfire Management has introduced the country's first specialised team of wildfire firefighters that offers an integrated wildfire management service (IMS) for municipalities, land owning organisations, forestry companies, private land owners and Fire Protection Agencies (FPA).

Ryan Heydenrych and Patrick Ryan are the directors of Vulcan Wildfire Management, which is based in Stellenbosch. Their initial focus is in the Western Cape and the intention is to expand their inter-agency model nationally. "Our inter-agency approach is unique. Normally all crews are linked to local landowners," says Heydenrych.

He explains that until now South Africa had no top level, wildfire focused, professional firefighting ground crews with full time leadership. "Vulcan is the only company that has a consistently high positive impact on the initial phases of a wildfire. We can carry out complex strategic operations,

and maintain an organisational independence that allows us to be geographically flexible and hassle free to incident commanders," explains Heydenrych.

Ryan says the success of their model is based on attracting and retaining the best firefighters, investing in developing their skills, and providing an environment for a successful wildfire career path.

"We want to offer a career in wildfire fighting so that all crew members can earn a decent salary and have a career pathway. Firefighting cannot be viewed simply as a short-course based job creation project because desperate

people see it as a way of earning a short-term income and are not dedicated to the profession. This is not sustainable and puts many lives at risk," he emphasises.

Heydenrych and Ryan learnt their skills from the ground up. They have both completed a range of crew leader and incident commander courses. Heydenrych joined the Volunteer Wildfire Service (VWS) in 2009. A marketing graduate, he ran his own business at the time, and in 2010 was appointed by the VWS as its marketing director.

"Over the past six years my fire-line role has been predominantly in the crew leader position. This experience made me realise there is an urgent need for a different strategic fire prevention approach.

"There are significant advantages in containing a wildfire in the initial attack stage and this affects both the possible environmental and financial impacts of a large devastating wildfire. Specialised crews of qualified and experienced team members would be a better way to do things," he says.

Ryan a professional photographer in advertising met Heydenrych at the VWS. "Over the last three years I have been deeply involved in guiding and developing the VWS, and applying international best practice to the organisation. I was on the board for three consecutive years, which allowed me to develop a greater understanding of the management of a wildfire organization. I am also a member of the International Association of Wildfire (USA)," says Ryan.

Hotshots and Raft best practice

When they decided to establish Vulcan Wildfire Management, Heydenrych and Ryan spent two years researching international best practice business models, and networking to build sound working relationships with relevant private, municipal and provincial organisations and disaster management agencies.

Their research convinced them that the best practice wildfire management systems are the United States' Interagency Hotshot Crews, and the Remote Area Firefighting Team (Raft) in New South Wales, Australia.

America introduced the Hotshots programme in the 1940s. The name 'hotshots' is about being in the hottest part of fires. These are first response crews of 20 team members that are sent in to fight the initial phases of the fire. Their speciality is wildfire suppression, but also do search and rescue and disaster response assistance.

Like the Hotshots, Vulcan emphasises everyone's responsibility and right to a safe work environment. All crew members should be skilled in risk management, firefighter safety, fire behaviour, communications, job hazard analysis,

fire shelter deployment, and field drills with various fire suppression techniques.

The Australian Raft system uses skilled firefighting teams capable of operating a long way from vehicle support. Heydenrych describes how the crew members rely on each other and are highly trained, have good navigational skills, are self-supporting and can carry food, drinking water, basic camping equipment and the heavy firefighting equipment over long distances.

"We want our crew members to be dedicated to their profession and fit enough to pass the 'arduous pack test' which involves walking 4.83km carrying 20kg in 45min or less. We operate in rugged, isolated areas accessible only by four-wheel drive vehicles and then hike to the fire point. We also create fire breaks by cutting earth trails and doing back-burning work," he says.

SWIFT crew system

"Vulcan is focussing on offering elite wild-land ground crews of the highest calibre. During the 2015-16 fire season, which is December to April in the Western Cape, we worked closely with the Cape Winelands fire services and provincial disaster management centres to successfully test our Specialised Wildfire Integration Firefighting Team (Swift) crew system.

"We proved that our Swift crew-based model is sustainable. Our vision is for there to be at least one specialised team per municipality and that these are interlinked so that resources can be shifted where and when needed," says Heydenrych.

Firefighting is a profession

Vulcan wants to redefine and raise the standards of the South African view of ground crew types. "Traditionally ground crews are assumed to be unskilled or semi-skilled people. It is time to invest money in skilling firefighters to make a difference," says Heydenrych.

Vulcan offers Type 1, Type 2, and uniquely, specialised Type 1+ crews. The standard and preferable team size is 20 firefighters however smaller crews, called sticks, can be formed. Within each crew there is strong leadership, experience and the right balance of skills such as drivers, chainsaw operators, and helicopter safety leaders."

Personal protective equipment

Heydenrych and Ryan believe the standards for personal protective equipment (PPE) in South Africa must be raised and enforced because many firefighters are given sub-standard equipment. Vulcan only use Bullard firefighting helmets, which meet local and international specifications. "We do this even though they are not cheap. We care for the safety of our crew members.

Tools and equipment

Vulcan crews are equipped with the following minimum gear and resources:

- Advanced Fire Information System (Afis)
- Crew transporters.
- Chase or equipment vehicle or medium size tanker as alternative to chase vehicle.
- All internationally approved clothing and PPE.
- All personal fire line gear: Packs, four litres water, food for 12 hours, clothing, headlamps, first aid kits etc.
- Base camp tents, sleeping bags and approved personal items.
- Crew line-of-sight radios.
- Strategic communication radios as per designated unit setup.
- Fire line tools: Beaters, rake hoes, chainsaws, handsaws, drip torches, fusees and other tools

- Fire line equipment: GPS, Weather meter, thermal scanner

"The solution is not simply increasing the boots on the ground at a wildfire. As with military engagements, there are times when more specialised forces need to be deployed." Vulcan says this is where the use of highly trained crews in the long term saves money and the environment.

Below:

Ryan Heydenrych rests his twisted ankle after an ember storm on the fire line



PapaJerry Nduwa assists a Cape Winelands firefighter at the Wabooms fire