In the Netherlands, in recent years several large wildfires occurred. Examples are the large fires in Bergen and Schoorl in North Holland (August 2009, April 2010 and 2011), on the Strabrechtse heath in North Brabant (July 2010), the Drenthe Fochteloërveen (April 2011) and on the Veluwe on Radio Kootwijk (April 2012). To reduce fire occurrence it is essential to accurately identify fire cause. This needs to be a co-operative effort and ideally includes key government agencies (Police, Fire, Parks Service, Local Government and the like), in the public and private sectors, linked where appropriate with a national strategic approach.

The key message here is by accurately identifying fire cause and determining patterns of fire lighting, an on-flow of information will result to facilitate the prosecution of offenders, mitigation of accidental and negligently caused fires, targeted prevention education campaigns and the changing of legislation if needed.

Fire scene investigation

Currently it is believed that over 90% of wildfires are caused through deliberate or reckless acts. If this is the case, many of these fires are criminal acts that need to be addressed. In these instances, the Police will normally take the lead for the investigation with a key partnership being provided by the Fire Service. It needs to be emphasised that this is a joint role using the skills of both agencies to address.

In accurately collecting fire data, the modus operandi (MO) can be identified and cases then linked. This can then form a key part of the investigation to then find the persons responsible. Most importantly by using tools such as mapping data bases and analysing fire occurrence, investigators can more confidently investigate fire events.

In the need for teamwork is essential. Wildfires must be investigated using fire and police investigators at the same time as part of a team. The combination of skillsets and the ability to share the workload will result in greater benefit for all involved and ultimately, lead to more successful investigations and prosecutions.

Descriptions Fire spread

A key element of investigating wildfires is understanding the way in which a fire develops. This is achieved through the interpretation of physical markers that fire leaves on flammable and combustible objects in its path. These ‘indicators’ are translated as fire and direction indicators and are formed by the interaction of heat, flame impact and the by-products of incomplete combustion with the object and vegetation.

The indicators will allow investigators to identify the direction the fire took from its origin. By locating and marking, with marking flags of the individual indicators, an investigator can then reconstruct the fire spread and ultimately identify the area and point of origin of were the fire started.

Methodology

It is imperative that the examination of the fire scene is conducted as soon as possible after the report of the fire is received by the fire service. This ensures that the area is as least disturbed as possible and that eyewitnesses are more likely to be nearby to be questioned, a key element in the process. Combined with this is the need to educate fire crews to ensure they don’t interfere with the area they discovered first burning on their arrival and for them to flag off this area for the investigators to more closely examine. Ideally a guard should also be placed on this area to prevent people from entering it and contaminating the scene. This step is critical as this area contains the cause of the fire and the evidence can be easily lost if fire suppression takes place here.

An additional benefit is the time involved in examining fire scenes can be drastically cut if two or more investigators attend.

The inventoried information will be used to determine the origin, and fire behaviour and fire growth simulator that incorporates both spatial and temporal information on topography, fuels, and weather. (expected to spread fire front in the calculation time).