



## Burning of Heathland in Military Areas in the Netherlands

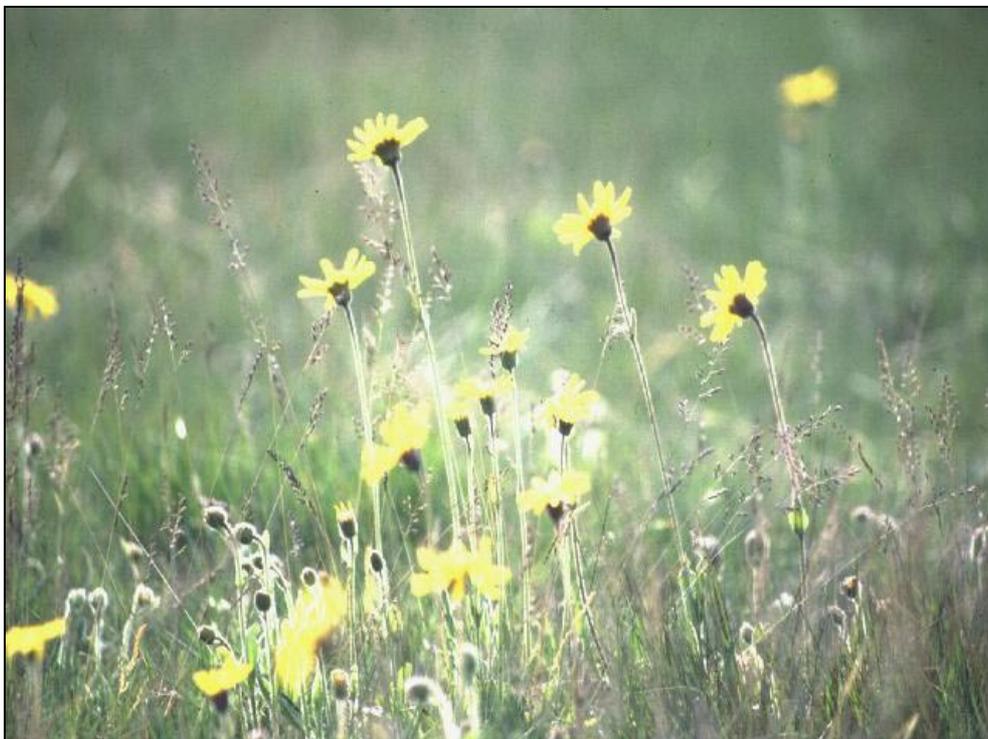
### Project Objectives

Heathlands in the Netherlands are mainly managed by mowing, grazing or sod-cutting. Due to their use as military training areas, some heathlands are treated different: On the large artillery shooting ranges Oldebroek and Harskamp, the open areas are managed by fire. Due to unexploded ammunition, sod-cutting or mowing is not possible, so that prescribed fires are used. Burning is almost abolished in The Netherlands, but it has always been one of the traditional treatments to sustain and regenerate heather. It is remarkable that especially in the military areas, that are burned regularly, rare and endangered species are found, which are not existing in any other place of the country. One example is the Heath Bush cricket at the heathlands of the Oldebroek shooting range: This grasshopper was recorded as to be extinct in 1987, but in 1999 it was discovered on the previously burned areas at Oldebroek. This species can be found nowadays only at two places in Europe: at the place mentioned above and at the Lüneburger Heide in Germany.

Additionally, many rare plant species benefit from the burnings: At the Harskamp shooting range, the largest populations in The Netherlands of *Arnica montana* can be found, amongst other species like *Pedicularis sylvatica*, *Scorzonera humilis* and *Polygala vulgaris*.

Of course, fire is not beneficial for all species, but the examples mentioned above make strong arguments to reconsider fire as a promising method to manage heathlands. Further research on this topic would be very helpful.

It should be noted, though, that areas which are dominated by high grass coverage, can not be re-converted into heathlands by fire. Sod-cutting is more appropriate in these situations.



**Figure 1.** *Arnica montana* at the artillery shooting range Harskamp.



**Figure 2.** Prescribed burners in action.

### **Permits**

The local communities in conjunction with the fire brigades can permit the prescribed burns. Conditions have to be suitable before the fire, especially an incomplete consumption creates unwanted air-pollution.

### **Practical approach**

Burnings are conducted in winter only, under the supervision of the military fire brigades. Patches and lines with no fuels are used as fire lines to control the fire. The danger that the fire gets out of control is very small.

The fire is set under a given set of weather parameters only, so just a few days are suitable each year. The weather must be dry with slow winds (wind speed of 2,5 to 4). Too fast winds make it hard to control the fire, too slow winds do not spread the fire well enough. The fire intensity is controlled by different firing techniques, either fast wind-fires or slow backing fires with high consumption or organic materials. Slow fires also consume many seeds stored in the organic humus layer and animals which are dormant in upper soil layers. In the case of heathlands with grasses, we therefore burn with the wind.

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