

Managing Invasive Native Scrub

Fire Management Planning Process

Evidence has shown that burning of Invasive Native Scrub (INS, also known as woody weeds) at the seedling stage (ie, less than 20 to 30cm in height) can have a mortality rate of up to 100%. Therefore burning early in the germination phase is vital to controlling the spread of INS.

High seedling germination rates generally occur after prolonged wet seasons therefore the amount of grass available to burn will have also increased.

Vigilance is required for the first two years after any prolonged wet period for seedling germination and if detected, a management plan needs to be implemented.

The following is a guide of the actions that you may need to implement. Remember, one fire event alone will not give a permanent result and a second follow-up fire may be required in three to five years' time. Other follow-up treatments like spot spraying with herbicides may also assist in breaking the seed cycle.

Information contained in this publication is of a general nature to assist landholders in preparing for management of Invasive Native Scrub (INS) through burning.

Landholders should take their individual situations into account when planning management activities, and seek the advice of appropriate local extension staff in carrying out this work.

Clearing INS species (including burning) requires permission under the Native Vegetation Act 2003. Special provisions are available for landholders wishing to clear INS under the Native Vegetation Act.

For this reason, advice should be sought from your local CMA office before commencing any clearing activity.



Fire management in action.



Monitoring the fire break.

One to two years before burn

- ❑ Consider upgrading fencing to manage Total Grazing Pressure from kangaroos and goats.
- ❑ Planning grazing management is essential. De-stock area to be burnt and make sure there is plenty of feed elsewhere to feed stock. Reducing overall stock numbers may be required.
- ❑ Check INS type to be burnt against fuel loads. For example, is there going to be enough fuel to burn cypress pine one metre high?
- ❑ Determine if any other treatment methods need to be used; any one method may not work on its own. Dozing/chaining may be required to flatten corridors through thick scrub. Herbicide treatment may be required if fuel loads are patchy and burning doesn't eliminate all seedlings.
- ❑ Determine the season that best suits your requirements. Autumn and spring burns are desirable.
- ❑ Establish photo points for monitoring of pasture and INS.
- ❑ Check local Catchment Management Authority, Western Lands and other relevant authorities on permits and approvals (eg PVP) that may be required before burning can commence.
- ❑ Establish a check list so you can keep track of actions taken or other works required.



INS growth in a site suitable for burning.

Months before burn

- ❑ Continue to monitor fuel loads. Make sure you have enough grass and ground litter (900 to 1200 kg/ha) to carry a fire.
- ❑ A burn plan should be drawn up so people can understand what you intend to do and so others like your neighbours understand what may be required of them.
- ❑ Firebreaks should be constructed, not just around the burn area; other paddocks close by should have fire breaks as well. These breaks should also protect environmentally sensitive areas; riparian zones; and Aboriginal and historical sites.
- ❑ Identify what equipment may be required and where to obtain equipment, like a McArthur grassland fire danger meter or perhaps a quick-fill pump from the Rural Fire Service (RFS).
- ❑ Check that all fire fighting equipment and vehicles are in working order.
- ❑ Are there adequate watering points close to burn? Tankers may be required.
- ❑ Will there be enough people to assist on the day and possibly to patrol for several days after?
- ❑ Ensure knowledge of weather patterns for time of burn. [Check Bureau of Meteorology (BoM) and other internet resources].
- ❑ Obtain a permit to burn (if in the fire danger period) and notify your neighbours and RFS of the approximate date you wish to burn.
- ❑ RFS Brigade captains should encourage as many members as possible to attend. INS burns are a good opportunity to gain skills and knowledge.
- ❑ A grader is a valuable piece of machinery to have on site for the day of the burn, so make arrangements for one to be on hand.
- ❑ Make sure you have appropriate cover – third-party, personal and property insurance.
- ❑ Identify and map your property (large aerial, land-sat, mud map), including:
 - Assets** - buildings, structures
 - Vegetation types** - INS areas, grazing areas (winter, summer)
 - Environmentally sensitive areas** - threatened plants and animals or communities, historical or Aboriginal sites, etc
 - Asset protection zones** - fire exclusion areas, safety areas
 - Strategic fire breaks** - main tracks, roads, graded fence lines, rocky outcrops
 - Future and past burn areas**
 - Any important features** on your neighbour's property (water, protected area).

Day of burn

The decision to burn can only be made on the day.

- ❑ Check weather conditions and BoM for the forecast of your area.
- ❑ Check fire breaks and equipment, and that water tanks are full.
- ❑ A briefing must be conducted with all personnel involved in the burn.
- ❑ UHF radio channel and other forms of communications determined.
- ❑ Lighting pattern explained to those involved.
- ❑ Maps must be supplied to all involved in the burn (map should have water points, control lines, radio channel, weather forecast, etc).
- ❑ If people are to be responsible for a designated area or role, others should be notified – eg, western sector of fire (Bob), pump operator (Steve), grader driver (Dave).

Remember, visitors to your property will need to know your property like you do – the names of paddocks, tanks, landmarks and features could be confusing if things don't go right.

After burn

- ❑ Patrolling of the fire ground is essential, especially if there are heavy fuel loads near the fire edge. These should be spread-out and if possible extinguished.
- ❑ Also, check for hollow trees on the fire edge that may have caught alight. Patrolling may have to continue for several days if weather conditions stay hot and windy.
- ❑ Check the interior of the burnt area to see if the burn was successful. You may need to light unburnt areas to kill all INS seedlings.

Wildfire

Post wildfire needs similar management as a planned burn. Total Grazing Pressure management is of utmost importance to control future INS and to re-establish groundcover. Grazing should be avoided where possible, for as long as it takes to allow grasses to re-establish.



A well equipped fire unit with a tank and reliable pump unit, hoses with adjustable nozzles, drip torches and UHF radio. Photo: K.K. Holmes.



A hot burn.



Post burn mortality on a site previously thick with INS cypress pine seedlings.

Year after burn

- ❑ Continue to monitor site for groundcover, plant species and density. The established photo points will be valuable for this.
- ❑ If rain has occurred shortly after the burn and grasses are returning quickly, short-term grazing could encourage plant growth, but make sure stock are removed before seed set. Leaving adequate groundcover will also help in preventing the survival of germinating INS seedlings.
- ❑ Monitoring should continue for germination of INS for several years, especially if a good wet season has followed the burn.
- ❑ Depending on INS species, grazing by goats may be beneficial (eg hopbush), but allow for grasses to re-establish first. Spot treatment with herbicides will also be beneficial for small out-breaks.

Remember, Total Grazing Pressure management is one of the most important aspects in controlling INS.

Further information on pasture management can be found in the NSW Department of Primary Industries publication: *The glove box guide, Tactical Grazing Management for the semi-arid woodlands.*



Before and after photo points of a management burn to control shrub encroachment.



For further information on burning or INS management, contact:

Central West Catchment Management Authority

Phone: 02 6840 7800
Email: cw@cma.nsw.gov.au
Web: www.cw.cma.gov.au

Western Catchment Management Authority

Phone (freecall): 1800 032 101
Email: western@cma.nsw.gov.au
Web: www.western.cma.nsw.gov.au

Further reading about management of INS with fire

Primefact 95, *Management burning of Invasive Native Scrub: principles* (replaces AGFACT P7.2.3). NSW Department of Primary Industries.

Primefact 96, *Management burning of Invasive Native Scrub: techniques* (replaces AGFACT P7.2.4). NSW Department of Primary Industries.