

Case study

Regional firewood plans

Box Ironbark region (Bendigo)

Background

In 2003, the Firewood Taskforce for Box Ironbark forest areas was established by the Minister for Environment in response to growing community concerns about adequate access to firewood resources. With around 61 percent of households in the region consuming firewood for domestic purposes, access to adequate supplies of firewood is an important issue, with the average household consuming an estimated 6.4m³ of firewood per year.

The expansion of parks and reserves in the region had resulted in a 41 percent reduction of State forest open to firewood collection and concerns were raised over the Box Ironbark State forest's ability to continue to meet local demand.

It was identified that there was a need for government to take a proactive role in understanding and responding to the needs of domestic firewood users within the region. Subsequently a series of recommendations for improving firewood licensing arrangements were issued. In response to the taskforce findings and recommendations, government developed a system sensitive to the ongoing needs of domestic firewood users in the region while also implementing measures to ensure the sustainability of firewood harvesting.

The Box Ironbark Domestic Licensing System

The majority of firewood in the Box Ironbark region is collected from private land, with around a quarter collected from public land (TQA Research 2002). Aiming to ensure that both community needs are met and sustainable yields achieved, the Department of Sustainability and Environment (DSE) introduced the Box Ironbark Domestic Firewood Licence System in 2003, allowing DSE to increase its capacity to monitor the collection of firewood from public land.

The permit issuing system has established several methods of balancing sustainable objectives with the specific needs of the local population. Firstly, to ensure that sustainable levels of firewood are harvested, the licensing system regulates the volume of firewood that households can collect from public land by issuing permits which allocate a maximum volume of firewood available for each household per year, Table 1. Permits are made available through local DSE offices and allow customers to collect firewood between March and late August. In

recognition that some households require more than 6m³ per year to meet their energy requirements, the system also offers flexibility to these customers by providing the opportunity to purchase up to double the normal firewood volume if this need can be sufficiently demonstrated.

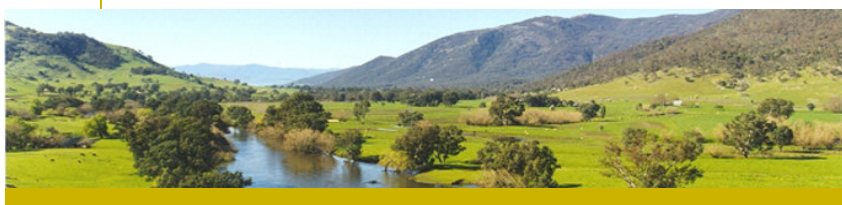
Table 1 Allocation of firewood per household by type

Firewood type	Dry	Green
Durable species	6m ³	8m ³
Common species	8m ³	10m ³

DSE also established designated Community Firewood Supply Areas (CFSA) to provide residents with designated areas where they can collect firewood. Only residents living within a given CFSA are eligible for permits to collect firewood from that area. This measure prevents over-harvesting in particular locations and ensures that residents have access to an adequate supply of firewood. To allow some flexibility, residents may nominate to collect firewood from a neighbouring CFSA if they can demonstrate that the firewood coupe is closer to their residence than the coupe in their allocated CFSA.

It was also recognised that the State forest only has a limited supply of dry, ready-to-burn firewood. Therefore DSE initiated a gradual "phase-in" of a green firewood system to ensure that residents have access to adequate resources well into the future. While dry firewood continued to be available for pension card holders, customers have been encouraged to start planning ahead by collecting green firewood and storing it to dry for future use. To assist new customers to adapt to the green firewood collection system, residents can purchase a green firewood permit in addition to a dry firewood permit for the first two years.

To increase the available supply of green firewood, DSE has managed a forest thinning program to ensure that adequate green firewood is available for collection in each CFSA. By encouraging the stockpiling of green firewood, DSE has addressed several issues at once, including reducing the risk of available resources being stolen from public land or burnt in a wildfire, while also assisting communities in planning for future energy needs.



DSE also implemented measures to ensure that the availability of green firewood permits does not lead to a substantial increase in tree felling. From 2007, to ensure that domestic firewood licensees employ safe working practices, only licensees who have a recognised tree felling accreditation are allowed to cut their own firewood. With felled green firewood priced at only a little more than standing green firewood, the cost incentive for felling green firewood is largely removed once the cost of the requisite equipment and training is taken into account.

Finally, to compliment the licensing system, DSE also established a firewood hotline to provide the public with an easy access point for information about firewood collection. Managed by local DSE staff familiar with the licensing system and the local context, the hotline has provided the community with a convenient means to have their questions answered. The telephone service has also allowed DSE to maintain close contact with local residents.

Permit pricing

Under the licensing system, the cost of a permit varies according to the type of firewood purchased. Due to differing rates of burning efficiency and energy potential, Box Ironbark species of firewood are generally priced slightly higher than common species. Price variation also depends on whether the customer intends to collect dry fallen firewood, green fallen firewood, or felling green standing firewood. Price incentives are created by lowering the price of green fallen firewood in an attempt to steer users toward the practice of collecting and storing green firewood for future use.

For many residents in the Box Ironbark region, adequate access to firewood is also an issue of social equity. In a 2002 study it was noted that if firewood supply was suddenly reduced, many households in the region in the lower income bracket would be adversely affected. Without the financial means or ability to access other heating resources, the study noted that 14 percent of households in the region consider themselves to have no viable heating alternative to firewood (TQA Research 2002). These considerations were also taken into account in the permit pricing structure, providing concession card holders with significant discounts to ensure that they have access to an adequate supply of affordable firewood.

Measuring supply and demand

In addition to the clear benefits the system has provided for enhancing DSE's capacity to sustainably manage firewood supply in the region, the system has also enabled

DSE to gather valuable supply and demand data with greater accuracy. Whereas previous arrangements, which required permit holders to maintain a log book of collected firewood volumes, could sometimes prove to be labour intensive and inconsistent. The new system has allowed for more accurate and comprehensive data to be gathered through the sale of permits according to volume and species. According to the data gathered during 2007, DSE sold 10,328m³ of firewood from the Bendigo Forest Management Area, noting a decrease of 1,589m³ from the previous year. Of the total volume of firewood collected with permits during the 2007 season, 5,628m³ were collected as green wood, whilst the remaining 4,730m³ were dry wood. By providing data such as this, the system has enabled DSE to better understand and plan for community needs, monitor collection patterns, and allow for more sustainable management of forest resources.

Compliance

Firewood theft from public land continues to be a problem, however DSE uses various methods of patrol to reduce local theft by ensuring local collectors have appropriate licenses and are collecting in accordance with permit guidelines. Methods include car, motor bike and aerial surveillance. While surveillance has led to several instances of prosecution, in general field officers have reported a good level of compliance. Furthermore, a trial is currently underway to establish the best method of determining the total level of felled firewood available for collection, and comparing this data against permit sales.

Conclusion

A sound firewood strategy which seeks to ensure long-term sustainable supplies of firewood needs to consider a range of factors including local consumption levels, local supply capacity, social equity issues, and potential ecological impacts of firewood collection. Founded on a solid understanding of these issues, the Box Ironbark Domestic Firewood Licence system has been able to balance various objectives, providing the community with access to an ongoing supply of affordable firewood, while also improving DSE's ability to sustainably manage firewood resources from public land and plan for community needs into the future.

References

TQA research (2002), *Box Ironbark Firewood Collection and Usage Study*, Department of Natural Resources and Environment, Victoria.