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PINERY FIRE REGIONAL FACT-FINDING TRIP

116th report

of the

NATURAL RESOURCES COMMITTEE

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Presiding Member's Foreword

On 25 November 2015, the Pinery area in South Australia's Lower and Mid North experienced a fast-moving and destructive fire which caused two fatalities. Five other people suffered critical injuries. Many thousands of head of livestock perished, and hundreds of buildings and many pieces of farm machinery were destroyed, along with significant areas of unharvested crops. It was a devastating day for the state, and for the region especially.

On 2 March 2016, the Natural Resources Committee conducted an all-day field trip to the Pinery area. On the visit, committee members Hon John Dawkins MLC, Hon Robert Brokenshire MLC, Mr Jon Gee MP, Hon Gerry Kandelaars MLC and Mrs Annabel Digance MP and I viewed first-hand the destruction wrought by the fires and met face to face with impacted community members.

Accompanying the committee on the visit were Mr Steven Griffiths MP, Mr Tony Piccolo MP, Mr Adrian Pederick MP, and Mr Stephan Knoll MP; and Matthew Werfel from the office of Federal MP Mr Nick Champion.

Fires don't respect lines drawn on maps, and on the day of the Pinery fire, both the Adelaide & Mount Lofty Ranges and Northern & Yorke NRM regions were impacted. Consequently representatives from both NRM regions collaborated in responding to the fires, to the recovery effort, and also in supporting this fact-finding tour.

Adelaide and Mount Lofty Ranges NRM Board Presiding Member Professor Chris Daniels and Natural Resources AMLR District Manager Tony Fox travelled with the committee throughout the day, providing background information and commentary, and Northern & Yorke NRM Board Presiding Member Eric Sommerville, Natural Resources N&Y Regional Director Trevor Naismith, and N&Y Landscapes & Sustainability Manager Craig Nixon joined the tour on site. Other regional staff assisted by providing presentations and background materials at various sites during the day.

Committee members heard that some of the farming techniques which have enabled growers to dramatically boost production, including no-till and low-till planting, also contributed to the fuel load and exacerbated the speed and severity of the fire, which burnt an area not previously considered high risk.

The committee heard that the fire has challenged people to rethink their practices and ideas. Conservation tillage practices are being reviewed. New combinations of techniques, some of them older "back to the future" techniques, are being trialled across the fire area to help stop sand drift and topsoil loss, which is of major concern. Revegetation efforts are being made to create and restore "shelter belts" as well as contribute to soil improvement. The committee also heard that, in this instance, pockets of native vegetation (and indeed any vegetation higher or greener than annual crops or stubble) proved to be helpful in controlling the spread of fire.

The fire obviously impacted the community very deeply. This made the spirit of optimism in the region during recovery all the more impressive and moving. The recovery effort has been supported widely by state and local government, and importantly by a great many individuals, volunteers and community organisations, with neighbours unhesitatingly lending support to each other during the fire and afterwards.

I commend the Members of the Committee, Mrs Annabel Digance MP, Mr Jon Gee MP, Mr Peter Treloar MP, Hon Robert Brokenshire MLC, Hon John Dawkins MLC, and Hon Gerry Kandelaars MLC, for their contributions to this report. Finally, I thank members of the Parliamentary staff for their assistance.

Hon Steph Key MP

Presiding Member

5 July 2016

Findings

In the aftermath of the traumatic and destructive Pinery fire, the members of the Natural Resources Committee were heartened to witness a local spirit of optimism and commitment to recovery. It was clear that community members were determined to learn from the event and to use the rebuilding time to rethink NRM and farming practices, among other things.

As a result of the trip, the committee has found there are numerous topics requiring further consideration, including:

- vegetation clearance at road intersections
- fire breaks/shelter belts around townships and how this may affect amount of land in production
- fire prevention measures and monitoring
- timing of return to homes after fire
- contribution of weather and terrain to the spread of the fire and its perimeter
- appropriate aerial plant and how it can be deployed during fire season
- whether, after “grass fires” such as Pinery (and earlier, Wangary), South Australia has received adequate federal assistance for fire recovery
- the potential of the Green Army to assist with recovery, particularly revegetation
- underinsurance due to the cost of insuring, particularly farm appliances
- help needed targeting foxes and other pests opportunistically post-fire
- recent ESL levy increases and the possibility of waivers for those affected by fire or for CFS volunteers involved in fighting the fire.

The Pinery fire has generated a great deal of thought across the community, particularly regarding land management, and specifically tillage and revegetation practices. It was clear, for example, that the change over time to low- and no-till farming contributed to the buildup of fuel load. The lack of traditional firebreaks and fallow paddocks also contributed to the severity of the fire and consequently to the speed of its movement. The continued investigation and trial of farm practices to mitigate risk is highly recommended.

The committee also heard that contrary to popular belief, native vegetation proved effective as a firebreak in some areas during the fire. Native shrubs and trees have many values but additionally were found to have burned more slowly than other vegetation (particularly crop stubble); therefore native vegetation should not be automatically viewed as increased fuel load.

Support for fire recovery is ongoing, and the Natural Resources Committee, DEWNR and the appropriate agencies need to ensure that this remains the case for all those affected by this tragic event.

The Natural Resources Committee

The Natural Resources Committee was established pursuant to the *Parliamentary Committees Act 1991* on 3 December 2003.

Its membership at the time of the Pinery fact-finding visit was:

The Hon Steph Key MP, Presiding Member

Hon Robert Brokenshire MLC

Hon John Dawkins MLC

Hon Gerry Kandelaars MLC

Mrs Annabel Digance MP

Mr Jon Gee MP

Mr Peter Treloar MP

Staff

Mr Patrick Dupont, Executive Officer

Ms Barbara Coddington, Research Officer

Functions of the committee

Pursuant to section 15L of the *Parliamentary Committees Act 1991*, the functions of the Committee are:

- (a) to take an interest in and keep under review—
 - (i) the protection, improvement and enhancement of the natural resources of the State; and
 - (ii) the extent to which it is possible to adopt an integrated approach to the use and management of the natural resources of the State that accords with principles of ecologically sustainable use, development and protection; and
 - (iii) the operation of any Act that is relevant to the use, protection, management or enhancement of the natural resources of the State; and
 - (iv) without limiting the operation of a preceding subparagraph—the extent to which the objects of the *Natural Resources Management Act 2004* are being achieved; and
 - (b) without limiting the operation of paragraph (a), with respect to the River Murray—
 - (i) to consider the extent to which the *Objectives for a Healthy River Murray* are being achieved under the *River Murray Act 2003*; and
 - (ii) to consider and report on each review of the *River Murray Act 2003* undertaken under section 11 of that Act by the Minister to whom the administration of that Act has been committed; and
 - (iii) to consider the interaction between the *River Murray Act 2003* and other Acts and, in particular, to consider the report in each annual report under that Act on the referral of matters under related operational Acts to the Minister under that Act; and
 - (iv) at the end of the second year of operation of the *River Murray Act 2003*, to inquire into and report on—
 - (A) the operation of subsection (5) of section 22 of that Act, insofar as it has applied with respect to any Plan Amendment Report under the *Development Act 1993* referred to the Governor under that subsection; and
 - (B) the operation of section 24(3) of the *Development Act 1993*; and
 - (c) to perform such other functions as are imposed on the Committee under this or any other Act or by resolution of both Houses.
- (2) In this section—
- natural resources** includes—
- (a) soil;
 - (b) water resources;
 - (c) geological features and landscapes;
 - (d) native vegetation, native animals and other native organisms;
 - (e) ecosystems.

Statutory obligations of the committee

The Natural Resources Committee has the statutory obligation to examine a region's Natural Resource Management (NRM) plans that contain a levy proposal.

If a plan contains a proposal for a new Division 1 (land) or Division 2 (water) levy or one that is greater than CPI¹, the Minister must refer the plan to the NRC within 7 days of adopting the plan, as stated in Sections 80 and 81 of the *Natural Resources Management Act 2004*:

80—Submission of plan to Minister

- (8) If a plan prepared under Division 1 provides that the whole or part of the funds required for implementation of the plan should comprise an amount to be raised under Chapter 5 (in this section referred to as a **levy proposal**) the Minister must, within 7 days after adopting the plan, refer the plan to the Natural Resources Committee of Parliament.

Provisions of the NRM Act s81(10) as follows apply:

81—Review and amendment of plans

(10) If—

- (a) an amendment proposes—
- (i) that funds should now comprise or include an amount to be raised or recovered by a levy under Chapter 5 Part 1 Division 1 or Division 2; and
 - (ii) such a levy has not been imposed in the financial year immediately preceding the financial year in which the levy is to be imposed; or
- (b) an amendment proposes—
- (i) that a levy under Chapter 5 Part 1 Division 1 or Division 2 imposed in one financial year be again imposed in the next financial year; and
 - (ii) that the amount to be raised or recovered by the levy in the next financial year will be an amount that exceeds the amount raised for the last financial year adjusted to reflect increases (if any) in the CPI during the financial year immediately preceding that last financial year,

the procedures set out in section 80(8) to (16) must be followed when the plan is amended (and if the amendment is otherwise within the ambit of subsection (8) then no other procedures, other than the procedures set out in subsection (7) and the procedures referred to in this subsection, need be followed).

The Committee must within 28 days of receipt of a NRM plan, consider the levy proposal in that plan, as required under s80(9) NRM Act as follows:

80—Submission of plan to Minister

- (9) The Natural Resources Committee must, after receipt of a plan under subsection (8)—
- (a) resolve that it does not object to the levy proposal; or

¹ The CPI used for this purpose is the CPI for Adelaide for the 12 months to the end of the June quarter of the previous financial year, as set by the Australian Bureau of Statistics. The CPI used for 2016–17 is 1.2%, up from 3.1% for 2015–16. (South Australia Country Fire Service, n.d.)

- (b) resolve to suggest amendments to the levy proposal; or
- (c) resolve to object to the levy proposal.

Once the initial NRM plan (with levy proposal) has been considered by the committee then in subsequent years only plans in which the levy proposal is increased by an amount greater than the CPI increase are referred to the Committee.

Other provisions of the NRM Act detail the process to be followed should the committee decide to proceed in accordance with s80(9)(b) or (c) but are not discussed further in this report.

Referral process

Pursuant to section 16(1) of the Act, any matter that is relevant to the functions of the Committee may be referred to it in the following ways:

- (a) by resolution of the Committee's appointing House or Houses, or either of the Committee's appointing Houses;
- (b) by the Governor, or by notice published in the Gazette; or
- (c) of the Committee's own motion.

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Pinery Fire Background

The Pinery Fire occurred in the Lower and Mid North of South Australia on 25 November 2015, a day with catastrophic weather conditions.² Fire danger levels and conditions are defined under a National Fire Danger Rating System adopted in 2010 by state and territory governments. Fire agencies use this system in conjunction with Australian Bureau of Meteorology forecasts and consideration of other local factors to determine ratings which are then issued to the public. (Australian Bureau of Meteorology, n.d.)

Fire broke out at approximately midday. With temperatures in the high to mid 30s (C) and winds gusting up to 80 kph at around 3pm that day, the fire moved with record-breaking speed across a dry landscape. (See Table 1, below.) In its first four hours, the fire travelled more than 50km and eventually burnt approximately 82,500 hectares of land. The origin of the fire remains unconfirmed.

There were two fatalities, and five people suffered critical injuries. Nearly 500 buildings were destroyed along with approximately 200 vehicles, about half of which were farm machines, and many thousands of head of livestock. (Weatherill, 2015) Approximately 22,500 ha of crops were lost, comprising an estimated 60,000 tonnes of grain, 33,000 tonnes of hay and 50,000 tonnes of straw. (Primary Industries and Regions SA, 2016, p. 14)

In addition to high temperatures and wind, a number of other factors contributed to the fire's extreme heat and rapid spread, including above average rainfall early in November and the widespread adoption of no-till farming practices. Both of these resulted in a high fuel load.

No- or low-till farming is a practice in which crop stubbles are left in place, rather than cleared after harvest. This reduces erosion in lighter soils and also, over time, enriches soil with organic matter. This practice has significantly boosted production in the Mid and Lower North. Harvest in the areas of Pinery and Mallala was about three-quarters completed, while in areas further east including Freeling, the harvest was less than 50 per cent complete. The large amount of biomass from crop stubble and unharvested crops, together with the day's high heat and winds, created an environment in which a fire quickly got out of control and moved across the landscape extremely rapidly.

Important areas of remnant native vegetation in the form of scrub blocks, shelter belts and paddock trees were severely damaged or destroyed. (Natural Resources Adelaide & Mount Lofty Ranges a, 2016)

Table 1. Weather conditions in Pinery area, 25 November 2015.

	Minimum temp. (°C)	Maximum temp. (°C)	Rainfall (mm)	Direction of max. wind gust	Max. wind gust (km/h)	Time of max. wind gust	3pm temp. (°C)	3pm wind direction	3pm wind speed (km/h)
Nuriootpa	11.6	35	0	NW	72	13:25	33.1	NW	41
Roseworthy	13.7	38	0	WNW	81	13:31	30.8	WSW	54

Source: Bureau of Meteorology

About a week after the fire, the Pinery Fire Recovery Centre was established at Gawler to help with recovery and rebuilding by providing information, advice and support in areas including:

² These are the worst conditions for a bush or grass fire. If a fire starts and takes hold under these conditions, it will be extremely difficult to control and will require significant firefighting resources and cooler conditions to bring it under control. Spot fires will start well ahead of the main fire and cause rapid spread of the fire. Embers will come from many directions. Homes are not designed or constructed to withstand fires in these conditions. (South Australian Country Fire Service, n.d.)

- emotional support
- health services available in the community
- information about returning home
- insurance
- management of animals
- replacement of important documents and identification
- natural resource management
- rural business support
- information from Centrelink
- other financial assistance available
- internet access
- information on useful community contacts
- upcoming community events.

In May, the Minister for Communities and Social Inclusion, Hon Zoe Bettison MP, announced the effort would shift from short-term recovery to address medium- to long-term concerns. Recovery is ongoing at the time of this report. More than \$670,000 in emergency grants has been provided and more than \$900,000 has been distributed to people affected by the fire from donations to the SA Pinery Fire Appeal. (Bettison, 2016)

As at 23 May 2016, approximately \$2.17 million in donations had been received to the SA Pinery Fire Appeal, which was set to close 30 June 2016.

Pinery Fire Fact-Finding Trip

On 2 March 2016, the Natural Resources Committee conducted an all-day field trip to the Pinery fire area in the state's Lower North region, to investigate the recovery efforts of local community members, NRM staff, local government and other agencies including volunteer organisations.

The fire crossed the boundary between the Adelaide and Mount Lofty Ranges and Northern & Yorke NRM regions, and so both regions collaborated to support a fact-finding tour of the area by the NRC.

Committee members Hon Steph Key MP (presiding member), Hon John Dawkins MLC, Hon Robert Brokenshire MLC, Mr Jon Gee MP, Hon Gerry Kandelaars MLC and Mrs Annabel Digance MP spent the day meeting and speaking with residents affected by the fires in the area. Also in attendance were committee staff Patrick Dupont and Barbara Coddington.

Joining the committee during the day were Mr Steven Griffiths MP, Hon Tony Piccolo MP, Mr Adrian Pederick MP, and Mr Stephan Knoll MP; Matthew Werfel from the office of Federal MP Mr Nick Champion; Lucy Jensen, ministerial adviser to the Hon Ian Hunter MLC; and Primary Industries SA Recovery Coordinator Mary-Anne Young.

AMLR NRM Board Presiding Member Professor Chris Daniels and Natural Resources AMLR District Manager Tony Fox travelled with the committee throughout the day, providing background information and commentary; N&Y NRM Board Presiding Member Eric Sommerville, Natural Resources N&Y Regional Director Trevor Naismith, and N&Y Landscapes & Sustainability Manager Craig Nixon joined the tour on site. Other regional staff also assisted by providing presentations and background materials at various sites during the day.

On a bus en route to the bushfire area, AMLR District Manager Tony Fox spoke to committee members and other attendees about various projects in progress in the region, such as flood mitigation works for the Gawler River floodplain, and weed management and native revegetation, which helps stabilise riverbank soils and improves water quality.

As the bus entered the fire ground south of the town of Templers, Mr Fox gave an overview of the fire. He explained how the weather, landscape and cropping techniques contributed to the spread of the fire. In addition to the well-known and devastating effects of the fire on life and property, he also explained some of the effects on agriculture, particular how soil was affected.

Innovation in farming techniques and technology, including no- and low-till planting, have enabled growers to dramatically boost production. However, this also contributed to fire load, which in turn exacerbated the speed and severity of the fire in an area which has not previously been considered particularly prone to fire.

A major concern after the fire has been soil erosion. The committee heard that conservation tillage techniques are being reviewed and new combinations of techniques trialled across the fire area to help stop sand drift and topsoil loss. Revegetation efforts are being made to create "shelter belts" as well as contribute to soil improvement. The committee also heard that, contrary to popular belief, native vegetation (and indeed any vegetation higher than annual crops or stubble) has proven in this instance to be very important to slowing and preventing uncontrolled spread of fire, rather than a contributory element. The committee heard more about this later in the day.

Bubner Property, Wasleys

The first stop of the day was north of the Wasleys town centre, where John and Nancy Bubner have a broadacre cropping property that includes a large area of vegetation such as native pine and various eucalypts.

Mr and Mrs Bubner spoke movingly of their experience during the fire's rapid advance, in which good fortune may have played a significant part in keeping them both alive. Mrs Bubner had remained with



Figure 1. AMLR Senior District Officer for Northern Hills, Coast and Plains Chris Madigan, with John Bubner (right) on Mr Bubner's property. John and his wife Nancy were able to save their home but their property suffered a great deal of damage.



Figure 2. NRC committee member Jon Gee MP spoke with Natural Resources AMLR District Officer Jess Cavallo near a fire damaged pergola adjacent to the Bubners' home.

the property during the fire and had watered down the lawn and gutters before taking shelter in the home's bathroom. Mr Bubner was in Gawler and unable to return to the property until after the fire front had passed. Together they were able to put out spot fires close to the house and preserve their home. However, they lost all other farm buildings and many surrounding trees and shrubs.

Mr Bubner said that along with prevailing weather conditions, local practices of stubble retention in fields and continuous cropping contributed to the size and speed of the fire. As these practices are continuing, along with long dry periods, he said he expects such fires to occur again and urged changes to preparedness plans, such as having a fire bomber on standby at regional airports during extreme fire danger days.

A row of Aleppo pines, a favoured windbreak planting in the 1950s and '60s, was partially destroyed in the fire, however, it proved effective as windbreak, burning slowly in comparison to the surrounding fields of stubble. While this helped protect the Bubners' home, said Chris

Madigan, AMLR Senior District Officer for Northern Hills, Coast and Plains, this type of tree is no longer considered appropriate as a windbreak and other plants and trees will be used for replanting windbreaks and shelter belts.

The Bubners told the committee that as insurance was extremely expensive, they were underinsured at the time of the fire. This serious matter would be brought up again by other people at other stops during the day.



Figure 3. A shelter-belt of Aleppo pines on the Bubner property slowed the advance of the fire, protecting the home, but was partially destroyed in the blaze.



Figure 4. In the highly cleared landscape such as the one pictured near Wasleys, on the Bubners' property, remnant patches of native vegetation are important to preservation of native flora and fauna. (Pictured: committee member Hon Robert Brokenshire MLC)

Mr Bubner spoke in glowing terms of gratitude for the support of community and volunteer organisations, particularly the Mallala & District Lions Club and BlazeAid³, which at the time of the committee's visit had camps set up at Hamley Bridge and Roseworthy.

While on the Bubners' property, the committee visited a 20ha patch of remnant native vegetation which had been badly affected by the fire and is considered unlikely to recover for decades. AMLR staff, with funding through the Sustainable Landscapes program, have been working with the Bubners to improve sustainable production on their property, including the remnant scrub, which is considered very significant in such a highly cleared landscape. AMLR staff have set up motion-sensitive cameras to monitor wildlife during recovery, to find out which species are using the scrub and how native species progressively recolonise their burnt-out habitat.

Eucalypts are re-sprouting in the reserve already; native pine, however, must regrow from seed and need to be protected from grazing animals (native, farm and feral) until they are of a viable size.

Many of the bird species which had been recorded at the site have been seen there since the fires; this underscores the importance of fallen trees to the natural fire recovery cycle. The committee heard that debris provides cover and protection for native animals and birds; traps seeds which will later sprout, stabilising soil and revegetating the area; and slows wind, which contributes to soil erosion. (Natural Resources Adelaide and Mount Lofty Ranges b, 2016)

Pengilly Scrub

At midday the committee travelled south of the town of Wasleys to Pengilly Scrub, where they were met by Andrew Philpott, Light Regional Council Environmental Projects Officer. Mr Philpott and Kate Graham, AMLR District Ecologist for Northern Hills, Coast and Plains, addressed the group on the site.

³ BlazeAid is an Australian volunteer organisation which was founded after the catastrophic 2009 Victorian bushfire to provide disaster relief at events around the country. <http://blazeaid.com/>



Figure 5. Pengilly Scrub, 2 March 2016.

The Pengilly Scrub, a 20ha patch of remnant mallee vegetation on Molloy Road, is home to more than 80 plant species. This complex open woodland system also features a variety of soil types and land forms, making it an important habitat to native fauna. The reserve is managed by the council with Natural Resources AMLR, assisted by volunteers for the Trees for Life Bushcare Program. (Natural Resources Adelaide & Mount Lofty Ranges a, 2016, p. 5)

The reserve had a fire event in 2013, with about 10 per cent of the reserve was burnt. Mr Philpott contrasted this relatively minor event with the severity of the Pinery Fire, which burnt 80 per cent of the reserve. As with the remnant scrub on the Bubners' property, the burnt and fallen vegetation remained important to the reserve as it provides shelter for native fauna. "People tend to want to clean up after a disaster," said Mr Philpott, "but it's important to leave it in place as it aids the recovery process."

Vegetation at Pengilly also proved beneficial as a barrier to the strong winds that created such a high velocity fire. Mr Philpott told the committee about value of scrub as a "shelter belt", recounting the experience of a local man who had, in assisting others to fight or escape from the fire, left his own evacuation too late. However, he was able to park his truck behind the scrub, where the fire did not reach him—rather, it burnt partway through the scrub before jumping over.

Mr Philpott said this was valuable evidence of the need for a different attitude towards native vegetation. Rather than view it as additional fuel load contributing to a fire, he said, people must realise that native trees and shrubs could reduce wind speeds and thus the speed and severity of fire.

Along those lines, Natural Resources AMLR District Manager Tony Fox told the committee that the region would be working with Greening Australia to try direct sowing of shelter belt trees and plants this year.

Freeling

The trip made a brief stop at the town centre of Freeling for lunch and a short presentation by Pinery & Sampson Flat Recovery Centre Coordinator Kayelene Hull and Recovery Community Engagement Coordinator Anne Ellis on NRM support for recovery. An informal conversation was held about the

need for ongoing support following the fire, particularly psychological support for farmers and community members. The committee heard that the effects will continue to be felt for a long time, perhaps even years.

Rohde Property, Stockport

After lunch, committee members continued on to Stockport, where they met John Rohde. There they heard more about the effects of fire on soil, which included increased erosion and reduced nutrients from crop residues, which can lead to a reduction in microbial activity and hence a weakening of resistance to disease. The committee heard that soil sterilisation was generally kept to a shallow level due to the rapid spread of the fire.

The primary topic of discussion was the use of ripping and clay delving to help mitigate damage and topsoil erosion. In a landscape now largely devoted entirely to low- and no-till farming, fuel load had been increased; also, skills and machinery had over time moved away from ripping and clay delving. Mr Rohde said he had about 15 years' experience using ripping and delving techniques for improving

sandy soil stability and productivity, and these techniques were proving extremely useful following the fire.

Clay delving is a technique used in sand-over-clay soil types where the clay is within the top 60cm. The delving implement penetrates the soil, breaks into the clay pan and brings clods of clay to the surface. The clay-rich subsoil is then incorporated back into the water repellent surface sand.

(Grains Research & Development Corporation, n.d.) Mr Rohde and



Figure 6. A clay pit on the Rohde property.



Figure 7. AMLR's David Woodard (left) with John Rohde (centre) and committee member Hon John Dawkins MLC at a clay spreading site on the Rohde property.



Figure 8. A tractor on the Rohde property raising dust as it breaks up large clumps after clay spreading. This demonstrates how vulnerable local soils can be to wind erosion when vegetation is absent.

PIRSA/Rural Solutions SA Soil and Land Management Consultant David Woodard detailed the process. He told the committee that to keep costs down, clay is sourced from a pit dug on the property or nearby, and then other procedures take place before sowing, for example, that chicken manure goes down at a rate of about 5 cubic metres per hectare, then spading is used to turn it over and work it in. The property then returns to no-till.

Programs to minimise soil erosion issues had been developed by DEWNR with PIRSA and implemented through the AMLR and N&Y NRM regions. The work being done was funded with a Sustainable Industry Grant of about \$47,000, which supported the development of five demonstration sites in the fire-affected area. In addition to ripping and delving, older practices such as patterned tilling were being revisited. The Agriculture Bureau of SA was also working with other organisations to encourage uptake of different techniques. (Natural Resources Adelaide & Mount Lofty Ranges a, 2016)

Richard Konzag, a Mallala farmer also attending the talks at the Rohde property, said that trials have yielded increased biomass and improved stability.

On another subject, Mr Konzag praised CFS efforts but suggested the Emergency Services Levy needed improvement, saying it “is not working. People cannot get refunded for equipment purchased....We are out there breaking our ass and literally saving peoples’ lives and then we get another letter that rates are going up another \$200.”

After the fire, there were many additional costs, with ESL and NRM costs rising too. “It’s not going to break my business, going from \$1,200 to \$1,400, but it gets you up here,” he said, lifting his hat and pointing to his head. “It’s just an extra stress.”

The expense of insurance, among other rising costs, contributed to stress, Mr Konzag said, using the cost of a new harvester as an example: “When you insure, you don’t pay \$300 excess, you pay 1%—on a \$900,000 harvester.”

Mr Konzag told the committee that he felt it could be hard to ask for help. "People are still struggling psychologically," he explained. "They just adopt a 'she'll be right' attitude but don't always follow through." He said support and assistance from recovery crews and volunteer organisations who came to events was highly valued.



Figure 9. At Barabba, AMLR District Officer Jess Cavallo discussed revegetation works.

Barabba revegetation site

En route to the tour's final stop at Mallala, the committee stopped at a crossroads at Barabba to see a site where an AMLR revegetation project had been almost completely destroyed by the fire. AMLR District Officer Northern Hills, Coast and Plains Jess Cavallo spoke to the group at the site about the two-year effort to revegetate this site and others in the area, and the damage the fire had done.

At that particular crossroads, a small area of native vegetation had been planted and tended by locals including Peter Angus, owner of a nearby property which the committee visited on its next stop.

Mr Angus is involved in a three-year revegetation plan which finishes June 2016 and through which plants made available by Natural Resources AMLR were planted in three of the sites, including two which were burnt in the fire. The committee heard that Conservation Volunteers Australia and Rotary were among community groups assisting with planting and initial watering of revegetation.

Two waterings over the first summer were needed to help Mr Angus with the large number of plants required to fill the three sites in one year. He explained that new vegetation needs tending in its first summer but in subsequent years it needed much less attention and required mostly time to grow. To assist with revegetation efforts post-fire, a group of organisations is providing native plants to help re-establish shelterbelts, paddock trees and home gardens in fire-damaged areas. The agencies involved include DEWNR and the two Natural Resources regions, Northern & Yorke and Adelaide &

Figure 10. Corner of Hawes and Fidge roads, Barabba, South Australia (north-east of Mallala).



Figure 11. Although regrowth at the Barabba revegetation site had begun, many new plantings would be needed.



Mount Lofty Ranges; Trees for Life; Greening Australia; State Flora; Barossa Bushgardens; TAFE SA; Kersbrook Landcare Nursery; Gawler Environment and Heritage Association; Light, Mallala, and Wakefield Councils; as well as other landcare nurseries and community volunteers. Free seedling distribution to affected landholders began in early June. (DCSI, 2016)

Angus Property, Mallala

After the stop at Barabba, the tour continued to the Angus property, north-east of Mallala, where the committee met with Peter Angus and his father Paul Angus.

The property, which supports broadacre farming and a Suffolk sheep breeding operation, suffered heavy damage to infrastructure and farm machinery. The family home was saved, but only just—the committee heard how one family member had managed to move their sheep to a safe paddock, while another helped a neighbour put out a fire at their property. Both then returned to find the Angus home on fire. They were fortunately able to save it with the assistance of another family member who had a mobile water tank in use at the time of the fire, but the committee saw first-hand how close the fire had come, with rafters scorched and an adjoining pergola damaged.

Peter Angus said he thought other homes might also have been saved, but “people were not allowed to return soon enough”; he said he felt this issue required attention and possible changes to policy.

Speaking about the challenges ahead, Peter Angus explained that post-fire is a good time to look at making changes to the farm, as well as conduct programs such as rabbit and weed control, fox baiting, and grading of fence lines. The committee also heard that one of the rare “upsides” to the fire was the widespread removal of pests such as snails and mice, which tend to persist in the crop stubble of a no-till farm.

Peter Angus and his father remained optimistic about their ability to rebuild as well as pragmatic about the work needed to recover. Demonstrating again to the committee how intra-community support was vital to recovery, the two men spoke of receiving support such as deliveries of feed from neighbours and how important this was to them, in both a practical and a sentimental sense.

Figure 10. Peter Angus and Paul Angus (from left)





Figure 11. Back row from left: committee members Hon Robert Brokenshire and Hon John Dawkins; Mr Adrian Pederick MP and Mr Stephen Griffiths MP; and committee member Hon Gerry Kandelaars MP. Front row: committee member Mrs Annabel Digance MP and presiding member Hon Steph Key MP.

Appendix 1. Submissions

Additional statements were received from the following.

Mr Tony Piccolo MP (Light)

6/06/2016

The tour of the fire-affected areas in my electorate (Light) demonstrated how fragile our environment is, and that we need to continually work hard at ensuring that it is protected through science-based practice. The tour also highlighted that some of our best environmentalists are our farmers who undertake a number of activities to protect biodiversity on their farms. They were clearly saddened by the effect the destruction of natural habitat was having on both native flora and fauna.

While the fire was very destructive, it also helped rid the area of some trees and plants that were introduced to the area and not sustainable. Even after only a short few months the resilience of both the people and natural environment was evident, and it would be interesting to visit the location one year on.

Mr Stephen Griffiths MP (Goyder)

31/05/2016 and 7/06/2016

Mr Griffiths provided some feedback on issues for the committee's consideration:

1. Site distance at road intersections – the hazards of driving in the area during the fire day are well known to all of us, but the point was raised with me that with the devastation of the native vegetation on the road reserves comes the opportunity to support a policy of vegetation clearance of a distance of up to 100 metres on the roads approaching intersections to make them much safer for future traffic use. Sadly, the Mallala community (as with others) has vivid memories of accidents that have occurred due to dense vegetation restricting vision distances. Admittedly approaching such an intersection should be done cautiously but it was suggested to me that the Natural Resources Committee should consider a position on the merits of a review of policy to ensure site distance safety.
2. Fire breaks around townships – this was raised with me by Alan Helps, a fine man and retired farmer. Alan understands the challenges of large, cleared buffer zones around townships as the theory is that it would take a significant amount of land out of production. Given how close the fire got to places such as Hamley Bridge—and I have to say to you that when I looked at Hamley the day after the fire I was just amazed that it was still there as the fire got so close to the edges of town—I do support it being raised with the committee for discussion.
3. Mallala-based farmer Richard Konzag ... raised concerns on the Emergency Services Levy and seeking some type of short-term waiver for fire ground impacted property owners. I also raised this at the Angus farm visit that I attended in the afternoon.

Appendix 2a. Hon Zoe Bettison, Ministerial Statement

The Hon. Z.L. Bettison (Member for Ramsay; Minister for Communities and Social Inclusion, Minister for Social Housing, Minister for the Status of Women, Minister for Ageing, Minister for Multicultural Affairs, Minister for Youth, Minister for Volunteers) made the following ministerial statement in the House of Assembly on 18 May 2016 (p. 5425):

The Pinery bushfire started on Wednesday 25 November 2015. Two lives were tragically lost and 31 members of our community injured; six of those people suffered severe injuries. The fire escalated rapidly across four local council areas in the Mid North of the state and caused major damage to more than 83,000 hectares in the areas of Owen, Hamley Bridge, Wasleys, Kapunda, Freeling, Tarlee and Greenock; 97 homes were destroyed and about 630 other structures, causing extensive damage to vehicles, equipment and crops. There was extensive loss of stock, paddock feed, hay stores, straw paddocks and unreaped crops.

Recovery operations are continuing following the devastating fire. We know this is an ongoing challenge and our efforts have shifted from immediate recovery to medium and long-term activities which are essential to the affected individuals, families, businesses and communities. On 6 May 2016, I joined the member for Grey, Mr Rowan Ramsey, to announce joint commonwealth state funding of additional recovery assistance for the communities hardest hit by the bushfire. This announcement includes vital funding of:

- \$260,000 for a mental health outreach program for 12 months to be administered by the Department of Health and Ageing;
- grants of up to \$10,000, through the primary producer recovery grant program, to help eligible farmers clean up, remove debris, repair damaged equipment and make other general repairs and get life back to normal again;
- community development programs and projects for up to two years will also be funded; and
- the operation of the state recovery centre for 12 months, including increased re-establishment grants, case management and Australian Red Cross relief and recovery support.

A vital aspect of the recovery effort is the Local Recovery Coordinator who works with the local community and also chairs the local recovery committee, which meets fortnightly and includes leaders and representatives of local and state government, the commonwealth Department of Human Services and service organisations. I would like to welcome Alex Zimmermann to the role of Local Recovery Coordinator, replacing the outgoing coordinator, Vince Monterola.

Mr Zimmermann is currently a chief inspector with SA Police and the Local Service Area Commander for the Barossa region. He is experienced in working with local communities and emergency management. On behalf of the state government, I welcome Mr Zimmermann to the role, and I am confident he will continue to provide a high level of support to help the local community recover from the fire. I also take this opportunity to thank Mr Monterola for his hard work and commitment during his time in the role. He has shown great dedication to the individuals and communities impacted by the Pinery fire.

Appendix 2b. Hon Zoe Bettison, Ministerial media release

News releases—Zoe Bettison

Mental health support for Pinery affected communities

May 29, 2016

The State Government will spend \$860,000 on the long term mental health needs of individuals, families and communities affected by the Pinery fire.

The funding will support community mental health outreach programs, community development programs and individual case management.

Part of the money will go toward supporting the Red Cross to continue its invaluable work with fire affected communities.

Background

It has been six months since the Pinery fire burnt more than 85,000 hectares in the Lower to Mid North of South Australia.

The fire destroyed 97 homes and caused extensive damage to vehicles, equipment and crops. Tragically, two people were killed and 31 others were injured.

Emergency relief centres were established immediately after the fire, assisting more than 2600 people.

On 7 December 2015, a Recovery Centre in Gawler was established and to date more than 1100 people have received information, support or advice to help them recover from the fire.

More than \$670,000 in emergency grants have been provided and more than \$900,000 has been distributed to people affected by the fire from donations to the SA Pinery Fire Appeal.

As at 23 May 2016, approximately \$2.17 million in donations has been received to the SA Pinery Fire Appeal. The Appeal is open until 30 June 2016.

People can stay up to date with the latest recovery information, including the recovery newsletter, on the recovery website and Facebook page:

www.sa.gov.au/recovery

www.facebook.com/sarecoveryinfo

Quotes attributable to Minister for Communities and Social Inclusion, Zoe Bettison

Medium-to-longer term recovery activities are essential to provide the necessary support to affected individuals, businesses and communities for the long and difficult journey to community recovery.

The recovery effort is ongoing and many services and supports are available for people affected by the fire. These include financial, mental health and wellbeing counselling, property clean-up and assistance with revegetation.

The Government is committed to working closely with those affected by the fire to support their strong and resilient approach to community recovery.

Appendix 3. Maps

Figure 12. Map of Pinery Fire area on 28 November 2015.

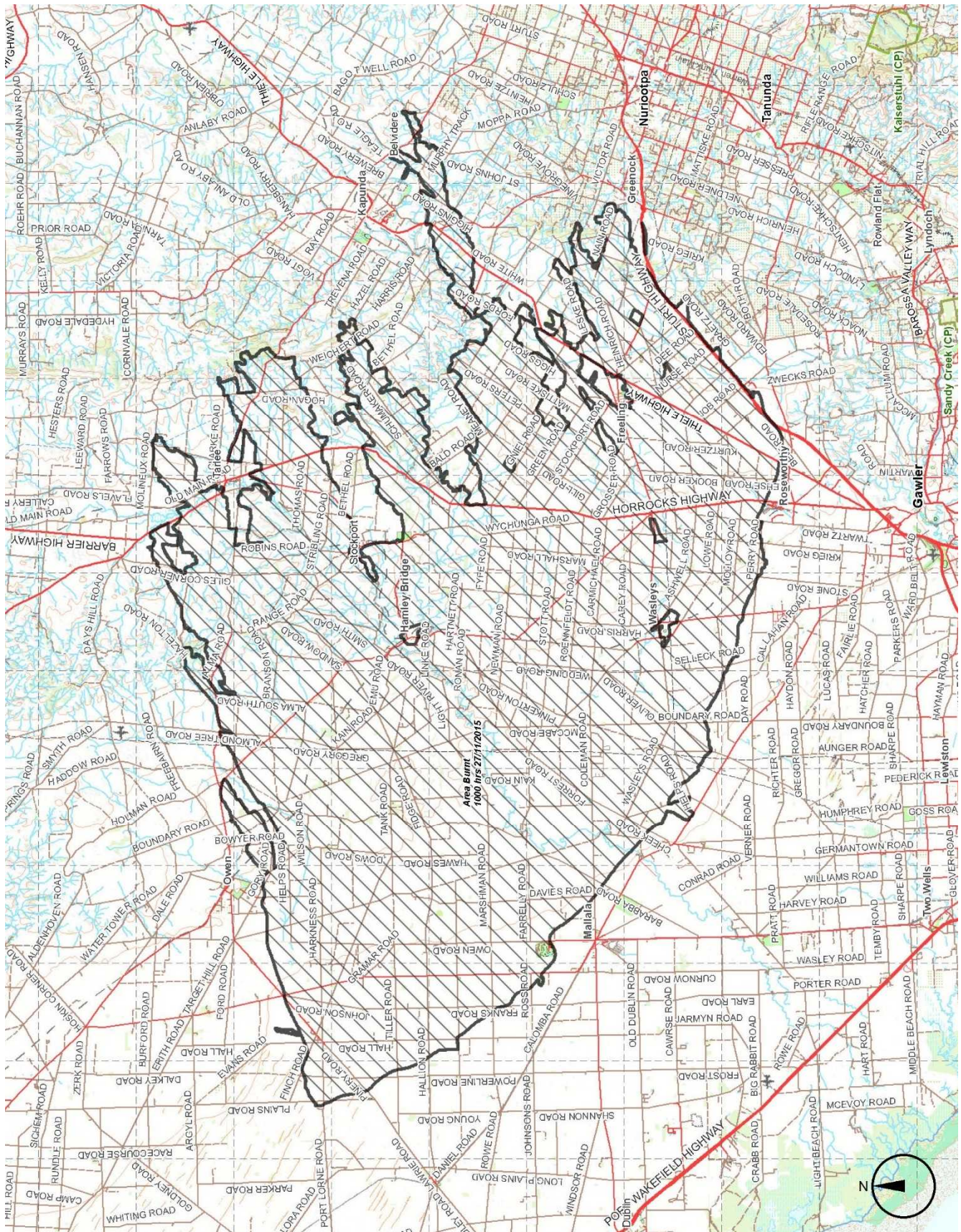


Figure 13. The Pinery fire occurred across the AMLR/N&Y NRM region boundary (shown in red).



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Abbreviations

AMLR	Adelaide & Mount Lofty Ranges
CFS	Country Fire Service
CPI	Consumer Price Index
DCSI	Department of Communities and Social Inclusion
DEWNR	Department of Environment, Water and Natural Resources
ESL	Emergency Services Levy
MLC	Member of the Legislative Council
MP	Member of Parliament
N&Y	Northern & Yorke
NRC	Natural Resources Committee
NRM	Natural Resources Management

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