

2010 / 11 year end report:
Plantation Report for Kangaroo Island, S.A.

Prepared for

Viento Forestry Pty Ltd

August, 2011.

2010 / 11 final:
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By

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1 Summary

The permanent sample plots (**PSPs**) were assessed in February 2011 and the results showed little reduction in survival and therefore stocking rates are still on average greater than 1,000 stems/ha for the Stun Sail Boom plantations, but below 1,000 stems per hectare for Kellendale. Tree growth, as estimated by **PSP** predominant heights and basal area, have stabilised. The **PSP** indicated that:

- The Stun Sail Boom p2002 plantation is growing at between 15 and 20 m³/ha/yr (by age 10);
- The Stun Sail Boom p2001 plantation is growing at approximately 15 m³/ha/yr (by age 10);
- Tree growth in Kellendale, has continued in a similar pattern to the previous periods, indicating a mean annual increment (**MAI**: by age 10) of 20 to 24 m³/ha/yr.

KI received above average rainfall for the 2010/11 period and this has resulted in the cumulative rainfall over the life of the plantations being close to average which should assist with tree growth. There is a specific need to address some roading issues in Stun Sail Boom and these should be completed prior to the end of spring in preparation for the 2011/12 fire season. There is also a need to secure fire protection services for the fire season and to address native vegetation growth into the firebreaks.

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2 Introduction

Three years of Tasmanian blue gum plantations on Kangaroo Island (KI) are managed by Viento Forestry Pty Ltd. As part of management, plantation growth and health continue to be monitored on a regular basis. The usual winter inspection has been delayed until spring 2011 to focus on fire preparation issues for the 2011/12 fire season. The following is the 2010/11 final year report.

3 Key points for the period

The main highlights for the period were:

- Rainfall for 2010/11 was in excess of the long-term average for Laterite Hills (indicative of the Kellendale plantation) and for Kangari Springs (indicative of Stun Sail Boom). This should assist with tree growth;
- There is the need to undertake road works in Stun Sail Boom to ensure fire appliance access. There is also the need to secure fire protection services prior to the coming fire season;
- There is a need to assess and address native vegetation growth into the firebreaks;
- It would be prudent to commence works towards marketing the plantation resources to potential buyers and/or parties to facilitate wood (chip) sales. This should include addressing the issue of the port and the export of materials from KI.

4 KI conditions for the year

Gunns Forest Products has provided rainfall data for Laterite Hills (representing Kellendale) and Kangari Springs (representing Stun Sail Boom) properties. The data indicated that:

- Rainfall for 2010/11 for Laterite Hills was greater than the long-term average (Figures 1 & 2):
- Cumulative rainfall data is presented in Figure 3 for the life of the Kellendale plantation and it has been close to average;
- Rainfall for 2010/11 for Kangari Springs was greater than the long-term average (Figures 4 & 5):
- Cumulative rainfall data is presented in Figure 6 for the life of the Stun Sail Boom plantation and it has been close to average.

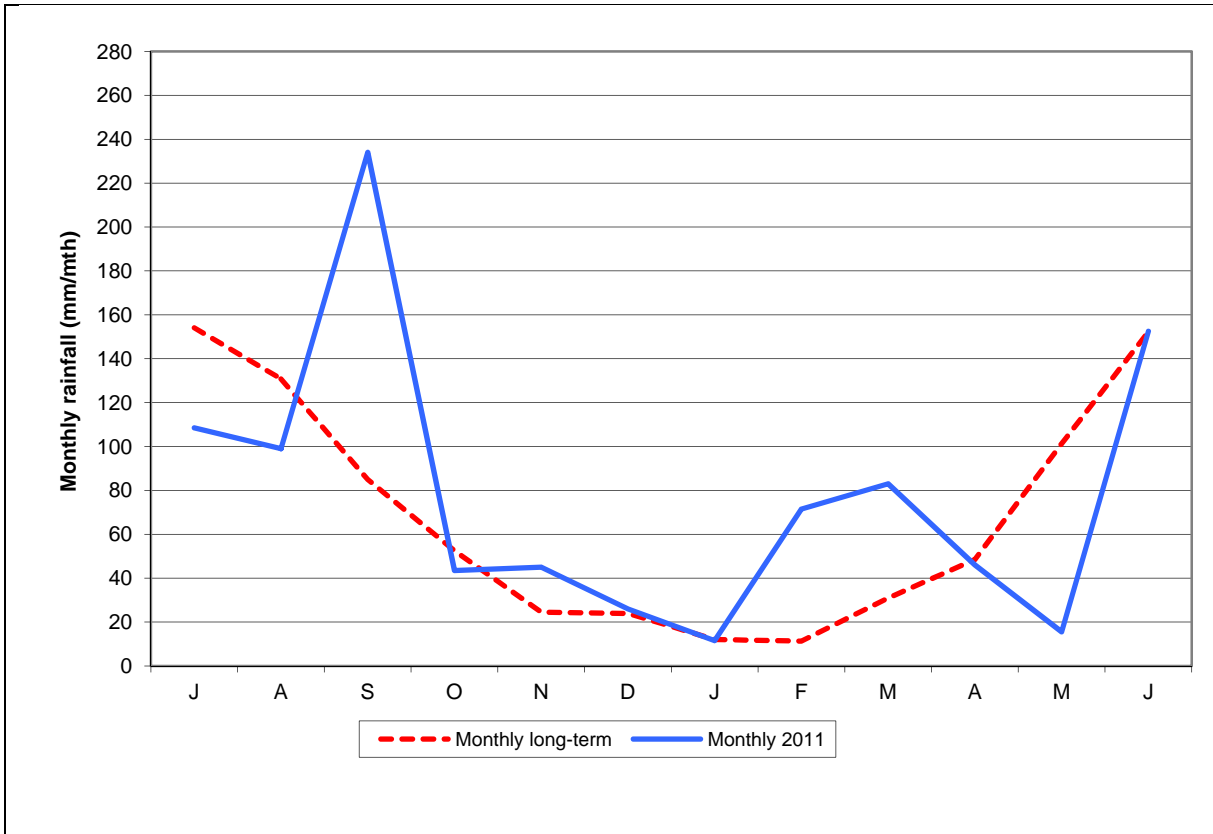


Figure 1 Monthly rainfall data for 2010/11 for the north-western end of KI was variable compared to the long-term Laterite Hills means.

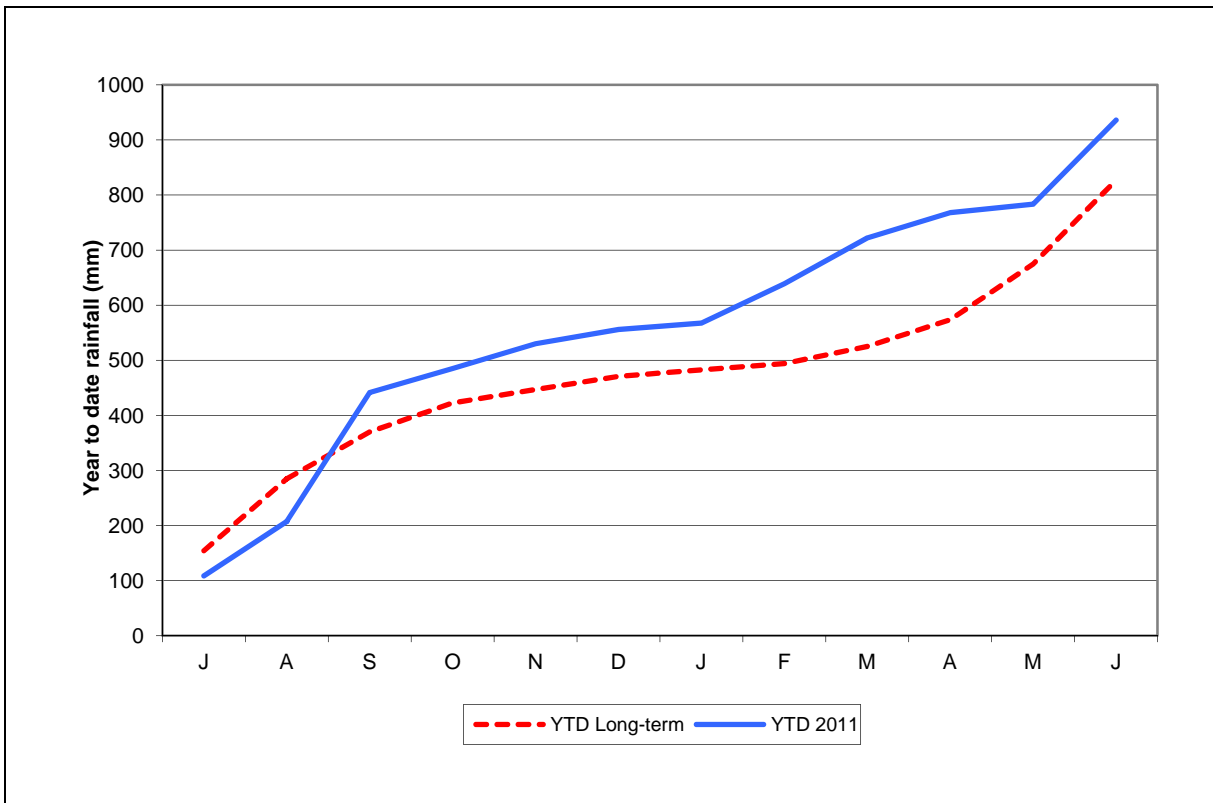


Figure 2 Cumulative annual rainfall data for 2010/11 for the north-western end of KI was close to the long-term Laterite Hills means.

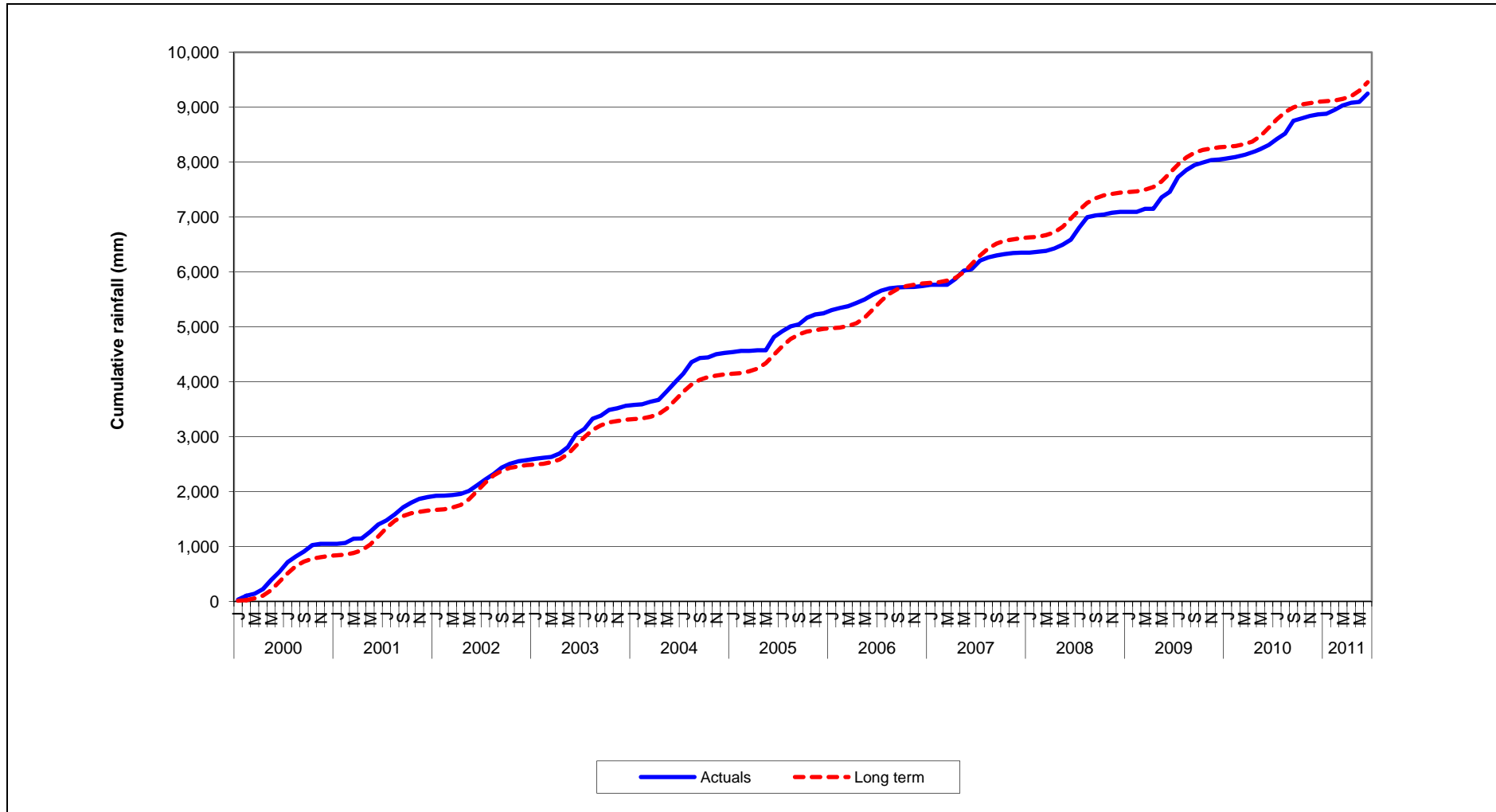


Figure 3 Long-term cumulative rainfall (Laterite Hills) indicating the likely rainfall for the life of the Kellendale plantation.

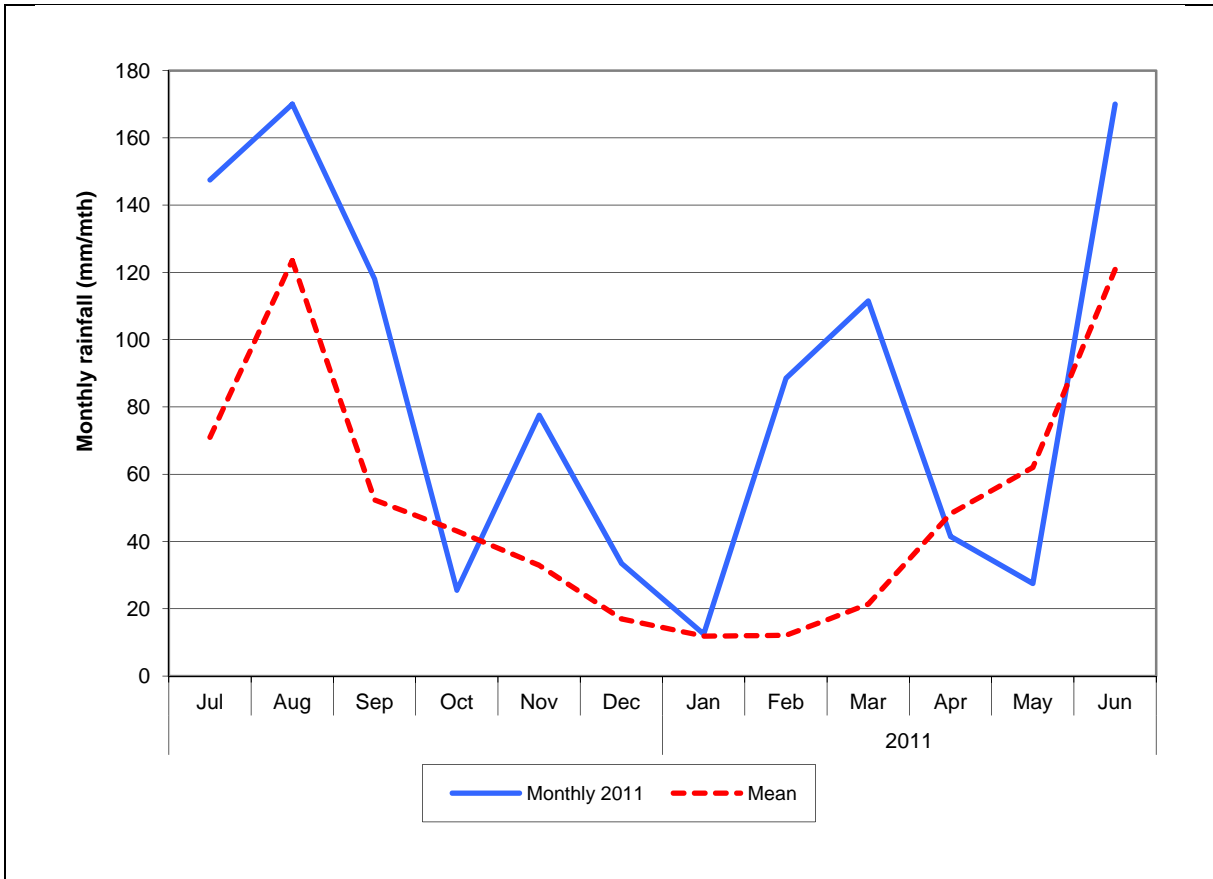


Figure 4 Monthly rainfall data for 2010/11 for the central western end of KI was variable compared to the long-term Kangari Springs property means.

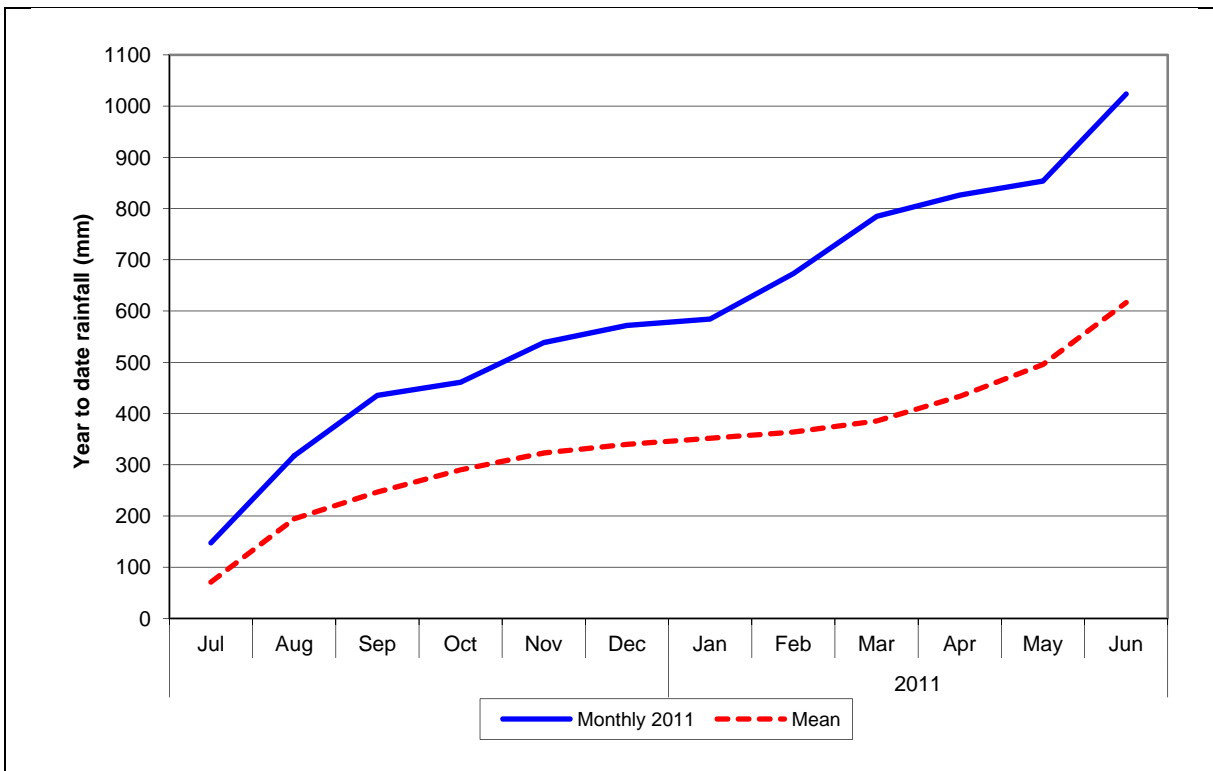
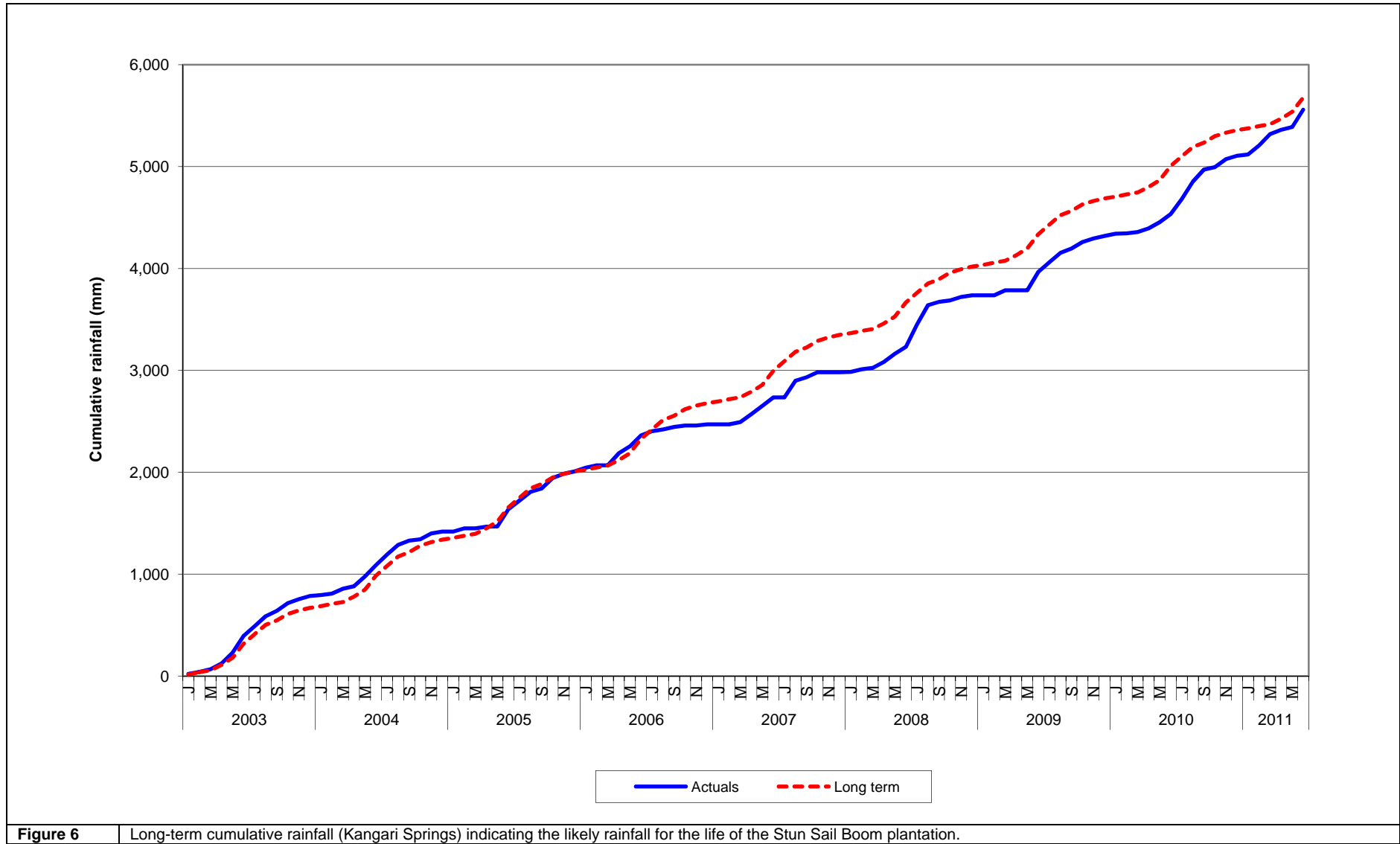


Figure 5 Cumulative annual rainfall data for 2010/11 for the central western end of KI was above that of the long-term Kangari Springs property means.



5 Stun Sail Boom p2002

5.1 General description

5.1.1 Foliage cover

All trees in the **PSPs** have mature foliage on all of the higher branches.

5.1.2 Branching

Crown closure is complete, and most ex-pasture species have been shaded-out within the plantation.

5.2 Growth rates, stocking and survival

5.2.1 Stocking and survival

Few plantation trees died during the period and “runts” have been classed as “dead” reducing merchantable survival to on average 1,044 stems/ha.

5.2.2 Growth rates

The plantation growth in the **PSPs** indicated a predicted **MAI** (at age 10) of 15 to 20 m³/ha/yr. The trees still mostly “appear” healthy and an improvement in height for age is indicated by the **PSP** data following the easing of drought conditions.

5.3 Weed control

The plantation remains close to 100% grass and weed free under the planted trees.

5.4 Health and hygiene

5.4.1 Health

The plantation overall, appears to be healthy based on tree leaf colour and growth tip attributes.

5.4.2 Insects

There was minor leaf damage on the upper crown leaves, but this is not a concern. Large numbers of *Ecnolagria grandis* were present feeding on the dead leaves in the ground in February.

5.5 Fire

There were nil fires in the plantation during this period. It would be prudent to ensure that retained native vegetation growth into the firebreaks and tracks is addressed to the extent permissible by

South Australian law. The firebreaks remain in very good condition with an effective pre-summer herbicide treatment.

5.6 Grazing

The plantations have not been grazed by sheep and native grazing animals are keeping the grass levels down,

5.7 Fencing

The fences are generally in good order.

5.8 Tracks

The tracks are generally in good order, however, some creek and drainage line crossings require attention for improved access, with particular attention required to the east – west road through the property. (See comments under Stun Sail Boon p2001.)

5.9 Browsing animals

Nil damage was observed.

5.10 Other issues

No other issues are reported.

6 Stun Sail Boom p2001

6.1 General description

6.1.1 Foliage cover

The trees have mostly maintained very good mature foliage cover.

6.1.2 Branching

Crown closure has shaded out pasture species and branch shedding continues.

6.2 Growth rates, stocking and survival

6.2.1 Stocking and survival

The mean stocking rate of the plantation is greater than 1,000 stems/ha with a mean stocking of 1,080 stems/ha based on **PSPs** data.

6.2.2 Growth rates

The plantation's growth rates have stabilised after the impacts of the drought, as shown by the **PSP** height for age data. The trees in the plots are assessed as growing at a mean **MAI** at age 10 years of 15 m³/ha/yr and continued growth recovery will depend on the duration of any change to more usual rainfall conditions.

6.3 Weed control

The plantation remains close to 100% weed free under the planted trees.

6.4 Health and hygiene

6.4.1 Health

The trees in general appear healthy.

6.4.2 Insects

There was some minor leaf damage detected on the upper crown leaves, but this is not a concern as the damage did not look recent. Large numbers of *Ecnolagria grandis* were present feeding on the dead leaves in the ground in February.

6.5 Fire

Nil fires occurred in the plantation during this period and the firebreaks were in good order. It would be prudent to ensure that retained native vegetation growth into the firebreaks and tracks is addressed to the extent permissible by South Australian law. The firebreaks remain in very good condition with an effective pre-summer herbicide treatment.

6.6 Grazing

The plantations have not been grazed by sheep and native grazing animals are keeping the grass levels down.

6.7 Fencing

The fences are generally in good order.

6.8 Tracks

The tracks are generally in good order, however, some creek and drainage line crossings require attention for improved access, with particular attention required to the east – west road through the property. Photographs 1 to 3 indicate the main issues to be addressed.

Recommendation *At least one culvert pipe is required to be installed to drain across the road under the road surface. This is an issue that should be addressed prior to the coming fire season.*

6.9 Browsing animals

No damage was observed.

6.10 Other issues

Nil other issues were observed to report.



Photograph 1: A section of deep scouring of the main east-west road in Stun Sail Boom.



Photograph 2: A section of the main east-west road in Stun Sail Boom presenting a structure to divert the water across the road surface.



Photograph 3: A section of the main east-west road in Stun Sail Boom presenting an eroded cross drain for the water across the road surface. The defect in the road surface is such that a fire tanker would be unable to use the road.

Kellendale p2000

6.11 General description

6.11.1 Foliage cover

The plantation has mostly mature foliage with all but the edge trees having shed all foliage on the lower branches

6.11.2 Branching

The tree branches are shedding, adding to the fine fuels on the plantation floor.

6.12 Growth rates, stocking and survival

6.12.1 Stocking and survival

Few, if any, plantation trees died this period, and the stocking for the plantation is on average 961 stems/ha.

6.12.2 Growth rates

The predominant height growth rate of the plantation has been steady as measured in the **PSPs** and the plot data would suggest that basal area increment has stabilised, with a predicted **MAI** of 20 to 24 m³/ha/y.

6.12.3 Weed control

The plantation remains close to 100% weed free under the planted trees.

6.13 Health and hygiene

6.13.1 Health

The plantation is generally in good health, with few signs of drought stress. Some areas show signs of potentially nutrient related change in leaf colour, but this is not supported by a decline in height growth as per the PSP data, making it difficult to justify additional fertiliser application.

6.13.2 Insects

There was some minor leaf damage detected on the upper crown leaves, but this is not a concern as the damage did not look recent. Large numbers of *Ecnolagria grandis* were present feeding on the dead leaves in the ground in February.

6.14 Fire

Nil fires occurred in the plantation during this period and the firebreaks were in good order. It would be prudent to ensure that retained native vegetation growth into the firebreaks and tracks is addressed to the extent permissible by South Australian law. The firebreaks remain in very good condition with an effective pre-summer herbicide treatment.

6.15 Grazing

Stock grazing has not been undertaken due to the lack of grass. Any grass onsite is very short and most likely kept so by native grazing animals.

6.16 Fencing

The fences are generally in good order.

6.17 Tracks

The tracks are generally in good order and there are some minor works required.

6.18 Browsing animals

No damage was observed.

6.19 Other issues

Nil other issues to report.