Vigilance *TECHNOLOGIES*

Summary of Court Block Bird Activity Data 2004

Introduction :
White tailed black cockatoos in previous years would entirely strip the 6 Ha Pinus Panasta seed orchard of all its cones. By using the BirdDeter system 95 % of the cones initially on the trees was harvested in 2004.

Bird activity in the Pinus Panasta Court block was logged from the 5th of May to the 7th of July. The crop was harvested in early August. As it was not always convenient or possible to collect data, some sections of the data are missing. Sufficient data was collected however to draw a clear conclusion in determining if birds where becoming habituated to the BirdDeter system.

All data was collected by FPC staff and was e-mailed in csv format for graphing by Vigilance Technologies.
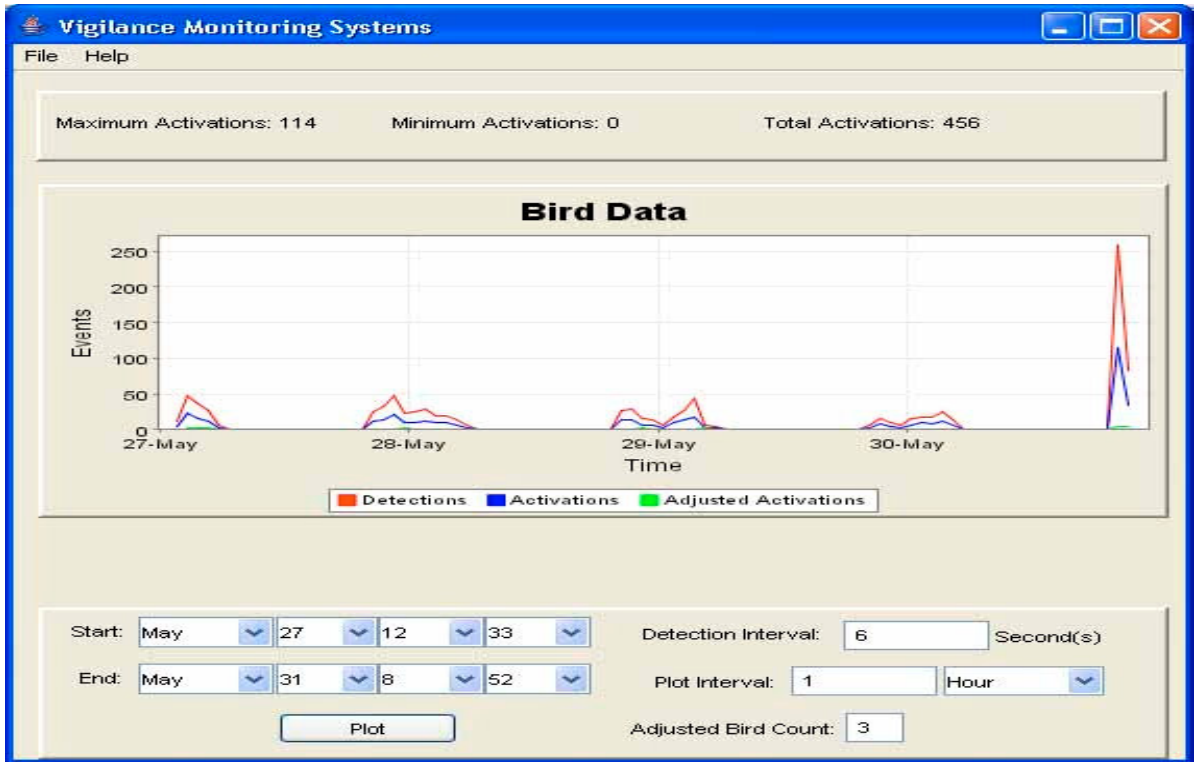
Graph Interpretation :

For every second of bird activity detected within the radar detection zone,1 event is logged by the system. The red line on the graphs below shows every logged event accumulated over a 1hr interval.
To trigger deterrents the radar was set such that 3 events should occur within a 6 second interval. This is shown as a green line on the graphs. The blue number shown over each day indicates the total number of deterrent activation's that occurred each day. When activated a deterrent station sequence will last between 20 and 30 seconds. Which deterrents are used and for how long are varied during each activation sequence.
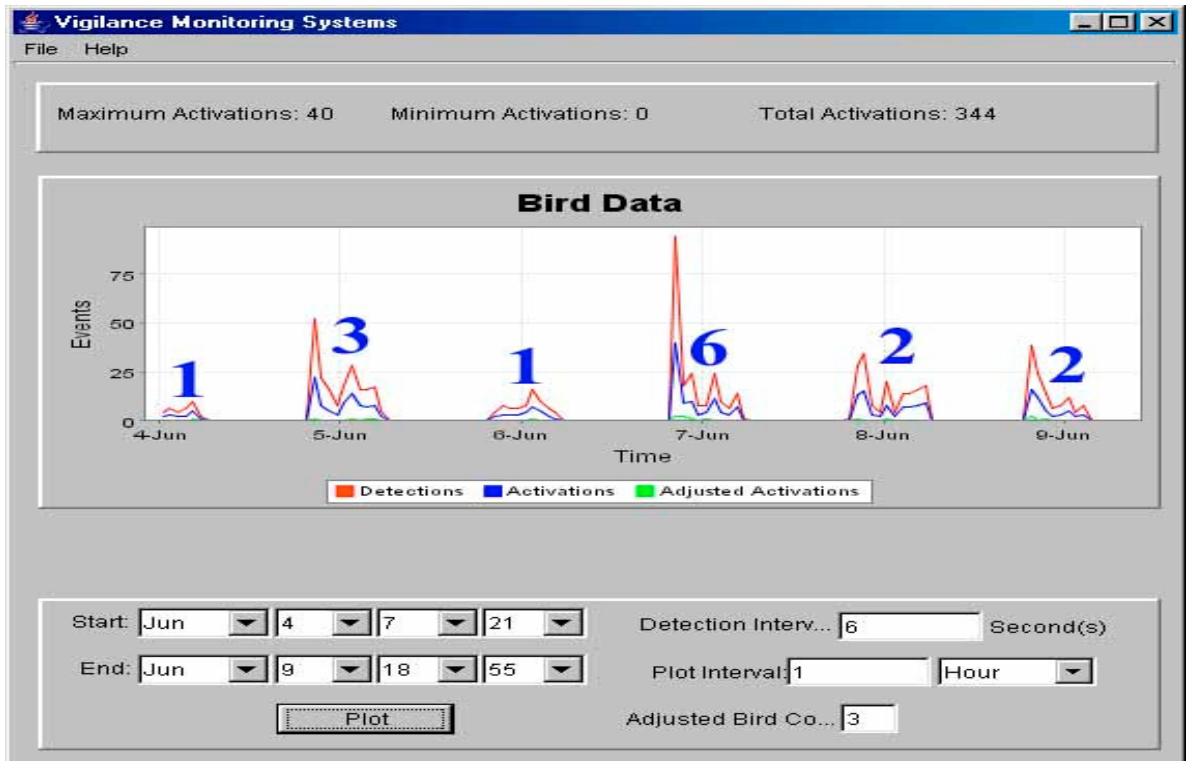
Graphs:
The data logger date was set incorrectly during most of June however the graphs below are in chronological order. The time was also incorrectly set during most of the trial however the daily patterns are clear. Toward the end of the trial the graphs show the system suffered considerable down time due to overcast weather reducing the available solar charging. This may partly explain why some damage occurred.
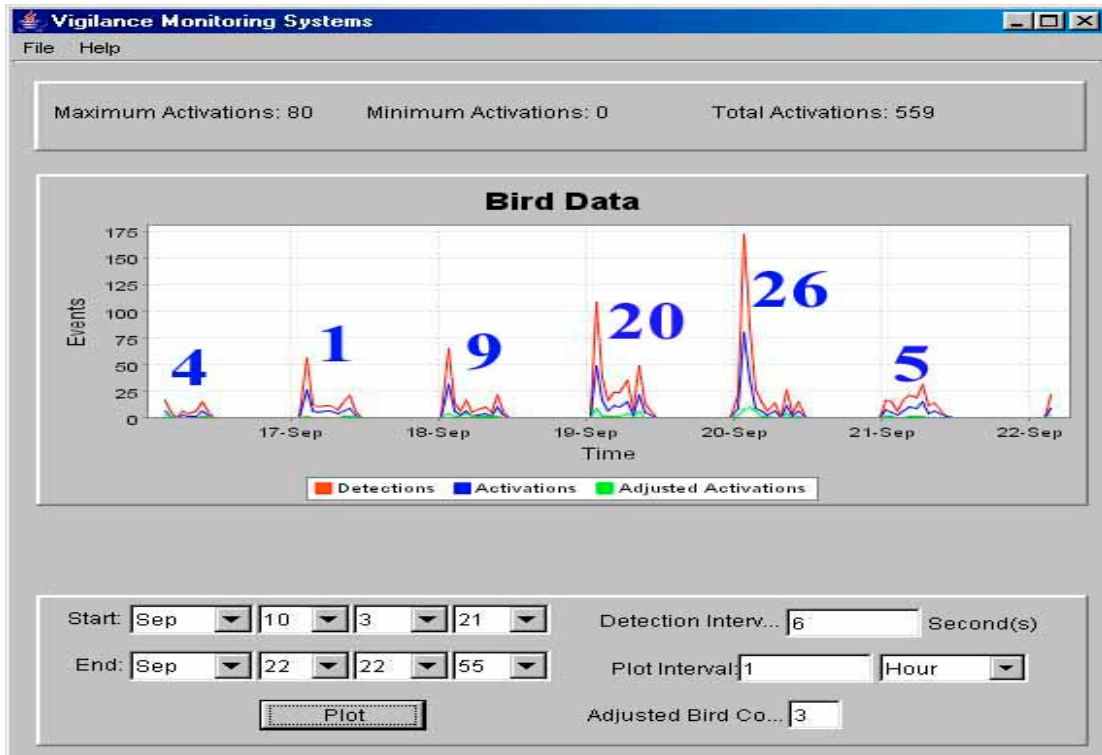
The conclusions below are also derived from viewing graphs at plot intervals of 1 minute.
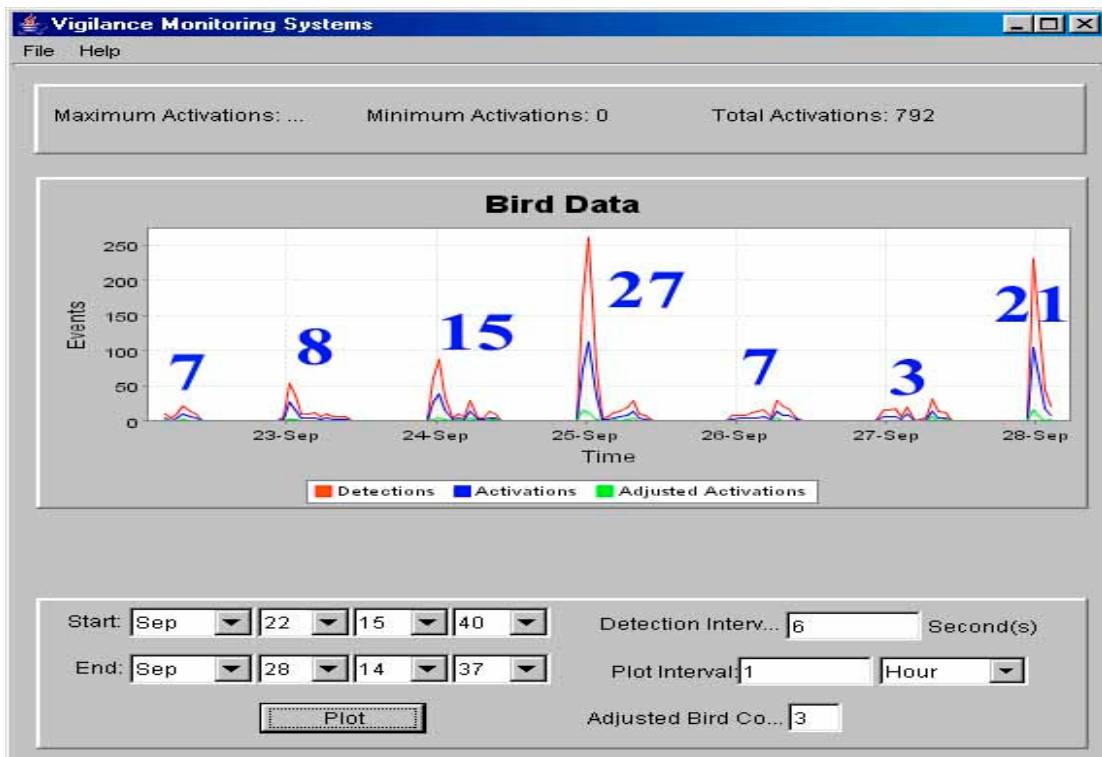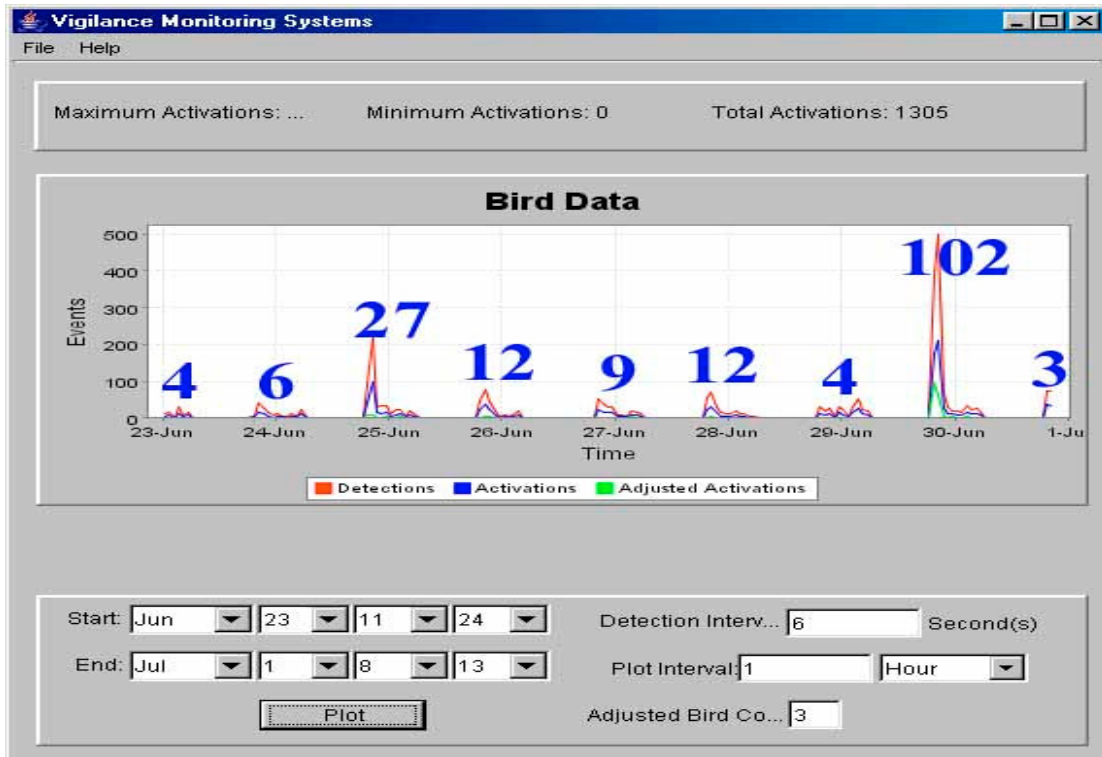
May 27 to 31

June 4th to 9th

10th June to 16th June
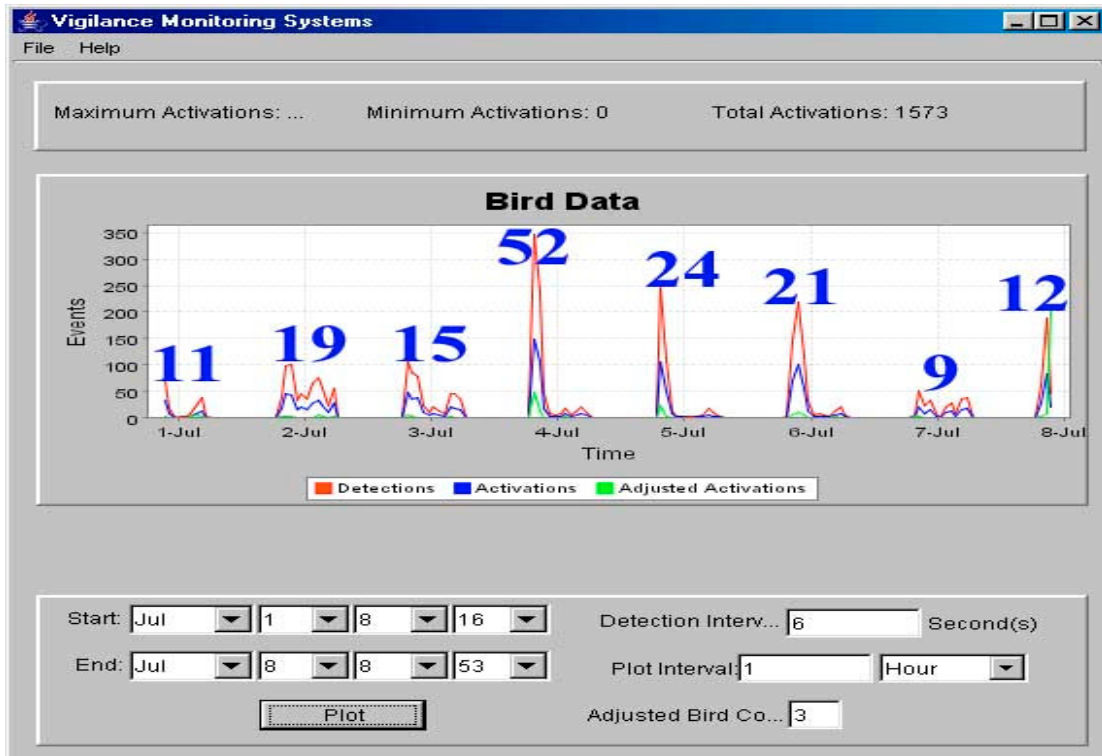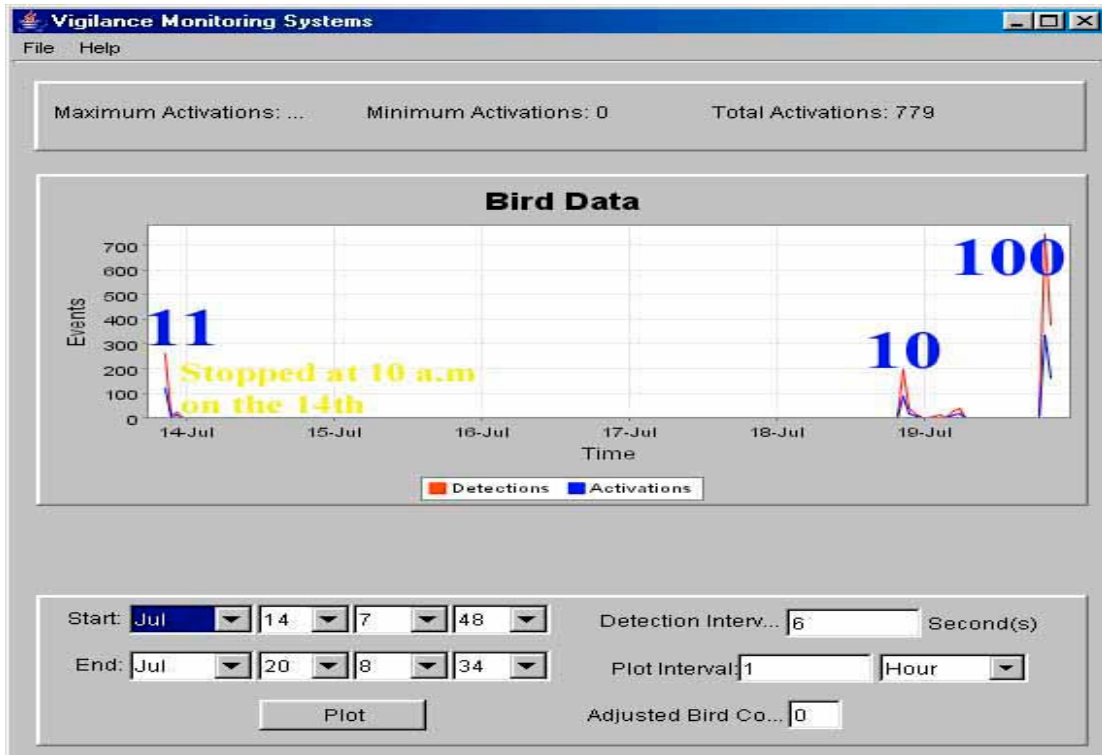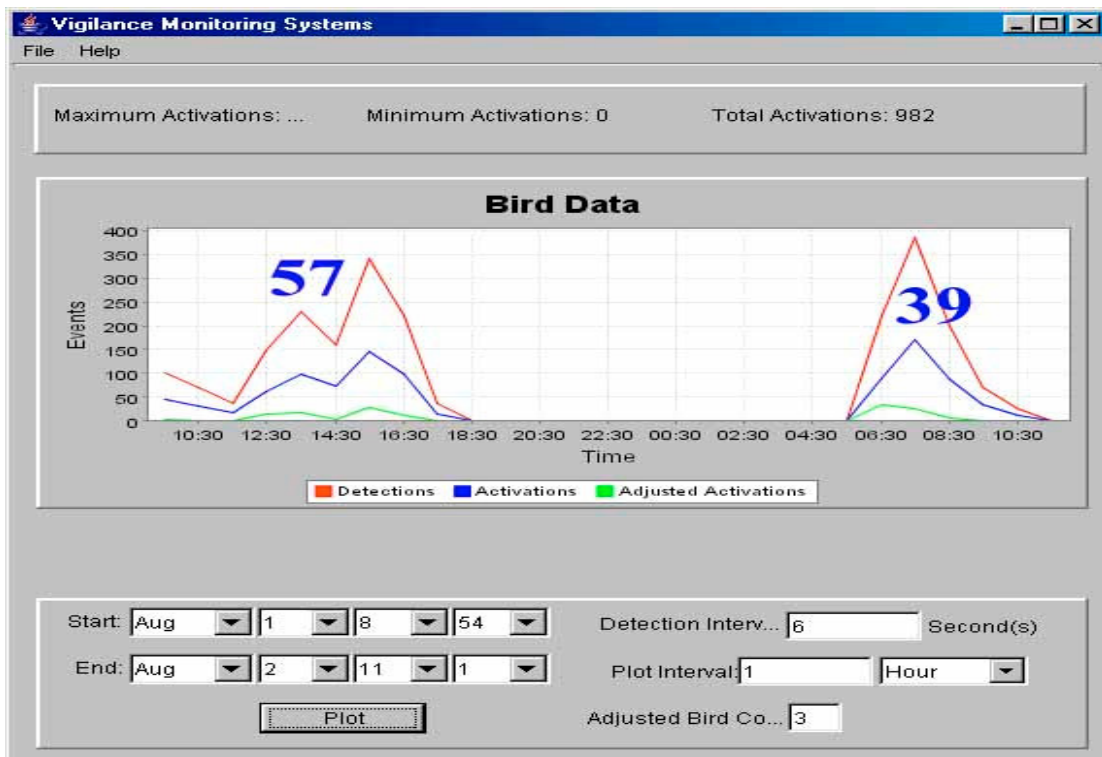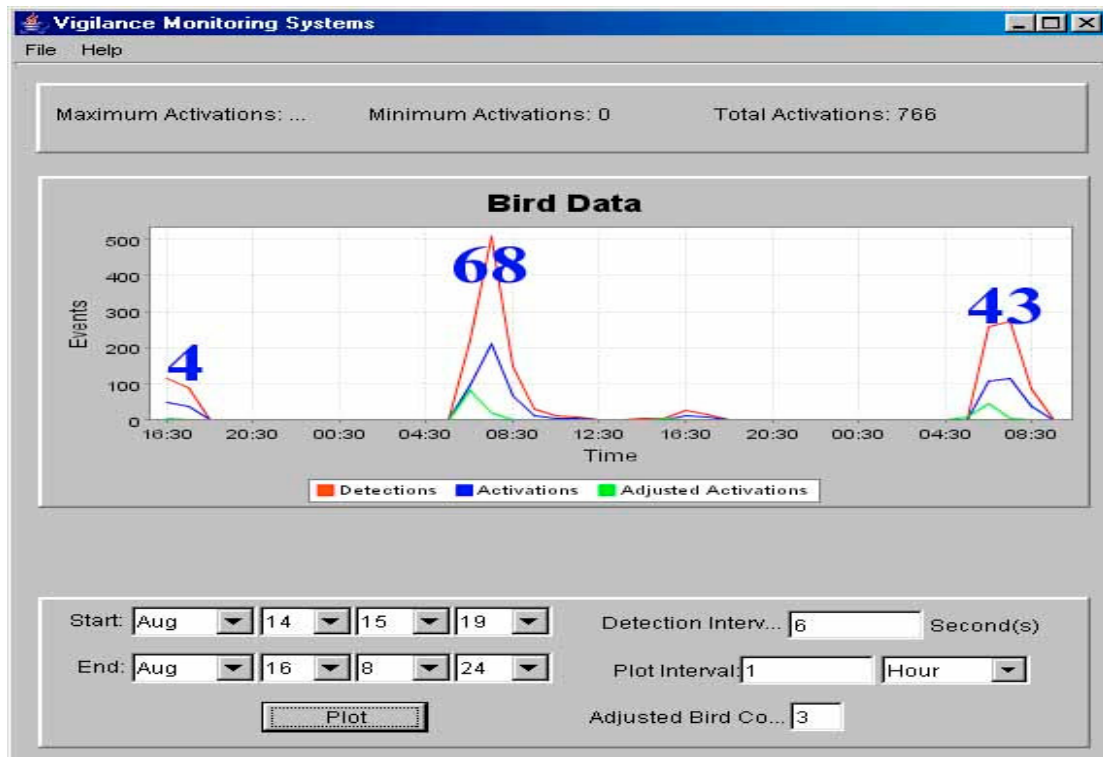

16th to 22nd of June

23rd June to 1st July

1 July to 8th July

14th to 20th of July

August 1st and 2nd

File   Help

Maximum Activations: ...   Minimum Activations: 0   Total Activations: 766

Bird Data

68

43

4

500
400
300
200
100
0

Events

16:30   20:30   00:30   04:30   08:30   12:30   16:30   20:30   00:30   04:30   08:30

Time

■ Detections   ■ Activations   ■ Adjusted Activations

Start: Aug ▼ 14 ▼ 15 ▼ 19 ▼   Detection Interv... 6   Second(s)

End: Aug ▼ 16 ▼ 8 ▼ 24 ▼   Plot Interval: 1   Hour ▼

Plot   Adjusted Bird Co... 3

14th to 16th of August

Conclusion :

The timing and numbers of birds entering the site varied over the duration of the trial. The number of deterrent activation's required to deter birds was proportional to the bird activity at the time. The time taken to clear birds from the site was consistently less that one hour from the 27th of May until the 20th of July after which time the system suffered from considerable down time due to inadequate solar charging.

If habituation to the system had been taking place it would be expected that the time taken to clear birds from the area would steadily increase. This did not occur while the system was consistently operational.

The radar transmitter was in a position such that its solar panel was shaded for at least half the day. If this cannot be avoided in the future larger solar panels and batteries will be used to minimise the chance of this re-occurring.

The graphs above also demonstrate that setting the radar to activate after 3 seconds of bird activity within a six second interval also successfully filtered out non target bird activity.

Birds would generally arrive first thing in the morning indicating that the bird roosting site was also very close to court block.