

## Additional Data for Report 1494 – Parafield Airport

Note, the definition for technical terms used in this document can be found in Report 1494.

### Purpose:

In response to community requests this report provides additional data and analysis to that captured by Airservices Australia's Noise and Flight Path Monitoring System (NFPMS) and reported in Report 1494 for Parafield Airport.

### Background:

The movement data source for the NFPMS is the Air Traffic Control Secondary Surveillance Radar (SSR). Some operations at Parafield Airport do not use SSR so these movements are not captured by the NFPMS. Movement information from the flight strips used by controllers at Parafield Tower as well as SSR data is routinely fed into Airservices Australia's Operational Data Warehouse (ODW), used primarily for billing purposes. This is a different and more complete source of movement data than only the SSR used by the NFPMS.

The movement data from the NFPMS and the ODW are compared for the period covered by Report 1494 (19 October 2006 to 30 January 2007) in Table 1. In this table a single movement can be either:

- an arrival from another airport,
- a departure from another airport, or
- a continuous track that starts and ends at Parafield.

This table shows:

- The NFPMS captures approximately 77% of the ODW movements,
- Approximately 47% of the movements at Parafield involve training circuits, and
- Approximately 50% of movement produced a CNE

**Table 1: Summary of comparisons NFPMS with ODW movement data for the period 19 October 2006 to 30 January 2007**

Number of movements in NFPMS	Number of movements in ODW	Ratio of movements ODW/ NFPMS	Number of circuits ODW	Number of Correlated Noise Events captured by noise monitor (NMT 39)
13190	17088	77.2%	8075	8563

### Noise data for the reporting period:

In Report 1494, noise data was excluded on a number of bases, thereby significantly reducing the number of CNEs reported on:

- For some operations at Parafield airport the SSR information does not identify the aircraft type. For these records the NFPMS will record only that an aircraft operated but will not be able to identify its type. This has resulted in 6651 (out of a total of 8563) CNEs being linked to an unknown aircraft type..
- For noise levels to be truly representative of an aircraft type Airservices Australia requires at least six correlated samples for each aircraft type (six is the number used in international aircraft noise standards). In Report 1494 only noise data for which there were six or more CNEs for each aircraft type were included, resulting in a further exclusion of 391 CNEs.

Table 2 summarises the noise data captured by the NFPMS for the report period, showing that only 1521 out of 8563 CNEs, or 17.7% of the noise data, was included and reported on.

**Table 2: Break down of the noise data for the period 19 October 2006 to 30 January 2007**

Number of CNE for known aircraft where there are six or more samples (number reported on in 1494)	Number of CNE linked to known aircraft with less than 6 samples (excluded from 1494 reporting)	Number of CNE linked to generic type (excluded from 1494 reporting)	Total number of CNE captured by NFPMS
1521	391	6651	8563

Table 3 below is the same as Table 1 from Report 1494, but with an additional column showing the number of aircraft movements by type recorded in the data warehouse. While the Lasmax figures are calculated on the basis of the CNEs only, the actual numbers of each aircraft type operating from Parafield Airport in the monitoring period were greater than the number of CNEs. However, it should be noted that not all operations overflew Parafield Gardens – only 8563 of the total 17088 movements correlated to noise events recorded by the Parafield Gardens noise monitor. Aside from the 1521 CNEs detailed below, it is not possible to determine which aircraft types are represented by the 6651 CNEs linked to the generic aircraft type.

**Table 3: Maximum aircraft noise levels for general aviation aircraft (CNE>5) in Parafield Gardens-revised to include corresponding movement numbers**

Aircraft Description	CNE	Movements: Data Warehouse	L <sub>AS</sub> max Mean dB(A)	L <sub>AS</sub> max High dB(A)	L <sub>AS</sub> max Low dB(A)	Standard Deviation dB(A)
Mooney M20	14	24	65.9	72.3	53.6	6.0
Beech 550	19	27	63.9	73.6	54.9	5.4
Beech 200&1300S	101	201	63.3	77.3	51.7	6.6
Cessna S/Skywagon	21	5	63.2	73.2	52.8	6.6
Piper Seneca III	28	87	62.6	76.6	52.4	5.4
Socata Tobago	263	5315	62.4	80.7	51.0	6.0
Beech 760	463	1957	62.1	81.1	51.4	5.8
Diamond Star DA-400	11	57	61.6	72.4	52.9	6.1
Cessna Citation II	23	103	61.0	70.4	51.3	4.7
Cessna Skyhawk	361	1902	61.0	77.8	51.2	5.7
Cessna Centurion	28	133	61.0	74.3	51.8	6.7
Beech 360	15	41	60.4	68.1	51.5	5.2
Nanchang CJ6PT	22	104	60.1	76.2	50.9	7.3
Cessna Skylane	57	145	59.9	75.2	51.6	5.4
Piper PA28A	64	452	59.9	71.4	52.4	5.1
Cessna 205/206	6	81	59.6	65.2	54.5	3.7
Beech 650	6	14	59.5	72.0	52.2	6.5
Aero Commander 500	12	37	59.3	69.1	52.9	4.7
Cessna Chancellor	7	9	55.2	56.8	52.7	1.3
Others	NA	6394				
<b>Total</b>	<b>1521</b>	<b>17088</b>				

Analysis of the ODW information has also identified that not all aircraft types that operated at Parafield Airport in the reporting period were noise-measured by the NFPMS, and so are not present in Table 3

(or Table 1 of Report 1494). This may be explained by the aircraft type either being too quiet to register a noise event and/or because the aircraft operations were not sufficiently close to the noise monitor to register a noise event. There are five aircraft types which do not appear in Table 3 for which there were more than 100 movements during the monitoring period. These are shown in Table 4.

**Table 4: Aircraft type with over 100 movements which operated at Parafield Airport and not included in Table 3.**

<b>Aircraft Description</b>	<b>Movements: Data Warehouse</b>
Diamond DA-20	128
Grob G-115	4072
Eurocopter AS-350	173
Beech 200	199
Robinson R44	107