Aircraft Noise Issues

Noise is a constant, all around us, a part of our daily lives. While individuals can hear differently, noise has extensive sensory and psychological effects which vary from person to person. This makes trying to define what is and is not noise difficult, with the general idea often being, "unpleasant sounds" or "sounds it would be better not to hear." More specifically, sounds that (a) are damaging to the body, (b) excessively loud, (c) have unpleasant timbre, (d) that interfere with hearing or speech, (e) that interfere with study or work, and/or (f) that disrupt rest or sleep are considered serious noise.

The accepted standard for measuring levels of noise is "decibels," which can be used to compare normal daily sound levels to say, the volume of aircraft engines. The table below shows some comparative examples of noise levels.

Impacts of Noise on the Human Body

Decibel	Volume	Impacts
130	Limits of human endurance, painful	Extended exposure results in loss of hearing
120	Next to a running aircraft engine	
110	Automobile horn blast (2 m in front)	
100	Next to the rails while a train is passing	
90	Inside an industrial factory	Hearing damage
80	Riding a subway car	Causes fatigue and stress
70	A ringing telephone	Raises blood pressure
60	Normal conversation	Reduces ability to work
50	Quiet office environment	
40	Late night urban area	

A normal conversation carried on at a distance of one meter separation is generally held to be around 60 Decibels, a level at which other sounds can be perceived as noise. The 90 Decibel level is proven to reduce working efficiencies.

In understanding and in working to reduce the severity of noise impacts, Kadena Town placed a noise level measurement unit atop the town hall roof in 1978; the units monitor sound levels 24/7. In December, 1995, the Town adopted an online system which had the benefits of saving ener3gy, greater accuracy, and providing that information quickly to the community. The system uses three data gathering points.

Today, the three data gathering points include the Town Hall in Kadena Ward, the education facility in Kaneku Ward, and atop a private residence in Yara Ward.

Aircraft Noise Monitoring System

JFY 2014 Noise Incidents

Sensor Point in Yara Dist. (0.6 km from runway) (Enviro. Noise Class One Lden Value to up 57)

ITEM	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	Totals
Monthly Total	1,820	1,868	1,811	1,518	1,550	1,668	1,787	1,879	1,641	2,298	1,776	2,318	21,934
※Late night/pre-dawn (2200 - 0600)	(104)	(156)	(203)	(148)	(99)	(131)	(68)	(94)	(101)	(73)	(65)	(161)	(1,403)
Avg. No. per day	60.7	60.3	60.4	49.0	50.0	55.6	57.6	62.6	52.9	74.1	63.4	74.8	60.1
※Late night/pre-dawn (2200 - 0600)	(3.5)	(5.0)	(6.8)	(4.8)	(3.2)	(4.4)	(2.2)	(3.1)	(3.3)	(2.4)	(2.3)	(5.2)	(3.9)
Avg. Duration per day	29 min 41 sec	30 min 22 sec	33 min 50 sec	25 min 57 sec	23 min 22 sec	18 min 17 sec	22 min 21 sec	25 min 11 sec	17 min 25 sec	26 min 46 sec	23 min 27 sec	32 min 01 sec	25 min 44 sec
Monthly Avg. Lden (dB)	69.1	69.3	69.3	68.7	68.7	66.5	68.0	68.4	66.1	67.7	68.6	69.3	68.1
Monthly Peak (dB)	102.4	99.7	101.6	98.5	100.4	97.8	97.4	102.2	103.6	98.4	100.4	102.8	103.6
Aircraft Deployments	4 F-22s Rtn 19 Apr							8 F-22s 5 Nov 4 F-22s 7 Nov Rtn 12s by 25 Nov		12 F-16s 15 Jan		Rtn 19 April	
Training Relocations			Jun 19 - Jul 10 16 Kadena based F-15s, 1 Aerial Refuler, 1 Early Warning Craft, and 290 personnel To Guam		Sep 5 - 26 16 Kadena based F-15s, 2 Aerial Refuler, 1 Early Warning Craft, and 320 personnel To Guam	Sep 15 - Oct 7 16 Iwakuni based FA-18s, 4 Aerial Refuler, 4 MV-22s, and 1,140 personnel To Guam	Oct 18 - 31 12 Kadena based FA-15s and 200 personnel To Nyutabaru Air Base		Dec 3 - 19 18 Kadena based F-15s, 2 Aerial Refuler, 1 Early Warning Craft, and 400 personnel To Guam	Feb 2 - 28 14 Misawa based F-16s and 400 personnel To Guam	Feb 9 - 28 18 Kadena based F-15s, 3 Aerial Refuler, 2 Early Warning Craft, and 410 personnel To Guam		

※ Incidents numbers include only those exceeding 70dB and Background Noise level of over 10dB for no less than 3 seconds.
※ Avg incidents per day calculated by total incidents divided by number of days.
※ Avg daily totals do not include fractionals.
※ Conventional WECPNL (weighted noise levels) at an avg of 77.4/year at Yara Sensor Point.