

## WHO GUIDELINES FOR COMMUNITY NOISE, 1999

| Specific environment  | Critical health effect(s)  | dBA Leq   | Time period (hours) | LA max |
|---|--|---|---------------------|--------|
| Outdoor living area   | Serious annoyance, daytime and evening   | 55  | 16                  | -      |
|   | Moderate annoyance, daytime and evening  | 50  | 16                  | -      |
| Dwelling, indoors   | Speech intelligibility & moderate annoyance, daytime & evening                       | 35  | 16                  |        |
| Inside bedrooms   | Sleep disturbance, night-time  | 30  | 8                   | 45     |
| Outside bedrooms  | Sleep disturbance, night-time  | 45  | 8                   | 60     |
| School class rooms & pre-schools, indoors                               | Sleep disturbance, window open (outdoor values)                                      | 35  | during class        | -      |
| Pre-school bedrooms, indoor   | Speech intelligibility, disturbance of information extraction, message communication | 30  | sleeping time       | 45     |
| School, playground outdoor  | Annoyance (external source)  | 55  | during play         | -      |
| Hospital, ward rooms, indoors   | Sleep disturbance, night-time  | 30  | 8                   | 45     |
| Hospitals, treatment rooms, indoors                                     | Sleep disturbance, daytime and evenings  | as low as possible  |                     |        |
|   | Interference with rest and recovery  | 70  | 24                  | 110    |
| Industrial, commercial shopping and traffic areas, indoors and outdoors | Hearing impairment   | 100   | 4                   | 110    |
| Ceremonies, festivals and entertainment events                          | Hearing impairment (patrons:<5 times/year)   | 85  | 1                   | 110    |
| Public addresses, indoors and outdoors                                  | Hearing impairment   | 85 #1   | 1                   | 110    |
| Music and other sounds through headphones/ earphones                    | Hearing impairment (free-field value)  | -   | -                   | 140 #2 |
|   |  | -   | -                   | 120 #2 |
| Impulse sounds from toys, fireworks and firearms                        | Hearing impairment (adults)<br>Hearing impairment (children)                         | Existing quiet outdoor areas should be preserved and ratio of intruding noise to natural background sound should be kept low. |                     |        |
| Outdoors in parkland and conservations areas                            | Disruption of tranquillity   | As low as possible  |                     |        |

#1: Under headphones, adapted to free-field values.

#2: Peak sound pressure (not LAF, max) measured 100 mm from the ear.

