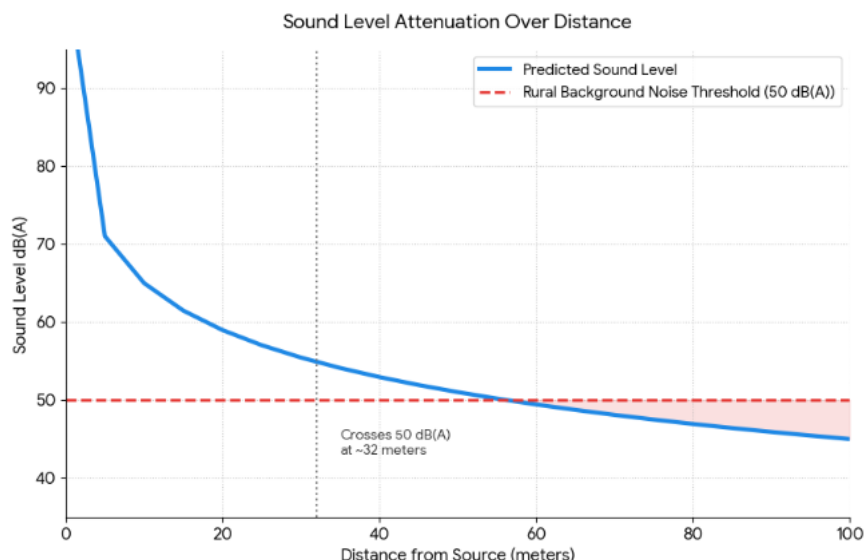


Acoustic Dispersion Calculation

Here is how the sound level drops as it travels from your woodland basecamp across the smallholding to your neighbour's garden:



The Math Behind the Sound Drop:

- **The Source (Basecamp):** 20 children playing outdoors generate a combined peak sound power level of approximately **93 dB(A)**.
- **Geometric Spreading:** As sound travels 100 metres through the air, it spreads out. This distance alone automatically subtracts **48 decibels** from the volume.
- **Ground and Canopy Absorption** Unlike concrete, the soft forest floor, agricultural soil, and woodland foliage absorb sound rather than reflecting it. This provides an extra **3 to 5 dB(A)** of natural reduction.
- **The Result at the Garden Boundary:** For context, the typical daytime ambient background noise in rural Ardingly sits between **45 and 50 dB(A)** due to wind, wildlife, and distant traffic on the B2028. Because your nursery's predicted noise level (**42–45 dB(A)**) is *lower* than the existing background noise, it will be largely masked and visually imperceptible to your neighbours.

Mid Sussex District Council planning officers must assess the “net change” in noise. If a neighbour's garden is already exposed to a 1980s Thwaite dumper, a Ford 4610 tractor, and a chorus of cockerels, geese, and peacocks, the addition of children playing at a 100-metre distance introduces effectively **zero new acoustic impact**. In fact, your active smallholding operations are likely louder than the children.

Contextual Noise Comparison

The table below contrasts your current agricultural machinery and livestock noise levels against the projected sound levels of the forest nursery. This demonstrates to Environmental Health that your nursery is a low-impact introduction.

Noise Source	Average Sound Power (L_w)	Estimated Sound Level at Neighbor's Garden (100m away)
Thwaite 1-Ton Dumper (1980s)	~103 dB(A)	~52 dB(A) <i>(Clearly audible engine drone)</i>
Ford 4610 Utility Tractor	~98 dB(A)	~47 dB(A) <i>(Distinct engine noise)</i>
Peacocks & Cockerels	~95–100 dB(A) peak	~44–49 dB(A) <i>(Intermittent, sharp piercing calls)</i>
Kubota KX36-3 / Bomag Roller	~92–95 dB(A)	~41–44 dB(A) <i>(Moderate mechanical rumble)</i>
Proposed Forest Nursery (20 kids)	~93 dB(A) peak	~42–45 dB(A) <i>(Gentle, masked background chatter)</i>

Title: Desktop Noise Assessment & Operational Management Statement

Location: Ardingly, West Sussex

Proposed Development: Temporary Change of Use of Smallholding to Forest Nursery
(Ages 2–5)

Proposed Hours: Monday to Friday, 07:00 to 18:00 (No weekend operations)

Maximum Capacity: 20 Children

Key Management Personnel / Keyholders: Natasha Stokeley, Paul Stokeley, Christopher Winborne, Chloe Caley-Winborne.

1. Existing Baseline & Agricultural Context

The application site is a functioning, active smallholding. The local acoustic environment is natively characterized by standard agricultural operations. Existing livestock on-site includes highly vocal species such as cockerels, geese, ducks, peacocks, and sheep. Furthermore, daily land management operations utilize heavy agricultural and construction plant, including:

- Ford 4610 and 1220 utility tractors
- A 1980s Thwaite 1-tonne diesel dumper
- A Kubota KX36-3 mini excavator
- A Bomag BW80 ADH-2 twin-drum tandem roller
- A Westwood T50 ride-on mower

The noise profile generated by the periodic operation of this machinery (ranging from 92 to 103 dB and the unamplified calling of livestock forms the established environmental noise baseline for the immediate area and the closest sensitive receptors.

2. Predicted Noise Impact Analysis of the Nursery

The nursery intends to host a maximum of 20 children. A cohort of this size playing outdoors generates an unamplified, collective peak sound power level of approximately 93 dB(A).

The nearest residential garden boundary is situated a substantial 100 metres away from the primary outdoor woodland play hub. Applying standard free-field geometric spreading, distance alone attenuates the sound by 48 dB. Additional ground absorption provided by the smallholding's natural topography, ground pasture, and mature woodland canopy reduces the sound by a further 3 to 5 dB.

The resulting predicted sound level at the neighbour's boundary is **42–45 dB(A)**. This level is:

- Substantially lower than the peak noise generated by the smallholding's existing agricultural plant.
 - Lower than or equal to the intermittent daytime calls of the resident livestock.
 - Below the typical daytime ambient background noise of the rural Ardingly corridor.
- Because the sound of children playing will be completely masked by the existing rural and agricultural soundscape, the proposed change of use will result in zero net acoustic impact or loss of residential amenity.

3. Operational Hours & Timing Mitigation

The nursery's proposed hours are 07:00 to 18:00, Monday to Friday only. Because there are no weekend operations, the surrounding properties are guaranteed complete immunity from nursery-related noise during standard rest days, preserving weekend amenity in the High Weald AONB area.

4. Proactive Site Management Rules

Under the supervision of the keyholders (Natasha Stokeley, Paul Stokeley, Christopher Winborne, and Chloe Caley-Winborne), the following acoustic controls will be strictly enforced:

- **Separation of Uses:** Heavy plant operations (e.g., dumper or tandem roller use) will be minimized or restricted near the woodland zone during core nursery activity hours to manage cumulative exposure.
- **Fixed Activity Hub:** The main forest nursery basecamp will remain anchored 100 metres away from the property boundaries to guarantee the maintenance of the acoustic buffer zone.
- **No Amplified Audio:** No outdoor public address systems or electronic amplified toys will be permitted on-site.