LOS ANGELES AUDUBON

Adverse Impacts of Airplane Noise on Wildlife in the Eastern Santa Monica Mountains and San Fernando Valley

Recent re-routing of airplane flights in and out of Hollywood Burbank Airport and Van Nuys Airport have resulted in more planes flying at lower altitudes over the eastern Santa Monica Mountains and the San Fernando Valley. Impacts from these changed routes should be analyzed and mitigated as part of an environmental review process. Such review is necessary because: 1) noise pollution affects all groups of animals; 2) wildlife is even more sensitive than humans to noise pollution; 3) sensitive wildlife species are found in the area affected; and 4) substantial areas that have been protected for conservation are impacted.

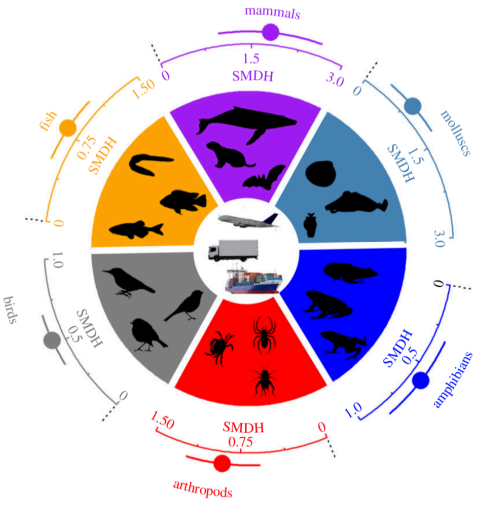

Figure 1. Standardized mean difference effect sizes for noise studies on fish, mammals, molluscs, birds, arthropods, and amphibians [1].

Noise Impacts All Wildlife Groups

A systematic review of 102 research studies across major groups of wildlife synthesized the size of the effects from noise [1]. They found that all wildlife groups are affected and that this extends to all species within those groups and is not simply a few species that are highly sensitive while other species are not sensitive. The implication of this research is that all species, including protected species, that are found in the areas of increased noise will be affected by the noise.

Wildlife Species Are More Sensitive to Noise Than Humans

A separate summary of scientific studies from 1990 to 2013 showed adverse impacts of elevated sound levels on wildlife to be widespread and significant. Regardless of how sound was measured, a greater percentage of studies shows impacts on wildlife (dots, right) than the corresponding percentage of people who find that sound level annoying (solid line, right) [2]. A full 20% of studies documented adverse impacts on wildlife at sound levels less than 50 dBA. Noise can degrade habitat to such a degree that sensitive species are eliminated [3, 4]. On-the-ground measurements in neighborhoods in

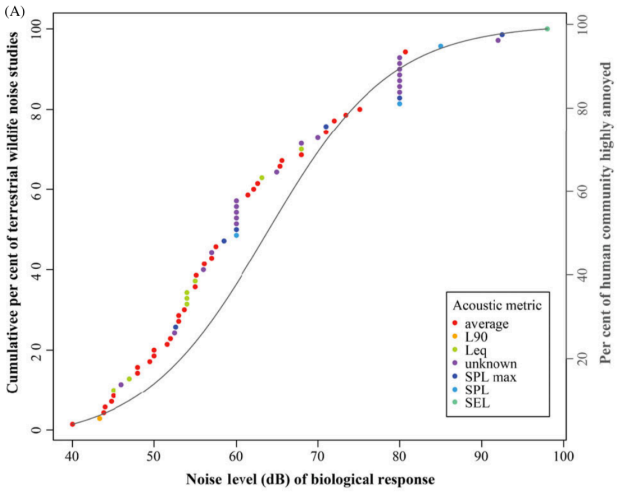

Figure 2. Cumulative percent of 131 studies showing biological impacts by noise level (dots) compared with annoyance reported by humans (line) [2].

the eastern Santa Monica Mountains document airplane noise in excess of 70 dBA, which is extreme and causes adverse impacts on wildlife [2].

Sensitive Wildlife Species Are Found in Areas Affected by Increased Noise

The California Natural Diversity Database is a key resource for assessing whether a project in California might affect sensitive species. A search for the Burbank and Van Nuys map quadrangles returns 43 species of wildlife that are found in these areas that are most impacted by the increased airplane noise. These species include sensitive species and "watch list" species that all should be considered in environmental review. For example, the area includes 5 different sensitive bat species, which are vulnerable to noise disrupting their foraging through echolocation. Nesting and migratory birds are also included. Habitats for these sensitive species are found both in the Santa Monica Mountains and in the San Fernando Valley (e.g., in the Sepulveda Dam Basin and even in the trees in and airspace over neighborhoods).

Extensive Areas Protected for Conservation Are Affected

As increased and lower altitude airplane overflights are routed over the eastern Santa Monica Mountains and the southern San Fernando Valley, they impact large areas that are protected at least in part for the purpose of species conservation. Increased impacts on these lands requires additional scrutiny in that they were purchased and are managed for conservation and cumulatively represent a massive investment in federal, state, and local funds that is being undermined and wasted through degradation of species habitat through noise. These lands affected by Burbank and Van Nuys airports include extensive areas of City parks, State conservancy land, the existing Santa Monica Mountains National Recreation Area, and especially the expanded Rim of the Valley extension to the National Recreation Area currently being studied. Programmatic changes that increase impacts on these lands must be subject to environmental review that allows for input and consideration of the concerns of the agencies that hold and manage these lands in public trust.

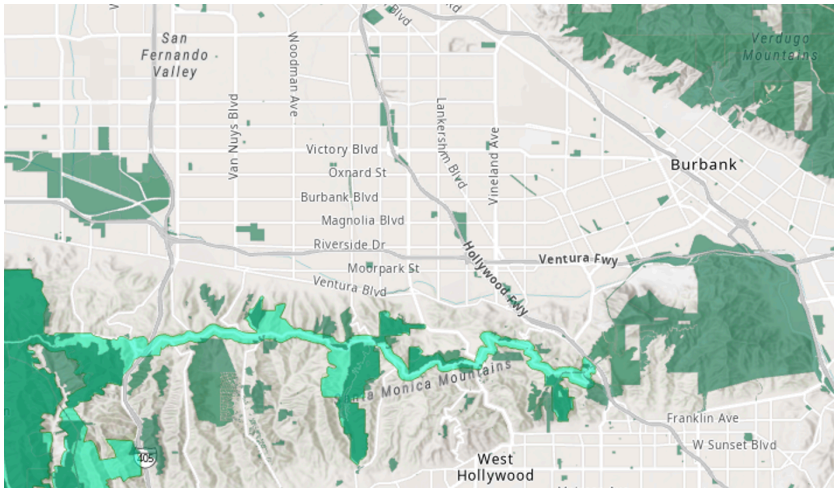

Figure 3. Protected lands from the California Protected Areas Database (green) with the extent of the Santa Monica Mountains National Recreation Area (teal). The public investment in these lands for natural resource conservation is jeopardized by increased airplane noise.

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2. Shannon G, McKenna MF, Angeloni LM, Crooks KR, Fristrup KM, Brown E, et al. A synthesis of two decades of research documenting the effects of noise on wildlife. Biol Rev. 2016;91(4):982–1005.
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