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REVIEWER'S REPORT

Manuscript No.: **IJAR-52654** Date: **5/07/2025**

Title : A Survey on Bioacoustic Signals Denoising: Comparison of Aerial and Underwater Signal Processing Techniques

Recommendation:
Accept as it is .....
Accept after minor revision (√)
Accept after major revision .....
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality		√		
Clarity		√		
Significance		√		

Reviewer Name: **Date:**

Yuniana Cahyaningrum, S.Kom., M.Kom. **5/07/2025**

Reviewer's Comment for Publication.

This paper provides a comprehensive review of noise reduction techniques applied to bioacoustic signals across the airborne and underwater domains. The paper discusses the presence of noise poses significant challenges to the accurate analysis of these signals in terrestrial and aquatic environments and bioacoustic signal processing has emerged as an important field in biological monitoring, species identification, and ecological assessment.. With some improvements (especially clarification of sample size, statistical reporting, and language refinement), this work could make a valuable contribution to IJAR readers. Therefore, I recommend accepting it after minor revisions.

Detailed Reviewer's Report

Strengths

1. Relevant topic
   The study conducted in this research presents a comprehensive review of noise reduction techniques for bioacoustic signals in terrestrial and underwater regions by systematically categorizing approaches from traditional signal processing to advanced machine learning methods, comparing their effectiveness, limitations, and region-specific adaptations.
2. Clear research aim
   To identify emerging trends, research gaps, and promising directions for future work. Systematically reviewing and categorizing noise removal approaches used in airborne and underwater bioacoustic signal processing.
3. Sound instruments
   While the basic principles of signal processing remain consistent across regions, the unique physical properties of air and water require specialized approaches to address region-specific challenges..

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4. Practical implications
   As anthropogenic noise continues to impact the natural environment both on land and underwater, effective noise reduction of bioacoustic signals becomes increasingly important for monitoring, conservation, and research applications. By bridging the gap between terrestrial and underwater approaches, researchers can develop more robust, adaptable, and effective techniques to meet this growing need.

5. Ethical transparency
   The challenges of noise reduction in bioacoustic signals span two distinct but related domains: the terrestrial and underwater environments.

Weaknesses

1. Incomplete statistics
   Statistics can be supplemented and added with units from the table to make them clearer.

2. Table and Graph
   It would be better if the images in the graph could be explained and displayed.

3. Language polish
   Minor grammar slips distract from the argument; a quick copy-edit would fix this.

4. Reference consistency
   A few URLs are incomplete and year formats vary. Aligning all entries with APA 7 will enhance professionalism. The reference use must be up to date (Last 5 years). There are several references that are more than five years old.