

## Listening Beyond the Audiogram: A Soundscape Journey from Practice to Place

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Hilary Buckle, M.Sc., Aud (C)

*Hilary Buckle, M.Sc., Aud (C)*

*Audiologist & PhD Student, Arctic and Subarctic Futures*

*Labrador Campus, Memorial University*

### Abstract

This reflective essay explores how reconnecting with natural soundscapes reshaped my understanding of listening as an audiologist living and working in Labrador. Moving beyond the audiogram as a clinical tool, I describe the practice of soundscape journaling — a five-part framework integrating sensory observation, embodied response, creative interpretation, scientific representation, and relational reflection. Drawing on polyvagal theory, Indigenous knowledge, and ecological listening, I consider how sound functions as more than signal detection: it regulates, co-regulates, and situates us in relation to Land and others. Preliminary evidence suggests that affiliative acoustic environments — such as birdsong or flowing water — may support autonomic regulation and auditory processing, opening space for future exploration of soundscapes as therapeutic adjuncts. While not a clinical recommendation, this essay invites audiologists to imagine a broader, interdisciplinary lens on listening — one grounded in reciprocity, regulation, and relationship.

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### Introduction

When I returned to Labrador to build a life on the Land with my family, I didn't expect to relearn listening. But over time — with each thaw and dusk-time call of the hermit thrush — my relationship to sound began to shift. I was no longer just identifying or interpreting it; I was experiencing sound as something embodied and relational, something that tethered me to place, presence, and peace.

One evening in early June, my children down for the night, the garden freshly turned, a thrush called from the Northeast. As I knelt in the soil beside my partner, the soundscape around us felt not only beautiful, but somehow holding. In that moment, I began to understand listening differently — not only as a cognitive process, but as a practice of attunement.

First as a student and now as a clinician, I've spent a decade measuring hearing sensitivity and interpreting test batteries. But this return to Land invited me to consider listening beyond detection

and recognition: as regulation, connection, and reciprocity.

Living and working in Labrador, among communities whose identities are deeply rooted in the land, has deepened my awareness of what's at stake when audibility is diminished. Birdsong, river movement, the voice of the wind — these are not background sounds, but connections to memory and meaning. Hearing loss here can disrupt more than communication; it can interrupt relationship with the more-than-human world.

This reflection shares how reconnecting with natural soundscapes reshaped my understanding of listening — and how it might support clients navigating trauma, sensitivity, and the search for safety in sound.

## Key Concepts and Definitions:

*(To support clarity, a few key terms used throughout this reflection are defined below.)*

- **Soundscape:** The acoustic environment as perceived in context—including natural, human-made, and ambient sounds—that carries cultural, emotional, and ecological meaning (Schafer, 1977).
- **Relational Listening:** Listening grounded in emotional, sensory, and ecological attunement—not merely signal detection, but listening as reciprocity and connection (Kannieser et al., 2024)
- **Neuroception:** The nervous system's unconscious evaluation of safety or threat through auditory or environmental cues—central to how sound impacts regulation (Porges, 2022).
- **Polyvagal Theory:** A theory by Stephen Porges describing how the vagus nerve helps regulate physiological states in response to safety or threat, shaping emotion, social connection, and how we listen (Porges, 2022).
- **More?than?Human World:** A relational concept recognizing non-human beings and elements (animals, plants, waters, seasons) as active participants in human experience (Kimmerer, 2013).
- **Two?Eyed Seeing:** A principle of integrating Indigenous and Western ways of knowing in parallel—honoring strengths of both lenses (Bartlett et al., 2012).
- **Land (capitalized):** Used to reflect Indigenous and relational worldviews in which Land is understood not just as physical terrain, but as a sentient, living presence — a teacher, relative, and source of knowledge and identity (Simpson, 2014; Kimmerer, 2013).

## Background- Audiologist in the North:

I've lived in Labrador most of my life, but I returned to the region professionally about four years ago—first as a practicing audiologist, and more recently as a doctoral student. I'm currently pursuing a PhD in Arctic and Subarctic Futures at the Labrador Campus of Memorial University. My research sits at the intersection of land-based learning, Indigenous ways of knowing, and human-nature connectedness, with a particular focus on auditory experience.

Specifically, I'm exploring how natural soundscapes shape our sense of place, identity, and

belonging, and how listening can serve as a relational and regulatory process. Drawing on polyvagal theory, I'm interested in how the auditory system operates as both a perceptual and emotional bridge—linking self, others, and the more-than-human world.

A few guiding questions shape my work:

- What is lost—emotionally, relationally, ecologically—when hearing is diminished?
- How does listening foster a sense of belonging to place?
- Can soundscapes serve as co-regulatory healing interventions for individuals with trauma, auditory sensitivities, or sensory differences?

Though still early in this inquiry, it has already shifted how I listen.

In clinical practice, my role was often oriented toward problem-solving. A client describes difficulty. We conduct an audiogram. We explore solutions. But this process often left little space for the deeper question: What does sound mean to this person?

That question came into sharper focus during a graduate course titled *People, Place, and Identity*, taught by Dr. Sylvia Moore. The course centered seasonal reflection and land-based learning, inviting us to explore our relationship to place through creative work. That's where I was first introduced to listening as a relational act—and where the practice of soundscape journaling was born for me.

## **Reframing Listening- Place-Based Knowledge and Embodied, Relational Listening:**

In audiology, our work often centers on speech perception — on hearing as a gateway to human connection. And that is vital. But listening, I've come to understand, doesn't begin or end with spoken language. In many Indigenous communities — and certainly here in Labrador — people hold deep, ongoing relationships with the more-than-human world: with animals, winds, rivers, and seasons. These relationships are not symbolic, but lived and embodied. They inform identity, memory, and meaning — and they are deeply auditory.

To live in Labrador is to be shaped by its rhythms: the long winters, migrating caribou, the hush of deep snow, and the burst of birdsong after silence. These are not background elements — they are central. They teach us about reciprocity, co-regulation, and place-based identity.

In this context, the idea of place-based knowledge becomes essential. As Indigenous scholars like Simpson (2014) and Kimmerer (2013) describe, this kind of knowledge is not only ecological but relational — rooted in the affective, sensory, and reciprocal ways we come to know and be known by the Land. It grows not just through observation, but through participation: in sound, in stillness, in memory and movement. As Kimmerer writes, “What is the place that you understand best, that you know best and knows you in return?” (p. 125).

This is also the essence of relational listening — a concept increasingly explored within Indigenous, decolonial, and ecological frameworks. Relational listening positions sound not just as

information to be decoded, but as connection. It asks: How do the sounds around us co-regulate, unsettle, or restore us? How are we shaped by what we hear?

Kannieser et al. (2024) describe this as “deep” and “expansive” listening — a decentering of sound as merely an exchange between voice and ear, and an invitation into vibrational and more-than-human perceptibility. It is an intentional engagement with the complexity of being in place. And for audiologists, it offers a powerful reframe: hearing loss may not only affect communication, but one’s capacity to connect with Land, with self, and with the sensory world.

**The Practice- Soundscape Journaling:**

As my soundscape journaling practice evolved, I developed a simple five-part framework to guide my reflections — a structure that helped me move between environmental detail, bodily awareness, emotional tone, artistic expression, and personal insight. It emerged through the portfolio process but has continued to shape how I listen, reflect, and relate.

**Table 1**  
*Soundscape Journal Framework Breakdown*

Section	Purpose / Reflective Focus
1. Sensory Observation / Fieldnotes	To document the auditory environment as thoroughly as possible, including time, location, weather conditions, and specific sounds heard.
2. Embodied Response	To notice and reflect on my physical sensations, mental or emotional states and spiritual impressions while listening to the soundscape.
3. Creative Interpretation	To express the soundscape experience through a visual, metaphorical, abstract or symbolic means
4. Scientific Representation	To apply audiological knowledge or scientific frameworks (e.g., spectrograms, pitch patterns, frequency analysis) to the soundscape.
5. Self-In-Relation	To reflect on how the experience relates to identity, Land, seasonal changes, identity and place-based connection

***Note.** This table outlines the core components of the soundscape journal framework, integrating auditory, emotional, creative, scientific, and relational dimensions of listening practice.*

This framework allows for a kind of listening that is both analytical and relational — a blend of scientific or objective representation and intuitive attunement. In many ways, it reflects a Two-Eyed Seeing approach: one eye grounded in clinical knowledge and the other in embodied, place-based connection.

Over time, the practice became more than an assignment. It became a doorway — back into the Land, and back into myself. Through sound. Through silence. Through a kind of listening that had no clinical endpoint, but offered a grounding I hadn’t realized I was missing.

In clinic, we use the audiogram to plot hearing thresholds — a precise, standardized way of assessing how sound enters the body. But through sound journaling, I found myself mapping a different kind of response.

Beyond personal reflection, soundscape journaling may hold emerging value as a clinical tool. Just as structured reflective writing and mindfulness in healthcare practice have been shown to enhance self-awareness, empathy, and professional presence (Wald, 2010; Lim et al., 2023), audiologists

might imagine journaling as a practice of relational listening — cultivating curiosity, regulation, and a broadened sense of what listening entails (Kannieser et al., 2024).

Within future clinical contexts — pending further empirical support — journaling might be adapted as a gentle entry point for clients with auditory sensitivities or trauma histories. Instead of starting with challenging or potentially overstimulating auditory exposures, clients might one day be invited to notice and record sounds that feel grounding, calming, or connective. Research on restorative natural soundscapes shows that such experiences may enhance vagal tone and reduce physiological arousal (Ratcliffe, 2021), aligning with polyvagal theory’s notion that affiliative acoustic features function as cues of safety (Porges, 2022).

What we already know from related research is that auditory perception itself is not static, but shaped by relational context. For example, Nagar et al. (2022) found that priming participants with a sense of attachment security improved pure-tone thresholds — suggesting that a felt sense of safety can directly enhance even basic auditory processing. Such findings do not establish a clinical pathway, but they point toward the possibility that listening practices which foster security and connection — including journaling in soundscapes — may one day hold clinical relevance.

This is not a clinical recommendation at this time, given our profession’s regulated scope and the need for validated intervention frameworks. Rather, it is an invitation — to researchers and clinicians alike — to imagine how such a tool might fit within a broader, interdisciplinary, and relationally-informed audiological practice. It represents one of several promising — and as yet underexplored — avenues that I hope to investigate in my PhD research, and that may, in time, help expand our profession’s lens on listening.

If the audiogram maps sound as stimulus, then the sound journal maps sound as relationship. These entries became more than observations — they became topographies of memory, place, and belonging. One is not a replacement for the other. Rather, they are parallel instruments — each tuning into a different register of what it means to listen.

For readers interested in how the journaling framework unfolds in practice, this submission includes one complete soundscape journal entry (see supplementary journal entry file). This entry illustrates how clinical, personal, and ecological insights can interweave — moving from sensory observation to embodied response, creative mapping, spectrogram analysis, and relational reflection.

[ListeningBeyondTheAudiogram\\_JournalEntry\\_BuckleDownload](#)

One evening in early June, kneeling in the soil while planting lupines, I wrote:

“The canopy of trees in bloom, along with the sharp melodic tones of birds singing from different locations, created the perception that I was enveloped and held by the surrounding Land and relations. I felt framed by the sounds around me — not separate from it, but held within.”

## **Reflections from the Land:**

These journaled moments are more than recollections — they offer insights into how sound mediates relationship. Four interwoven themes emerged from this practice, pointing toward a more embodied understanding of listening — one that may resonate with clinical work and expand our

approach to auditory experience.

## **Theme 1: Soundscapes as Co-Regulators**

Natural soundscapes can support nervous system regulation — not as passive background, but as active agents of calm, grounding, and emotional restoration.

“As I sit on the sand, I want to sink into it... The Land is big and wise enough to hold all of my parts. This is felt as a co-regulation. A soothing embrace.”

## **Theme 2: Sound as Relationship, not Input**

In these moments, listening felt less like decoding and more like participation — a way of being in relationship with place, memory, and the more-than-human world.

“The sound of the Hermit Thrush... was not background but co-participant. I felt I was not just hearing, but practicing reciprocity.”

## **Theme 3: Not-Yet-Separate-From Selfhood**

Certain sounds evoked preverbal states of belonging — echoes of maternal attunement — suggesting that natural sound can reawaken somatic imprints or embodied echoes, supporting identity, regulation, and healing.

“Feeling a part-of, or not-separate-from, brought a sense of peace, calm, and grounded-ness.”

## **Theme 4: Embodiment and Porosity**

Listening extended beyond the ears — into breath, skin, posture, and space. The body itself became porous, attuned to sound in a way that mirrors how we engage relationally.

“My breath softened... I noticed the rhythm matching the long, slow call of the toad in the distance.”

These reflections haven’t replaced my clinical knowledge — they’ve expanded it. Listening, I’ve come to understand, isn’t limited to decibels or devices. It is also emotional, embodied, and rooted in place. Through soundscape journaling, I’ve begun to listen with my whole body — not only to what is heard, but to what is felt, held, and exchanged.

And perhaps as audiologists, we might begin to ask: *What does sound mean to this person? What does it connect them to? What stories does it carry?*

In that asking, and in that listening, we may begin to hear beyond the audiogram.

## **Bridging Clinical Insight — Misophonia, Sound Sensitivity, Auditory Processing Difficulties & Listening as Regulation**

Polyvagal theory offers a compelling lens through which to understand listening not merely as sound processing, but as a physiological act of regulation and relational attunement. Developed by Stephen Porges, the theory highlights the role of the vagus nerve in scanning the environment for

cues of safety or threat — a subconscious process known as neuroception. In safe contexts, the parasympathetic system is activated, enabling social engagement and calm states; in threatening contexts, the body shifts toward defense.

One of the theory's most relevant insights for audiologists lies in its explanation of how the nervous system modulates the middle ear muscles to prioritize frequencies associated with human voice. As summarized by Porges (2022), in safe environments, the neural regulation of the middle ear muscles enhances the detection of human voice by filtering out low-frequency background noise. When threat is perceived, this regulation is disrupted, and listening becomes strained or defensive. This helps explain the heightened auditory sensitivity or distress seen in conditions like misophonia, hyperacusis, or sensory processing disorders, where affiliative or neutral sounds are perceived as aversive.

This dynamic can be understood as a feedback framework with three interrelated pathways (Porges, 2022).

- **(A) Neural Regulation ? Auditory Filtering:** In safe states, brainstem pathways regulate the middle ear muscles, reducing low-frequency noise and enhancing access to human voice. This represents the default listening mode when clients feel secure and supported.
- **(B) Auditory Input ? Autonomic State:** Sound environments, whether affiliative or chaotic, shape autonomic response. Supportive auditory input can sustain regulation, while intrusive noise can trigger sympathetic arousal and vigilance, making listening effortful.
- **(C) Autonomic Dysregulation ? Auditory Dysregulation:** When the autonomic system is in a threat state, middle ear regulation is disrupted. Neutral sounds may be experienced as distorted or aversive, and difficulty parsing speech can in turn reinforce defensive arousal.

Prosodic human speech (i.e., gentle tone, melodic contour, rhythmic predictability) acts as a neural cue of safety. These same acoustic features are mirrored in natural soundscapes: birdsong, wind in trees, flowing water. Porges (2022) suggests that affiliative environmental sounds may support vagal regulation similarly to human prosody. This raises a provocative clinical question: could immersive natural soundscapes serve as regulatory interventions, particularly for individuals with sound sensitivity, trauma histories, or neurodivergence?

Recent research offers preliminary support. Nagar et al. (2022) found that priming participants with a sense of attachment security — through a photo of a loved one — improved their pure-tone thresholds, suggesting that relational safety enhances even basic auditory processing. Similarly, the Safe and Sound Protocol (SSP), developed by Porges, uses filtered, prosodic music to shift autonomic state. While empirical evidence is still emerging, SSP has shown early promise for individuals with misophonia (Dozier, 2024) and children with autism experiencing sound sensitivities (Porges et al., 2014).

Building on this, emerging work points to nature itself as a regulatory scaffold. Ratcliffe et al. (2021) found that exposure to natural sounds — such as birdsong, flowing water, and wind — can reduce sympathetic arousal, enhance vagal tone, and support affective and cognitive restoration. This ecological pathway parallels the therapeutic aims of SSP, but without requiring verbal language or close social contact — making it particularly promising for sensory-sensitive or

trauma-affected individuals.

These threads suggest an expanded audiological toolkit may be possible. While soundscape journaling is still early in its empirical validation, it gestures toward a holistic and interdisciplinary practice — one that situates listening not only within the ear and brain, but within nervous system states, ecological relationships, and cultural belonging. As emerging interventions like the Safe and Sound Protocol (Dozier, 2024; Heilman et al., 2023; Porges et al., 2014) show, auditory environments can play an active role in supporting regulation and sensory processing. Journaling may extend this principle by offering both clinicians and clients a structured, creative, and relational way of engaging with sound. For audiologists themselves, the practice may foster a habit of relational listening, opening new ways of noticing what sound means to those we serve. For clients, it could offer a culturally resonant and non-threatening pathway to re-engage with the auditory world — beginning from a place of safety, reciprocity, and connection (Kimmerer, 2013; Simpson, 2014).

This possibility also aligns with Indigenous understandings of listening as relational and place-based. In Labrador and other northern contexts, soundscapes are not merely background — they are ancestral. Listening to the Land is not just therapeutic; it is a way of knowing, a gesture of belonging. For clients navigating trauma, regulation, or reconnection, natural soundscapes may offer a gentle re-entry into the auditory world — one grounded in safety, reciprocity, and cultural resonance.

## Conclusion:

One evening in early summer, kneeling in the soil as the last light fell, I heard the hermit thrush call from the Northeast. It was a sound I'd heard before, but something in me had shifted — I wasn't just identifying it, I was listening with my whole body. I felt held, attuned, co-regulated by the landscape around me.

That moment taught me something I couldn't learn from an audiogram: that listening is not just reception — it is relationship. It is how we find belonging in sound, and how sound finds its place in us.

Audiology equips us to detect hearing loss, but our work also lives in the spaces between sound and meaning — in how people relate to what they hear, and what they lose when sound is diminished. When we attune to these sensory, emotional, and ecological dimensions, audiology expands: from a clinical tool to a relational practice. In doing so, we may not only help restore access to sound, but also help people reconnect to themselves, to others, and to the Land.

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## References

1. Bartlett, C., Marshall, M., & Marshall, A. (2012). *Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together Indigenous and Western knowledges*. *Journal of Environmental Studies and Sciences*, 2(4), 331–340.  
<https://doi.org/10.1007/s13412-012-0086-8>
2. Dozier, T. H. (2024). Safe and Sound Protocol with brief therapy for misophonia: A pilot study



(White paper). *Misophonia Institute*. <https://www.whatisthessp.com/>

3. Heilman, K. J., Heinrich, S., Ackermann, M., Nix, E., & Kyuchukov, H. (2023). Effects of the Safe and Sound Protocol™ (SSP) on sensory processing, digestive function and selective eating in children and adults with autism: A prospective single-arm study. *Journal on Developmental Disabilities*, 28(1), 1–26.
4. Kannieser, A., Willems, J., Jones, L., & du Plessis, A. (2024). Expansive listening: Sound, justice, and relation. *Emotion, Space and Society*, 50, 100958. <https://doi.org/10.1016/j.emospa.2024.100958>
5. Kimmerer, R. W. (2013). *Braiding sweetgrass: Indigenous wisdom, scientific knowledge, and the teachings of plants*. Milkweed Editions.
6. Lim, J. Y., Wong, S. N., Hong, C., Tan, H. X., & Tan, N. C. (2023). Reflective writing in medical education: A systematic scoping review. *BMC Medical Education*, 23, 91. <https://doi.org/10.1186/s12909-022-03924-4>
7. Nagar, S., Mikulincer, M., Nitsan, G., & Ben-David, B. M. (2022). Safe and sound: The effects of experimentally priming the sense of attachment security on pure-tone audiometric thresholds among young and older adults. *Psychological Science*, 33(3), 424–432. <https://doi.org/10.1177/09567976211042008>
8. Porges, S. W. (2022). Polyvagal theory: A science of safety. *Frontiers in Integrative Neuroscience*, 16, 871227. <https://doi.org/10.3389/fnint.2022.871227>
9. Porges, S. W., Bazhenova, O. V., Bal, E., Carlson, N., Sorokin, Y., Heilman, K. J., ... & Lewis, G. F. (2014). Reducing auditory hypersensitivities in autistic spectrum disorder: Preliminary findings evaluating the Listening Project Protocol. *Frontiers in Pediatrics*, 2, 80. <https://doi.org/10.3389/fped.2014.00080>
10. Ratcliffe, E. (2021). Sound and soundscape in restorative natural environments: A narrative literature review. *Frontiers in psychology*, 12, 570563.
11. Schafer, R. M. (1977). *The tuning of the world*. McClelland & Stewart.
12. Simpson, L. B. (2014). Land as pedagogy: Nishnaabeg intelligence and rebellious transformation. *Decolonization: Indigeneity, Education & Society*, 3(3), 1–25.
13. Wald, H. S. (2010). Professional identity (trans)formation in medical education: Reflection, relationship, resilience. *Academic Medicine*, 85(5), 882–883. <https://doi.org/10.1097/ACM.0b013e3181d5a559>