

Abstract

This project explores the art of field recording that promotes an exploration into an overlooked world of auditory environments that compose cultural and environmental forces. Using natural senses and specialized recording equipment (See **Figure 2. & 3.**), the project captures a harmony of sounds, many of which are imperceptible to the human ear. In post-production analysis and manipulation of sounds allowed isolation, exposure, and categorization.

The collection of audio exposes layered soundscapes where natural, artificial, and human-influenced elements intersect. Time evolved the project from simple recording to complex polar patterns (See **Figure 4.**). The collection creates a creative documentation of Glendale's soundscapes that encourage future research as this place changes. Demonstrated is the significance of sound that shows our personal, cultural, and environmental meanings of Glendale, South Carolina.

Introduction

Soundscape ecology can be considered a new field of research which this project is partly inspired by. This project takes the ideas of Soundscape Ecology detailed by Pijanowski et. al. (2011). To develop a record of soundscapes in a specific location. By developing this repository of sounds, further experimentation of recording techniques and post-manipulation can be further explored.

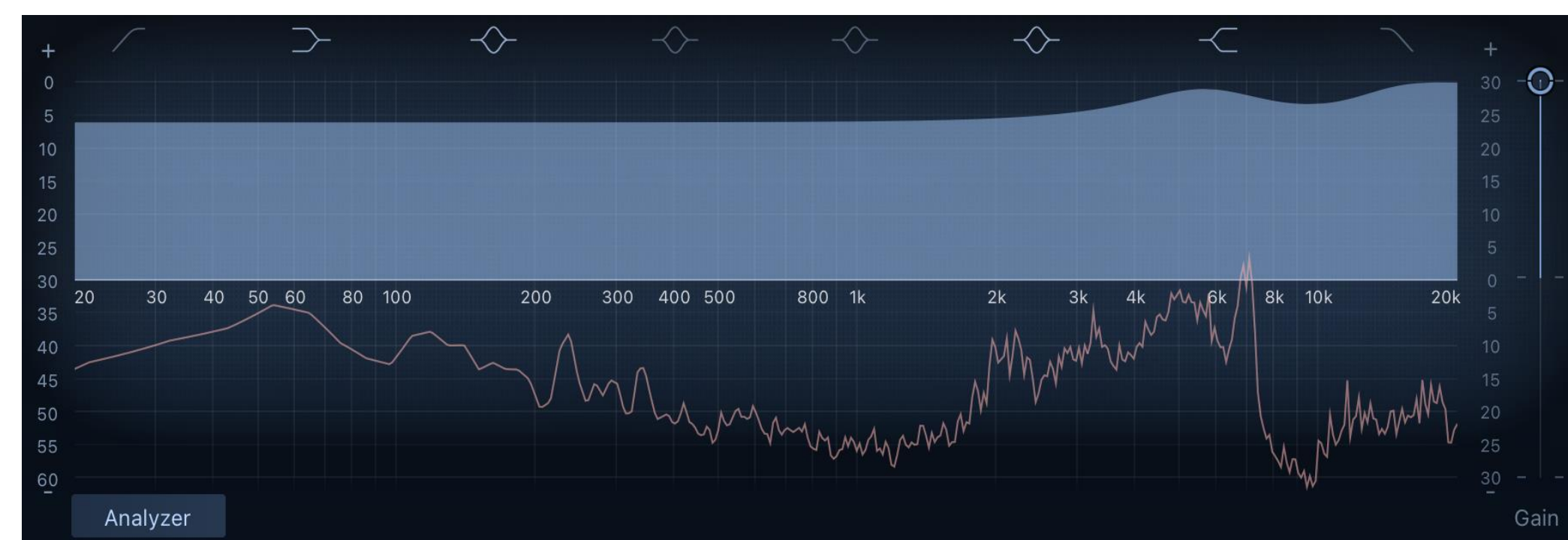


Figure 1. Sample Spectrograph (Mushtaq et. al. 2020). from 2025_07_16_10_56_00_GS.WAV file recording, produced on GarageBand IOS application.

Results

This project required experimentation with the equipment, listed below, to gather a wide range of soundscapes. The soundscapes captured were both simple and within hearing range of humans. While others were complex and beyond the human hearing range but manipulated to be within the range.

Equipment used:

- ZOOM H1 XLR Handy Recorder
- ZOOM F3 Field Recorder
- ZOOM H6 MultiTrack Recorder
- Shot-Gun microphone
- Contact Microphone
- Hydrophone
- Stereo Microphone



Figure 2. Rodent NTG5 Shot-Gun Microphone connected to a ZOOM H1 XLR Handy Recorder outputting into a standard pair of headphones.

During the recording process field notes were taken to assist in post-production organization. Raw audio from the recorders were transferred to a hard drive which allowed for files to be renamed and organized by date, time, and location as follows:

YYYY_MM_DD_HH_MM_SS_LOCATION CODE.WAV

The results of this system created documented records of different soundscapes from the duration of the project. Once organized selected files were manipulated using GarageBand. (See **Figure 1.**)

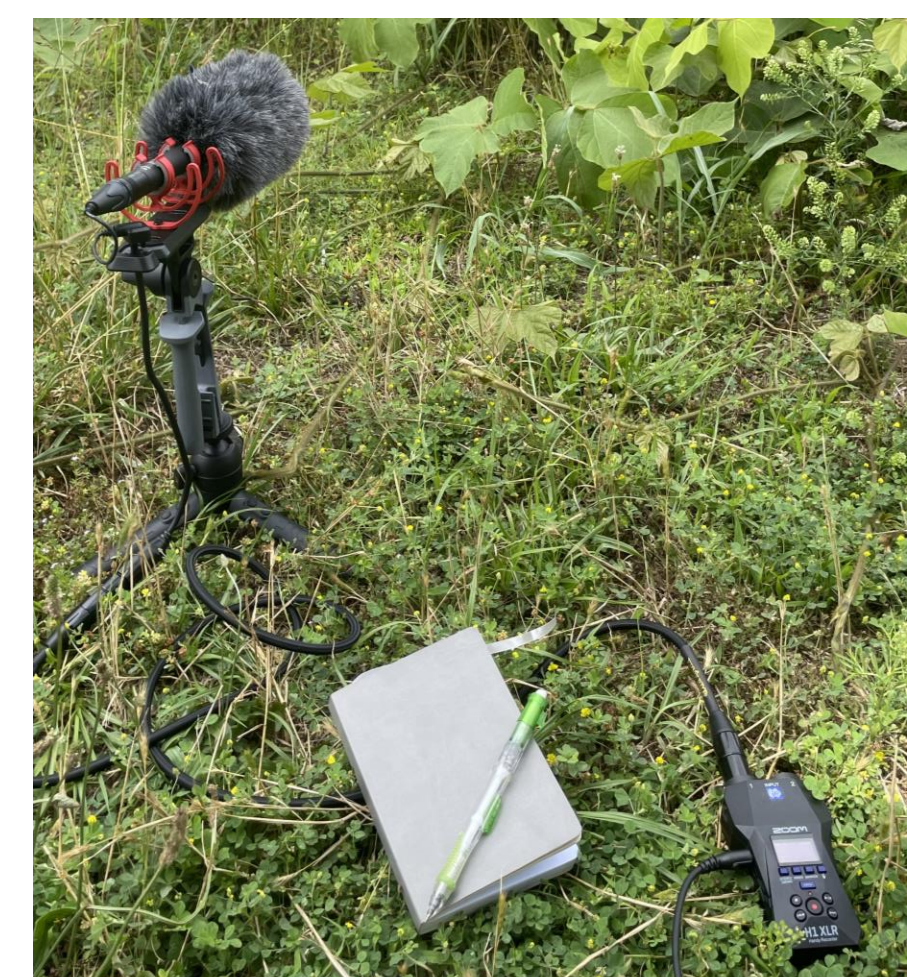


Figure 3. Same recording set up as Figure 2. with the addition of a field notebook to take down observations during recording.

Discussion

The accumulation of audio in the end of the project revealed a blended auditory environment. A harmony of natural, artificial, and human-influenced sound. The project began in a state of unlimited possibilities and ended as a focus on the forces that are fundamental to our understanding of a place. As Glendale continues to change with time, this project attempted to capture a slice of the current environment that can be looked at for years to come. The project is only just the beginning of fully understanding the personal, cultural, and environmental meanings that surround Glendale.

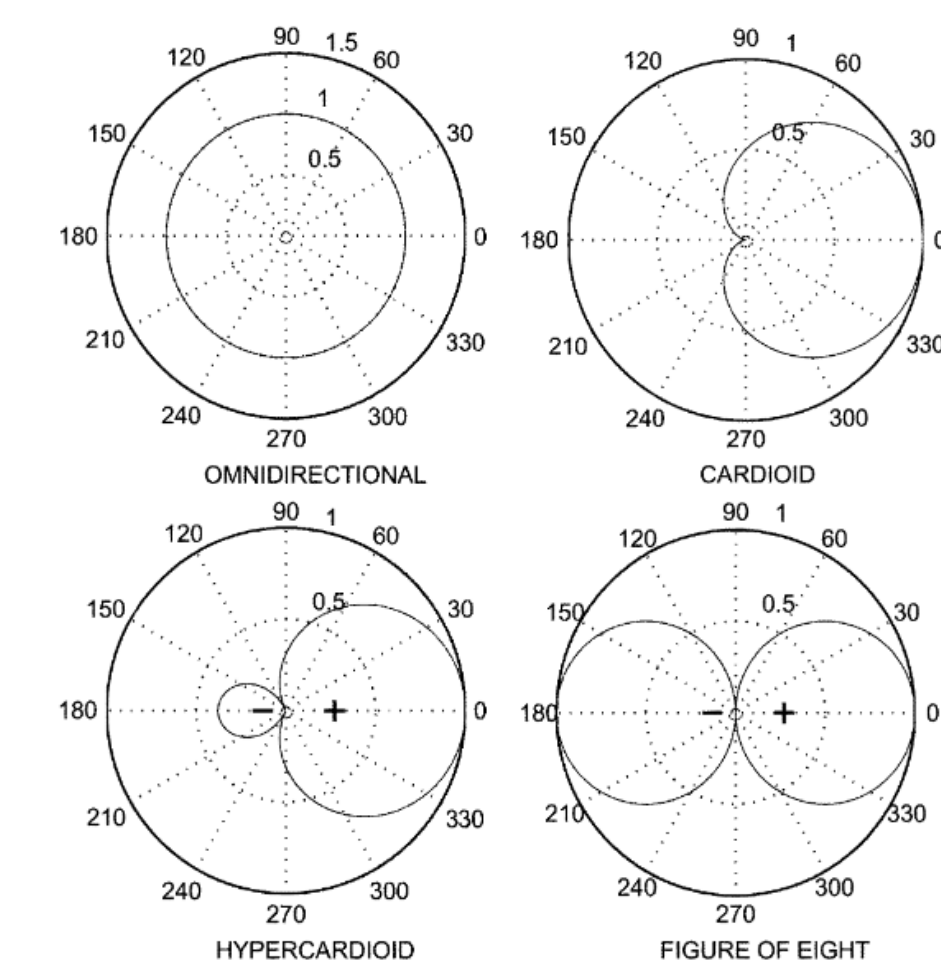


Figure 4. "Typical microphone polar patterns. The captured sound wave is weighted depending on polar pattern of the microphone, which is a function of direction" (Pulkki et. al. 2005).

Literature Cited

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- Pijanowski, B. C., Villanueva-Rivera, L. J., Dumyahn, S. L., Farina, A., Krause, B. L., Napoletano, B. M., Gage, S. H., & Pieretti, N. (2011). Soundscape ecology: The science of sound in the landscape. *BioScience*, 61(3), 203–216. <https://doi.org/10.1525/bio.2011.61.3.6>
- Pulkki, V., & Hirvonen, T. (2005). Localization of virtual sources in multichannel audio reproduction. *IEEE Transactions on Speech and Audio Processing*, 13(1), 105–119. <https://doi.org/10.1109/TSA.2004.839207>