

Ecomusicology between Poetic and Practical

By: [Aaron S. Allen](#)

Allen, Aaron S. "Ecomusicology between Poetic and Practical," in *Handbook of Ecocriticism and Cultural Ecology*, edited by Hubert Zapf (De Gruyter, 2016), 644-663.

Made available courtesy of De Gruyter: <https://doi.org/10.1515/9783110314595-035>

*****© 2016 Walter de Gruyter GmbH. Reprinted with permission. No further reproduction is authorized without written permission from De Gruyter.**

Abstract:

Ecomusicology, or 'ecocritical musicology,' is a field that considers the complex relationships between culture, nature, and music/sound. This chapter provides an overview of ecomusicology in four parts. First, I elaborate on that definition and provide a brief intellectual history of the field, particularly in relation to ecocriticism. Second, I develop an approach to the field that considers a range of approaches from poetic to practical – that is, from reflective, aesthetic concerns to political, activist concerns. Third, in order to illustrate those poles and an in-between, I present three examples from my own research: a poetic approach to pastoral symphonies, a practical approach to sustainability and materials for musical instruments, and a middle ground regarding a singer-songwriter. Finally, I provide a brief overview of some implicitly and explicitly ecomusicological works on this continuum from poetic to practical.

Keywords: Music | sound | environmental arts | environmental humanities

Article:

*****Note: Full text of article below**

Aaron S. Allen

33 Ecomusicology from Poetic to Practical

Abstract: Ecomusicology, or ‘ecocritical musicology,’ is a field that considers the complex relationships between culture, nature, and music/sound. This chapter provides an overview of ecomusicology in four parts. First, I elaborate on that definition and provide a brief intellectual history of the field, particularly in relation to ecocriticism. Second, I develop an approach to the field that considers a range of approaches from poetic to practical – that is, from reflective, aesthetic concerns to political, activist concerns. Third, in order to illustrate those poles and an in-between, I present three examples from my own research: a poetic approach to pastoral symphonies, a practical approach to sustainability and materials for musical instruments, and a middle ground regarding a singer-songwriter. Finally, I provide a brief overview of some implicitly and explicitly ecomusicological works on this continuum from poetic to practical.

Key Terms: Music, sound, environmental arts, environmental humanities

Ecomusicology considers the complex relationships between culture, nature, and music/sound, particularly after the widespread realization in the mid-twentieth century that global environmental systems are in crisis due to the actions of humans. By employing some of the most complex and contested terms in the English language – music, culture, nature, environment, sustainability – ecomusicology can have infuriatingly multivalent yet usefully complex meanings (as illustrated in the “Ecomusicologies” conferences, www.ecomusicologies.org). As Jeff Todd Titon (2013, 8) advocates, ecomusicology “can work meaningfully towards sustaining music within the soundscape of life on planet Earth.”

The first use of the term ‘ecomusicology’ was in a report about the music and soundscape theories of Canadian composer R. Murray Schafer (Troup 1972), but its concepts are long in historical duration and spread among global cultures. The Ancient Greek “Harmony of the Spheres,” intricate writings that described harmonious musical proportions between the planets and how such relationships order the universe, has been discussed for millennia (Godwin 1993); ecomusicology shares such Greek ‘origins’ with ecocriticism’s pastoral. The Hindu Vedas also tell a creation story bathed in sound (Schneider 2004), and there are various non-Western and non-Eastern acoustemologies (sonic ways of knowing the world, Feld 1993), such as the *dulugu ganalan* (“lift-up-over sounding”) of the Kaluli people of Papua New Guinea (Feld 2012). Gardiner’s (2009 [1832]) *The Music of Nature* is perhaps the first book explicitly on music and nature, but a self-conscious ecomusicology has come about only in the first decade of the twentieth century (despite some scattered uses in

the 1990s). There are many studies that are ecomusicological in scope but that do not use the term (see Allen 2012b).

Irrespective of any self-conscious use of the term, the ideas that comprise ecomusicology – human-nature relations as mediated by music/sound – are of broad interest. Ecomusicology comes together from related but differentiated areas of academic music study that draw on and connect with many other areas: environmental history, human geography, the biological sciences (particularly soundscape ecology), environmental studies, and especially literary ecocriticism. This wide diversity of influences from many fields is balanced by a potential usefulness and/or interest to them. Such relevance for ecomusicology might be due to the great emotional pleasures and diverse intellectual engagements that many experience with music; this relevance is also due to the inherent multi-disciplinary aspect of music study and the ubiquity of sound on Earth.

When the general public thinks of music in schools, it is bands, orchestras, and other kinds of performance that usually come to mind. But music, particularly in higher education, has a long history of involvement with scholarship as well – that is, with music theory, music history, and the study of music-making all over the world. These latter two subjects, musicology and ethnomusicology, are of primary relevance to ecomusicology.

To oversimplify, musicology considers the history and social contexts of musical works with methodologies similar to those of art history and literary scholarship. As with music theorists, musicologists are primarily concerned with art music in the Western concert tradition, although there are trends to include popular and non-Western areas. Ethnomusicology has traditionally focused on indigenous traditions, non-Western classical music, and Western folk music; today, popular music is included as well, although ethnomusicology may be better understood as an approach to people making music of all kinds everywhere. Most ethnomusicologists are trained in anthropological and ethnographic fieldwork methods and treat music and sound as process or experience, in contrast to the historical and literary methods of musicologists that treat music as product or text. Since the cultural turn in music scholarship of the 1980s, such distinctions are arbitrary, particularly with regard to individual scholars. For example, I am trained as a musicologist (having written a dissertation on the reception of Beethoven in nineteenth-century Italy), but I consider sound and approaches to music as process as might an ethnomusicologist (yet I do not do fieldwork, despite having a degree in environmental studies). Musicologists and ethnomusicologists have, to date, been the primary participants in the burgeoning field of ecomusicology, although theorists, composers, and performers have not been absent. Related and often overlapping academic discourses in music studies include acoustic ecology, biomusic, performance studies, soundscape studies, sound studies, and zoomusicology.

A useful distinction in the short history of the modern field of ecomusicology is between different interpretations of the prefix *eco-* as representing ecological or eco-

critical. While Troup (1972) and many others (Feld 1993; Harley 1995; Kaipainen 1997; Torvinen 2009; Perlman 2012; Keogh 2013) employ, quite logically, ‘ecology’ in their work and definitions of ecomusicology, Rehding (2002) is the first with an implicitly ecocritical (and explicitly ecocritically informed) approach. Toliver (2004) drew on ecocriticism for an article published in the premiere North American forum for musicological research. While Toliver’s article was fundamental for institutionalizing ecomusicology, he pointed out that there already was a scholarly ‘ecomusicology’ that had for generations considered the pastoral, sublime, and impressionism, with even a few explicit examples in recent years, notably Rehding (2002) and Morris (1998). Guy (2009) published her ecomusicological article (drawing on Glotfelty 1996) in the premiere North American forum for ethnomusicology, at the same time as another article (Ramnarine 2009) called for an ‘environmental ethnomusicology.’ In my definition of ecomusicology (written in 2010, published in 2014) for the primary research encyclopedia in music (*The Grove Dictionary of American Music*), I drew on ecocriticism to help define the developing field. Ingram (2010) is an entire volume of ecocritical studies of post-1960s American music that does not use the term ecomusicology; his special issue of *Green Letters: Studies in Ecocriticism* is entitled “Eco-musicology” (Ingram 2011). Ecomusicology has also engaged with sustainability studies (Titon 2009; Allen et al. 2014). In a volume that I co-edited with Kevin Dawe, we consider ecomusicology to be a field, not a discipline, that is broadly interdisciplinary but that nevertheless owes much to ecocriticism (Allen and Dawe 2016).

Glotfelty (1996, xviii) defined ecocriticism as “the study of the relationship between literature and the physical environment.” Since then, debate, discussion, and nuance have enlarged, enriched, and (re-)focused that definition, as this volume illustrates. Ecocriticism is for the most part a text-based field, even as the definition of text has broadened to include film, art, and musical works (cf. 7V Genre and Media Ecologies) – and even as the concept has broadened to include culture as a text (especially for anthropologists and ethnomusicologists). But ecomusicology has something more to offer in two connected ways. First, the concept of sound – which is not just noise or non-music (in the Western classical sense), but also sonic events created by non-human life and non-biotic nature – does not work well as a text (in a narrow sense). While an author may be identifiable, a sign may be attributable, and a message may be interpreted, sound moves in a liminal realm that opens up interpretive possibilities and brings us closer to connecting with non-human life in a “relational epistemology of diversity, interconnectedness, and co-presence” (Titon 2013, 8). Second, while literature has been assumed to be a human-creation, much like music, the concept of a three-way relationship (music-culture-nature) adds a useful (if potentially confounding) element of complexity between the aesthetic object (i.e., sound, of which music is a type), the human culture that interprets and/or creates it and the implicitly non-human environment. Discussions of ecomusicology have not shied away from the complex, nuanced, and entangled meanings of the terms in

question, especially the much-problematized nature (see Allen et al. 2011; Allen and Dawe 2016); at the same time, more needs to be done (see Titon 2013).

Terminological discussions and field-defining debates are of course familiar to ecocriticism and many environmentally inflected fields. Scholars of music and sound have internecine disagreements and debates over fundamental terms such as music (to ethnomusicologists, music is often understood as a process, something people do; for musicologists, the score or even a recording has sometimes become reified as music). Rather than considering ecomusicology as providing something new, or even just an approach different from ecocriticism, I would like to propose instead that ecomusicology is a facet of the cultural study of the environmental crisis, one that considers music and sound.

Ecomusicology matters, as I have argued elsewhere (Allen 2012c; Allen et al. 2011), because it can bridge the arts and sciences and can teach creative critical thinking; the environmental crisis is not just a crisis of science (failed engineering), but also a crisis of culture (failed thinking), so we need to muster all possible humanistic and scientific resources in order to imagine, understand, and confront it. This argument builds on Donald Worster (see Allen et al. 2011, 414) and others who have acknowledged the accomplishments of science in understanding the environmental crisis and who have also acknowledged that scientists have failed to understand fully those ‘why’ questions rooted in culture (Worster 1993). Music has been associated with the sciences since medieval times; today, the roots of the German ‘Musikwissenschaft’ and the English ‘(ethno)musicology’ indicate that scientific basis. In that sense, music and sound are particularly appropriate media for making truly trans-/cross-/inter-disciplinary connections between the sciences, arts, and humanities in rigorous ways that can open up intellectual understanding and aesthetic meaning (i.e., ‘poetic’) and that can also be part of political realizations fueling an activist agenda (i.e., ‘practical’). These reflective and applied approaches to ecomusicology help achieve the goal of making studies in sound and music inclusive of all the Earth – plants, animals, places, environmental crises, human creations, human ideas of nature, as well as human-human concerns. Ecomusicology, as with ecocriticism, contributes to understanding the cultural roots of the environmental crisis – and promoting change.

1 From Poetic to Practical

There is a tension in the nascent field of ecomusicology, one no doubt familiar in other fields and disciplines: a tension between those who view scholarship primarily as objective and detached and those who view it as subjective and engaged. The situation on the ground is messier, of course, with many places in between these poles, individuals doing both types of work, and scholarship that, as always, can be read

and used in different ways. My title (with a nod to Feld 1993) risks a binary, but I made choices about two linguistic elements that signal, as in the ensuing discussion, a more fluid concept. First is the prepositional construction ‘from... to’ indicating change and movement along a continuum. Second is my avoidance of the definite articles ‘the’ indicating less fixity. My uses of poetic and practical can be understood as poles on a continuum, overlapping circles of a Venn diagram, an attempt to navigate between Scylla and Charybdis – not a rigid dichotomy, not an indication of teleology, and not a promotion of either as ‘better.’

By *poetic* I denote a scholarly engagement with what is aesthetic and/or interesting. By *practical* I denote a scholarly concern with what is activist and/or advocating. Both are intellectual approaches that involve field- and/or text-based research in the service of crafting work that is intended to convince a reader of some points or an argument; in that sense, they are, like most scholarship, activist (see Allen et al. 2014). For much of their histories, ethnomusicology and musicology have sought the poetic path, pursuing research that implies the detachment of the author and/or demonstrates the reality of some issue. But by the late-twentieth century, attitudes began to change. In the 1960s and 1970s, ethnomusicologists began a turn from scientific to humanistic approaches; as Feld (1993) describes, they began reflecting critically on the colonial legacy of anthropology and wanted to open up more dialogic relations with their field informants (see especially the second and later editions of Feld 2012). Musicology experienced a cultural turn later (in the 1980s) due to the eventual influence of literary studies, gender and sexuality studies, and identity politics. These changes parallel the disruptions that resulted from the so-called science wars, particularly regarding scientific and postmodern understandings of nature and ‘nature’ (Titon 2013; Allen et al. 2011).

Poetic approaches to ecomusicology are reflective in that they provide intellectual understanding for human-nature relationships as mediated by sound and music. The subject matter may be intellectually (un)interesting or aesthetically (dis)pleasing, and metaphor is often important. These poetic approaches include ideas that show music as reflective of nature, place influencing music, and composers engaging the pastoral.

Practical approaches to ecomusicology are applied in that they provide political understanding for sound and music in relation to environmental and sustainability issues. The subject matter may be implicitly or explicitly activist or advocating of particular agendas, and the reality of the physical world is often important. These practical approaches pursue ideas that show the impacts of sound and music on nature/environment and vice versa, and they may problematize the role of composer/authors particularly in relation to nature, the pastoral, and place.

While these outlines may seem overly rigid and judgmental, I will share three case studies of my own work to illustrate these two poles and a middle ground. I provide these case studies because I want to dispel any sense of reprobation and because I am able to make claims about the author’s intentions (because I am that author). I

believe in an open and inclusive diversity of ecomusicological pursuits, from poetic to practical, and I have come to illustrate that in my own work. The remainder of this chapter provides a conspectus of the field of ecomusicology, illustrating three in-depth and then numerous cursory examples of recent ecomusicological work from poetic to practical.

2 Poetic Ecomusicology: Symphonic Pastorals

As an example of poetic ecomusicology, I argued (Allen 2011) that symphonies could relate ideas about nature particular to their historical contexts. A popular misunderstanding of symphonies is that they are devoid of the meanings conveyed in texted music such as songs and choruses; the symphony is claimed as ‘absolute music,’ that is ‘abstract’ or ‘pure’ sound, music for its own sake. In considering three symphonies, it is useful to employ Leo Marx’s theory of simple and complex pastorals.

Justin Heinrich Knecht’s *Le Portrait Musical de la Nature* (1785) (Allen 2011, 24–25) is a symphony in five movements, which the composer described as follows:

- I. A beautiful landscape where the sun shines, the gentle breezes blow, the brooks flow through the valley; the birds warble, a purling stream descends from a height, the shepherd pipes, the lambs frolic and the sweet voice of the shepherdess is heard.
- II. The heavens darken and cloud over; every living thing is breathless and frightened. Black clouds accumulate, winds whistle, the distant thunder rumbles and the storm slowly approaches.
- III. With howling winds and driving rain, the storm breaks in full fury, the treetops groan, the foaming waters rush with a dreadful noise.
- IV. Gradually the storm subsides, the clouds disperse and the sky clears.
- V. Nature, transported with joy, lifts its voice to heaven and gives thanks to the Creator in soft and pleasant songs.

The main theme of the peaceful idyll of the first movement is built from a horn motive, likely derived from the Swiss *ranz des vaches* that is evocative of home. After invoking the mountains comes the second theme of the idyll and another common pastoral trope: birdcalls. The middle three movements are an interruption: the approach of a storm, the thunderstorm itself, and the calm afterward. Knecht’s finale is entitled “Hymn with variations.” *Portrait* is a theatrical sort of pastoral, one staged for public consumption; in a semi-dramatic move, Knecht even recalls the music of the first movement at the end of the finale. After an interruption the pastoral idyll has returned.

Ludwig van Beethoven’s Sixth Symphony, Op. 68 (1808) (Allen 2011, 25–31), is also in five movements, but his descriptive titles are pithier than Knecht’s:

- I. The Awakening of Joyous Feelings on Getting Out into the Countryside
- II. Scene by the Brook
- III. Merry Gathering of Country People
- IV. Thunderstorm
- V. Shepherd's Song. Happy and Thankful Feelings after the Storm

Beethoven went further by naming birds in the score of "Scene by the Brook." He revered nature and enjoyed his frequent trips out of Vienna and into the countryside, and the general narrative and musical aspects of the Sixth reflect a "Memory of Country Life." As did Knecht, Beethoven interrupted the initial idyll with a storm; this element of sublime tension leads to the "thankful feelings" of the finale.

Beethoven conveys pastoral character through mostly moderate tempos, a predilection for consonance, and slow harmonic changes. The pastoral feeling is seemingly timeless, but the storm intrudes to remind us of reality. The return of the idyll is an arrival on a higher appreciative plane of respect for creation, touching on the religious character of the work. The "Shepherd's Song" intoned by the horn is a generic *ranz des vaches*; its repetitions resemble a church hymn. Together with organ-like sonorities, this finale is a song of praise – be it to the deity or to pastoral grace. The parallel with the concluding "Hymn" of Knecht's *Portrait* is clear, yet rather than a public theatrical expression, Beethoven's is more a personal paean to nature.

Both Knecht's *Portrait* and Beethoven's Sixth are what Marx called simple, sentimental, pastorals. Both works reflect felicity through images of natural, unspoiled, rural landscapes. The Sixth is a journey away from the city and into the country. Gustav Mahler's symphonic output engages and struggles with the specter of Beethoven in many ways, and he too sought to escape the city. But Mahler's Third symphony (1893–1896, revised 1906) illustrates Marx's complex pastoral (Allen 2011, 35–36). Like the Knecht and Beethoven, its six movements break from the symphonic norm of four. But unlike the Knecht and Beethoven, it has no published programmatic text. In other words, it is ostensibly 'abstract,' and each movement is indicated only by generic tempo and character descriptions:

- I. Strong, decisive
- II. In the tempo of a minuet
- III. Comfortably, like a scherzo
- IV. Very slowly, mysteriously
- V. Cheerful in tempo and bold in expression
- VI. Slow, tranquil, deeply felt

Mahler had an abiding interest in nature: the pastoral is a common musical topos, and he retreated to the Alps to compose. Mahler's fraught relationship with the city breaks into his music; he wanted a symphony to resemble the world and thus contain both good and bad. The interruptions, distorted recollections, and unstable moments in the third movement reflect a broken, or complex, pastoral. Mahler had an ambiv-

alent relationship with the very metropolis he needed for his career, from which he longed to escape; we can understand the perpetual motions of this scherzo as worldly bustle, which in turn triggers fleeting pastoral escapes and distorted recollections. Beethoven wanted to escape Vienna for the countryside, but his response was one of personal, quasi-religious reverence; Mahler found the stark contrast worthy of distortion. Mahler's pastoral evocations call into question, as Marx put it, the "illusion of peace and harmony in a green pasture" (qtd. in Allen 2011, 31).

Despite the perception that symphonies are 'abstract,' their musical and contextual features can convey ideas about nature, particularly as seen through the lens of ecocriticism. R. Murray Schafer was an important early voice on ecomusicological ideas; he observed that programme music is imitative of environment, while absolute music allows composers to fashion ideal soundscapes of the mind. The highest forms of absolute music, such as the symphony, are conceived for indoor performance and thus disengaged from the environment (see Allen 2011, 36). While much music exists to substantiate Schafer's binary, some symphonic pastorals can complicate such facile understandings.

My essay "Symphonic Pastorals" (Allen 2011) illustrates an effort that is intellectual: it seeks greater understanding and an aesthetic appreciation of these symphonies. It does not propose practical, activist, or political messages. Of course, one may interpret Mahler's perspective or my disagreement with Schafer as leading to advocacy. In fact, Schafer's work in soundscapes and acoustic ecology has been the basis for activist work regarding noise pollution (cf. Järviuoma et al. 2009, which includes original studies by Schafer). However, my engagement with Schafer was purely intellectual, intended only to contextualize ideas about the symphony. If a reader can find a way to use this article for political or activist ends, I am open to such an interpretation, but I believe it would be difficult.

3 Practical Ecomusicology: Preserving and Destroying Forests

My example of practical ecomusicology (Allen 2012a) is based on the very instruments used to play symphonies. The sound of Western art music relies on the instruments of the violin family. This aural experience of elite music values quality instruments for public performances and recordings. Highly trained musicians invest handsomely in their tools, which are complex creations made of over seventy parts, two of which are fundamental to tone quality and performability: soundboard and bow. The soundboard is typically made of select quality spruce that has excellent properties of sound transmission; this wood is called resonance wood, the most prized source of which is from the Paneveggio Forest in northern Italy. Centuries ago, trial and error demonstrated what today modern physics proved: that certain spruce trees have an

excellent physical make up for transmitting sound. These sound waves are created by the strings, which the player vibrates by rubbing them with horse-hair strung on a wooden bow.

The form of the bow determines how a player is able to use it, and the material used to make the bow governs its form. For the bows that play violins, the most sought-after material is a tropical hardwood from Brazil called *pernambuco*, or *pau brasil*. The history of pernambuco is one of near extinction. Pernambuco is endemic to Brazil's Atlantic coastal forest, the rapidly disappearing Mata Atlântica; it cannot grow wild anywhere else, and plantation-grown trees are insufficient for bows. Together with the nearby Amazon, these forests, their indigenous peoples, and the African slaves brought in to supplement them have been plundered and exploited for centuries. European colonial powers fought wars with each other and with the indigenous peoples over pernambuco because of its capacity to create the red dyes that colored the regal garments of European secular and spiritual rulers. The country we now know as Brazil was named after, and because of, this tree, *pau brasil*.

Various woods have been used for violin bows, the top of which was convex due in part to the wood. But after the mid-eighteenth century, and until today, pernambuco allowed for a concave bow that contributed to greater control when playing violins. Rather than composites or other woods with approximate or lesser qualities, professional string players demand high quality pernambuco bows. At the same time, however, bow makers have recognized the precarious place of pernambuco. Bow makers alone have not endangered the tree; threats also come from slash and burn agriculture, cattle ranching, soybean monocultures, eucalyptus plantations, and the explosive urban growth of two of the world's largest cities, São Paulo and Rio de Janeiro. Nevertheless, because bow makers are a significant public face of pernambuco, they established the International Pernambuco Conservation Initiative to address the threat. Still, lacking a quality replacement that meets performers' demands, bow makers continue to rely on the increasingly rare resource. In response to the threat facing the Mata Atlântica, in 2007 the United Nations developed trade restrictions that included requiring musicians to register pernambuco bows with the state – a law that, if enacted, would result in control tighter than that for hand guns in the United States. But with ongoing conservation efforts, these restrictions are being held at bay. Similar stories of exploitation could be told for other musical woods, such as mahogany, rosewood, and ebony. (See Allen 2012a, 301–304).

Nevertheless, there are exceptions, as with the nearly millennium-long history of sustainable spruce harvesting in the Paneveggio. The Italian Trentino region of Val di Fiemme has the perfect conditions for the growth of spruce resonance wood. This area of the Italian Alps, now part of the Parco Naturale Paneveggio/Pale di San Martino, is known as *la foresta dei violini*, the forest of violins. The Italian red spruce, also known as Norway spruce, is widely distributed, and it is by no means endangered; but resonance wood requires a rare microclimate; still, wood for lutherie is a small percentage of harvests. The Val di Fiemme has the optimal microclimate and cultural institutions

to produce many trees with resonance wood. Through the nearby capital of Trento, the Fiemmesi could supply the Po Valley cities of Brescia and, particularly, Cremona, home of famous luthiers such as Antonio Stradivari. Their skilled craftsmanship and use of Paneveggian spruce provided the region's moniker, the "forest of the violins." The luthiers of Cremona may not have made such remarkable instruments were it not for the Fiemmesi foresters who, for centuries, practiced what would be called today 'sustainable forestry.' Such responsible practices continued even as luthiers required select wood, and even as another Fiemmesi neighbor, Venice, demanded massive quantities of wood to build and maintain their city and navy. Similar to the Mata Atlântica, the Paneveggio was also at risk of exploitation, but a combination of unique geographical features and cultural institutions in the Fiemme served to protect trees and traditions.

By the late twentieth century, the density of standing timber in the *Fiemme* was more than double Italy's mean; these forests add more wood than logging extracts. Of that production, a minuscule fraction is suitable for lutherie. An Italian luthier will often say her work is *fatto di Fiemme*, "made of Fiemme," an expression of praise for the rare Paneveggian material fundamental to the quality of her creation. The Stradivari workshop used Paneveggian resonance wood for some instruments, known as Strads. Today, musicians and popular tourist literature from and about the Paneveggio emphasize – in mythologizing and often problematic ways – the fame and importance of the "forest of the violins" (see Allen 2012a, 304–313.) Recent auctions of Strad violins have resulted in astounding figures: in 2011, the "Lady Blunt" sold for a record shattering US \$15.9 million.

But how do we really value a Strad? Money alone is an incomplete measure. Rather, the value of a Strad is in its process of becoming, its life history: the instrument is a cultural commodity that has histories from the forest to the stage; values are created through processes of exchange. Values accorded a Strad contribute to sustainability in the Paneveggio while similar values accorded a pernambuco bow to play it contribute to destroying the Mata Atlântica. Just as exploitation in Brazil stems from material greed, urban sprawl, monocultures, and violin bows, so too does conservation in the Fiemme stem from various sources: cultural institutions, geographic location, climate, and violin soundboards (see Allen 2012a, 313–315.)

In my essay "Fatto di Fiemme": Stradivari's Violins and the Musical Trees of the Paneveggio" (Allen 2012a) I argued that musical instruments contribute to both preserving and destroying far-flung forests. I thus engaged directly with the political nature of environmental advocacy by pointing out destructive, counter-productive cultural habits that should be stopped as well as positive systems that sustain traditions and places – paradoxically, both are connected in the same dominant musical instrument. Rather than a romanticized view of pastoral nature, the forests here are impacted by cultural activities and changed significantly. There is no musical work or composer to be discussed; rather, I show how cultural traditions impact the environment. One may take this piece as a simple 'objective' description of the situation, but my intent was to

help consumers of music and musical instruments realize that the thing they love has a complex role in the world: doing good (preserving forests, creating music) but also causing harm (destroying forests). My hope is that such knowledge will lead to action. (Trump 2013 showcases a similar approach regarding wood for guitars.)

4 Between Poetic and Practical Ecomusicology: The Complex Cockburn

My third example, on the complex singer-songwriter Bruce Cockburn (see Allen 2013), illustrates a middle-ground between poetic and practical. Cockburn (“KOH-bern”) has produced over thirty albums, twenty of which have gone gold or platinum. Hailed as an acoustic guitar virtuoso, a short list of his honors includes thirteen Juno awards, seven honorary doctorates, the Order of Canada, and induction into both the Canadian Music and Broadcast Halls of Fame. Born in Ottawa and active since the late 1960s, Cockburn has come to be identified as quintessentially Canadian: he was even ‘stamped’ in 2011 in Canada Post’s Canadian Recording Artists series. Yet Cockburn is not nationalistic; as he said, “I’m a Canadian, true, but in a sense it’s more or less by default... I’m not really into nationalism – I prefer to think of myself as being a member of the world” (qtd. in Allen 2013, 67). Cockburn’s music draws on Canadian styles and themes as well as many other national and international influences. Similarly, despite Cockburn’s openness about his Christianity and its influences in his music (unusual for a non-‘Christian Rock’ musician), his spirituality is continually evolving and draws on Eastern religious practices, such as Buddhism. He proclaimed his beliefs in the early 1970s in “All the Diamonds,” which Cockburn said he wrote, “the day after I actually took a look at myself and realized that I was a Christian” (qtd. in Allen 2013, 74).

However, it is a third facet of this complex musician that is most relevant to an ecomusicological approach: Cockburn’s inspiration from, concern for, and advocacy on behalf of the environment. In 2010, Cockburn received Earth Day Canada’s Outstanding Commitment to the Environment Award in recognition for his decades of working for and singing about the natural world. Since the 1980s he has participated in, protested, sung about, and donated time and money to numerous environmental causes. In the mid-1990s, he was honorary chairperson of Friends of the Earth Canada; in *Dart to the Heart* (1994) he included the following appeal in the liner notes:

The ozone layer is being depleted. UV-B radiation is on the increase. The threat to our food supply, to animals, to our health, becomes more ominous by the minute. If this scares you as much as it does me, you might consider contacting: Friends of the Earth, we are an international organization working hard on ozone protection, as well as other environmental issues. (qtd. in Allen 2013, 81)

In his 1997 acceptance speech for an honorary doctorate at the Berklee College of Music, Cockburn cited various issues he wanted students to address: “Land mines, the quality of life for inner city folks, loss of the ozone layer, the treatment of migrant workers, the depletion of the Earth’s resources, social atrocities like the School of the Americas – it’s an endless list. Endless but not overwhelming. Just pick one you relate to and kick ass” (qtd. in Allen 2013, 81).

The pastoral is a useful frame for understanding Cockburn. His song texts and musical materials often provide urban-rural contrasts. Cockburn initially moved from the city to the country but later returned the city (Toronto, Montreal), yet he continued to visit the country in person and song. Cockburn’s audiences have interpreted him as a pastor, that shepherd who is God’s messenger.

Buell, Marx, and Ingram offer four perspectives on the pastoral that help understand Cockburn’s work and career. Marx’s simple pastoral is most evident in the imagery of songs that show Cockburn as a keen observer of nature, while Buell’s national pastorals are evident in his homage to Canadian landscapes. Buell’s pastoral outrage and Marx’s complex pastoral find outlets in numerous songs: “Radium Rain” laments the Chernobyl disaster; “The Embers of Eden” references burning rainforests; “Down where the Death Squad Lives” compared deforestation to senseless murder; Cockburn even associated the purely instrumental “The End of All Rivers” with the sea (at a 2006 concert, he wondered “is a river still a river if there is nothing to swim in it?”).

Cockburn performed “If a Tree Falls” (1988) at the 2005 United Nations Summit for Climate Control in Montreal, and it was featured on *Playlist for the Planet* (2011), a celebration and fundraiser for Canadian environmentalist David Suzuki. “If a Tree Falls” is perhaps Cockburn’s most popular environmental song. The video begins with a ‘whole Earth’ shot of the planet and zooms in to the upper Amazon; it presents scenes of pristine forest and native peoples contrasted with logging and deforestation. Cockburn speaks the verses, describing global forests as important for climate control but facing a lobotomy and a corporate “parasitic greedhead scam”; he criticizes the clear-cutting to make hamburgers and revels in the mystery of forest creation. But the philosopher comes through in the sung chorus (when in the video he is finally visible in black leather with an electric guitar): “If a tree falls in the forest does anybody hear? Anybody hear the forest fall?”

“Wise Users” appeared on the compilation album *Honor: Benefit for the Honor Earth Campaign* (1996). The five verses are separated with the chorus: “Use it wisely ... go on / Reap your harvest, Wise Users / ‘Til everything is gone.” He calls out his opposition, the “business blackmailers,” who make him feel as if he were a man looking at “his murdered child.” Cockburn is angry about killing tigers, “So some prick can stand tall in Taiwan,” and lets us know it – even going so far as to suggest wise users commit suicide by playing Russian roulette. Unusual for Cockburn-the-optimist, resolute anger continues in the final verse: despite believing in beauty and truth, he also knows that humans are good at destroying both.

Ingram (2010) shows that popular music can express the complex pastoral, a point Cockburn illustrates well. The complex pastoral also describes Cockburn's career as a whole: beautiful, spiritual music, tinged with anger and outrage at the injustices of the world. Cockburn's passions go beyond conservation and Christianity, and he is more than just a Canadian artist. His words and deeds plead for love and human rights and against militarism and corporate greed. Cockburn brings audiences complex positions, going beyond simplistic pop-music messaging and instead increasing awareness. Rather than preaching about the problems and insisting we do something, he affects listeners while encouraging us to believe in a better world, raise our voices individually and collectively, and ask for change.

While this essay, "Bruce Cockburn: Canadian, Christian, Conservationist" (Allen 2013), engages with non-explicitly environmental issues, such as nationalism and religion, they ultimately connect with social justice and sustainability. Cockburn is an activist musician, and he uses his position to advocate political and environmental stances. While my essay is not explicitly activist, the message of the subject is; moreover, in telling Cockburn's story, I encourage others to learn from it. While I intended this essay to represent Cockburn's music and positions, especially his inspiration from and engagement with nature, I also wanted to show an activist musician in action. I see this example, then, as an ecomusicological contribution occupying a middle ground between poetic and practical.

5 Ecomusicology on a Continuum

It would be a safer move intellectually, perhaps, to place most ecomusicology studies in the middle ground, but doing so would obscure the trends and tensions in the field. Some authors may want or may seek to disavow associations with environmental studies, political ecology, or social activism, regardless of whether their materials do or do not lend themselves to such arenas. Recognizing and accepting a diversity of approaches, however, is healthy for any field. In the following, after discussing a brief review of the literature (practical and poetic and in-between), I provide an overview of a few multi-author collections, which run the gamut of ecomusicological approaches. The breadth of ecomusicological writing – both that which identifies explicitly with this new field and that which does not – is vast, and I make no claims to cover all themes and issues (for more on bibliographic resources in ecomusicology, see Allen and Freeman 2012).

Poetic approaches often engage with birds, an oft-discussed thematic area in ecomusicology but also in music and acoustic pursuits in general (from anthropological and historical to biological and ecological). Feld (2012) is a 'classic' ecomusicological study considering birds and the complex aesthetics of the Kaluli. Fallon (2007) illustrates Oliver Messiaen's aesthetic of representation in the French composer's

transcriptions of birdsongs; while Messiaen was mostly accurate, his music is more useful in understanding this devout Catholic's approach to knowing God through nature. Leach (2007) explores the complex medieval ontologies of music and nature through understandings of birdsong, arguing that the rational approach of music at the time excluded bird calls from being considered music. Taylor (2011) surveys twentieth-century Australian composers who rely on the pied butcherbird. Cohen (1983) finds that aspects of birdcalls parallel aspects of sixteenth-century counterpoint. Martinelli (2009) analyzes birds, and other animals, as sound communicators, while Rothenberg (2005) contemplates his communication with them as musicians. Mundy (2009) tells the story of how visual representations of birdsong became an objective tool for science. Marler and Slabbekoorn (2004) provide the standard introduction to the science of birdsong.

Also poetic in scope was Toliver's (2004) "Eco-ing in the Canyon." While Von Glahn (2003) explored the concert music of Ferde Grofé in relation to iconic American nature, Toliver connected his *Grand Canyon Suite* to early twentieth-century notions of preservation and conservation. Toliver's ecocritical interpretation hears Grofé representing the celebration and the conquest of the Grand Canyon. Another milestone article in ecomusicology is Guy's (2009) "Flowing Down Taiwan's Tamsui River." Her study of twentieth- and twenty-first-century Taiwanese popular songs about Taipei's Tamsui River charts a three-fold history of pastoral interest, neglect, and environmental concern that reflects the rural situation, industrial boom, and environmentalism that characterized general concerns about the Tamsui.

Both Toliver and Guy approach their subject in the poetic vein by seeking out interesting intellectual connections historically and new aesthetic readings contemporarily. But both have practical frames in disciplinary contexts. Toliver is clearing ground for ecocritical work in musicology; Guy exhorts ethnomusicologists to consider environmental issues in their work. (Furthermore, Feld 2012 is poetic in my analysis, but he later did advocacy work for the Kaluli.) Thus depending on how one reads Toliver and Guy (for their content or for their larger disciplinary conversations), one may decide they are either more poetic or practical. Rather than showing an inherent flaw in my approach, I would like to reiterate instead that poetic and practical approaches are fluid, on a continuum, constantly circling together with each other; and readers interpret and use their sources in different and often contrasting ways. Teasing apart such approaches is an artificial but useful exercise in understanding the field.

A further middle ground is Fallon's (2009) "Birds, Beasts, and Bombs in Messiaen's Cold War Mass." While Messiaen is widely known for using bird song (which brought him closer to God) and for being detached from politics, Fallon argues instead that *Messe de la Pentecôte* (1950) has a subtext of social commentary by engaging with the threat of nuclear apocalypse. In it, his bird-style represents the contrast of peace and freedom. While Fallon would most likely not consider this article to be practical or activist, it does present a composer and work going beyond poetic. Perlman (2012,

1) discussed links between ecological and musical studies; his “intentions are primarily descriptive,” and his “focus is on the state of existing scholarship,” indicating a reflective (poetic) approach. Nevertheless, he discusses parallels between conserving nature and conserving cultural traditions, and between music scholarship and environmental activism, bringing his article towards the practical.

Practical approaches were particularly evident at the 2014 Ecomusicologies conference (see www.ecomusicologies.org), but a few examples must suffice here. Keynotes Mark Pedelty and David Rothenberg shared a stage (all keynotes were joint) but discussed different ways of musicking: Rothenberg with non-human animals (and the particular problems and possibilities that arise), and Pedelty with human ones (particularly pop musicians who have also been successful environmentalists). Pedelty (2012) is a landmark study of the often problematic promotion of sustainability in local music making in contrast to the even more problematic impacts of global pop. As a significant influence on Rothenberg’s career (see Rothenberg 2005; Rothenberg and Ulvaeus 2001), Rothenberg cited Paul Winter, who performed but also spoke informally at Ecomusicologies 2014. Winter cited folk musician Pete Seeger (see Ingram 2008, Pedelty 2009), cetologist Roger Payne (who first studied and disseminated recordings of whale song), and environmentalist Stuart Brand (of the *Whole Earth Catalog*) as his influences for seeking out productive ways to make (political) statements with instrumental music. Travis Stimeling (2012) led a unique plenary with social activists and musicians around issues of coal in Appalachia. And there were interesting performances (e.g. The Crossroads Project’s “Rising Tide”) and lively discussions (especially before and after a screening of *Trump 2013*).

The practical approach has also been the subject of publications in environmental education. Ramsey (2002) used music and lyrics related to the North Atlantic cod fishery and the Dust Bowl. Impey (2006) drew on local musical traditions, sense of place, cultural heritage, and environmental knowledge in order to engage high school students in South Africa. Turner and Freedman (2004) discussed historical and contemporary music and sounds to enhance environmental education; they relied primarily on (the poetic approaches in) Clark and Rehding (2001), although they could have also drawn on the engaging applied work of Bernie Krause (2002). Krause is both musician and scientist, and he writes about their intersections; he has also been central to biomusic (Gray et al. 2001) and soundscape ecology (Pijanowski et al. 2011).

Jeff Titon is a leading thinker in American studies, ethnomusicology, and ecomusicology. His longstanding interests in applied ethnomusicology, ecocriticism and sustainability have informed his contributions to an applied sense of ecomusicology. *Music and Sustainability* (Titon 2009) outlined sustainable music, although the connection to environmental issues is by analogy only. Titon’s (2013) “The Nature of Ecomusicology” argued for an applied approach, especially regarding how ecomusicology engages with the concept of nature. His “A Sound Commons for All Living Creatures” (Titon 2012) is an ethical approach to ecomusicology; he promotes the necessary mutual relationship between cultural stewardship and (environmental) sus-

tainability through the concept of the sound commons: “A sound commons, where all living beings enjoy a commonwealth of sound, embodies the principle of sound equity, encouraging free and open sound communication, and playing its important part in environmental, musical, and cultural sustainability” (Titon 2012). (See also Titon’s remarks in Allen et al. 2014, and his research blog cited therein.)

As of 2014 there is no major edited volume dedicated to ecomusicology (this lacuna will be filled by Allen and Dawe 2016), but three special editions of journals fulfill a similar role. Kinnear (2014) curated four essays in *Music and Politics*. His introduction asserts that, “(Ethno)musicology, acoustic ecology, and sound studies play important roles in addressing the impact of the global economy by aspiring to understand and raise awareness of the interconnections between humans and the environment” (Kinnear 2014, 2). Despite diverse methodologies, the four articles are linked through examining politically charged contexts where music and the environment come together. For ignoring globalization and promoting romanticized notions of the place of the American South, Stimeling critiques oil company BP and the local tourism industry’s music and culture festivals on the Gulf Coast after the Deepwater Horizon disaster. Farrugia and Hay examine the efforts of a female rap collective in Detroit to fight against blight and pollution and for more sustainable communities. Epstein interprets Darius Milhaud’s *Machines agricoles* as post-pastoral in that it critiques the pastoral tradition and engages in political discourses regarding the social and environmental challenges of post-WWI rural France. An unusual essay in the Kinnear (2014) collection was the ‘trialogue’ (Allen et al. 2014) from the introductory talk, individual presentations, and subsequent discussion (elaborated in print with citations and editing) at the 2013 conference of the Association for the Advancement of Sustainability in Higher Education; the contribution explores the relevance of considering studies of music and sound in the context of sustainability on campus (in academics and operations) and in the public arena beyond (↗26 Cultural Ecology and the Teaching of Literature).

A special issue, entitled “Eco-musicology” (Ingram 2011), of an ecocriticism journal included essays that ran the gamut from poetic to practical. Above, I described my poetic contribution (Allen 2011). Toliver’s contribution provided a middle ground in the situation of another ostensibly ‘abstract’ symphony (Richard Strauss’s *Alpine symphony*) that he contextualized in Nietzsche’s environmental thought and the dawning environmental movement in Germany. Clements’s poetic contribution described the musical metaphors of biologist Jakob von Uexküll. Echard, Parham, and Edwards’s three contributions were practical. Echard considered psychedelic music in relation to space, place, and ethics. Parham found issues of environmental justice in punk music. Edwards situated Japanese noise compositions between Western and Eastern aesthetics, with a particular example of a noise composition based on dolphin sonar that critiques a controversial fishing technique.

A small collection of essays appeared in the *Journal of the American Musicological Society*, the leading forum for musicological research in North America (Allen et al.

2011). After I introduced the colloquy and provided an overview of ecomusicology, four other authors and I provided short essays. Grimley's contribution focuses on an ecomusicological reading of Jean Sibelius's tone poem *Tapiola*; he does so in the context of an interdisciplinary conversation between musicology, ecocriticism, cultural geography, and landscape studies. His reading is fundamentally practical because he is seeking "to unpack narratives [...] of power relations, domination, and ownership [...] and expose the ideological basis, through historical study and analysis, upon which such conventional ideas of music and landscape are built" (Grimley 2011, 395). This work builds on Grimley's (2006) *Grieg: Music, Landscape and Norwegian Identity*, which connects landscape and the music of Norwegian composer Edvard Grieg, and it continues in his series of conferences dedicated to "Hearing Landscape Critically." Von Glahn's contribution approaches ecomusicology in the context of the power dynamics that have characterized the construction of American narratives. Doing so gives a practical element to her otherwise poetic readings of women composers' relationships with nature. Von Glahn (2013) subsequently elaborated on these ideas, showing a diversity of connections between art, gender, institutions, and the environment, particularly in how American women have composed small and large conceptions of nature. Previously she (Von Glahn 2003) showed how American (male) composers drew poetic inspirations from place. Watkins's contribution examined how music intermeshes with imagination and place, resulting in a fundamentally ecological understanding (she finds 'musical ecology' to encapsulate a wide diversity of research on music and place and on music and perception, encompassing mostly poetic but occasionally political elements as well). Her "The Pastoral After Environmentalism" (Watkins 2007) took a practical approach to Stephen Albert's 1984 *Symphony: River-Run*, arguing it is post-pastoralist in that it acknowledges its own participation in discourse about culture (neo-Romanticism) and nature (American environmentalism). Rehding's contribution advocates ecomusicology's use of nostalgia rather than crisis, the typical approach of environmental studies. In this sense, he is advocating more the poetic than the practical, all the while acknowledging the importance of the latter. Clark and Rehding (2001) co-edited a collection of essays that explore (from a poetic ecomusicological orientation) the use of nature by various music theorists. Finally, my contribution (in Allen et al. 2011) was practical in advocating various ways for ecomusicology to confront the cultural problem of the environmental crisis.

In no way could this conspectus of the ecomusicological literature be considered complete. Nor could I imagine that my analysis of poetic and practical poles is the only analysis; other, better ones will surely follow. My goal has been to show some diversity within a set of general approaches that may allow ecomusicology to resonate with ecocriticism.

Acknowledgments: I am grateful for conversations with Kevin Dawe, Robert Fallon, Tyler Kinnear, Mark Pedelty, Jennifer Post, Kailan Rubinoff, Jeff Todd Titon, and Denise Von Glahn.

6 Bibliography

6.1 Works Cited

- Allen, Aaron S. "Symphonic Pastorals." *Green Letters* 15 (2011): 22–42.
- Allen, Aaron S. "'Fatto Di Fiemme': Stradivari's Violins and the Musical Trees of the Paneveggio." *Invaluable Trees: Cultures of Nature, 1660–1830*. Eds. Laura Auricchio, Elizabeth Heckendorn Cook, and Giulia Pacini. Oxford: Voltaire Foundation, 2012a. 301–315.
- Allen, Aaron S. "Ecomusicology: Music, Culture, Nature... and Change in Environmental Studies?" *Journal of Environmental Studies and Sciences* 2.2 (2012b): 192–201.
- Allen, Aaron S. "Ecomusicology: Bridging the Sciences, Arts, and Humanities." *Environmental Leadership: A Reference Handbook*. Ed. Deborah Rigling Gallagher. Thousand Oaks: Sage Publications, 2012c. 373–381.
- Allen, Aaron S. "Bruce Cockburn: Canadian, Christian, Conservationist." *Political Rock*. Eds. Mark Pedelty and Kristine Weglarz. Burlington: Ashgate, 2013. 65–90.
- Allen, Aaron S. "Ecomusicology." *The Grove Dictionary of American Music*. New York: Oxford University Press, 2014.
- Allen, Aaron S., and Kevin Dawe, eds. *Current Directions in Ecomusicology*. London and New York: Routledge, 2016.
- Allen, Aaron S., and Miranda S. Freeman. "The Ecomusicology Bibliography via Zotero: A Dynamic and Emerging Scholarly Resource." *Ecomusicology Newsletter* 1.1 (2012): 6–9.
- Allen, Aaron S., Daniel M. Grimley, Alexander Rehding, Denise Von Glahn, and Holly Watkins. "Colloquy: Ecomusicology." *Journal of the American Musicological Society* 64.2 (2011): 391–424.
- Allen, Aaron S., Jeff Todd Titon, and Denise Von Glahn. "Sustainability and Sound: Ecomusicology Inside and Outside the University." *Music and Politics* VIII.2 (2014): <http://dx.doi.org/10.3998/mp.9460447.0008.205>. (1 September 2015).
- Clark, Suzannah, and Alexander Rehding, eds. *Music Theory and Natural Order from the Renaissance to the Early Twentieth Century*. New York: Cambridge University Press, 2011.
- Cohen, Dalia. "Birdcalls and the Rules of Palestrina Counterpoint." *Israel Studies in Musicology* 3 (1983): 96–123.
- Fallon, Robert. "The Record of Realism in Messiaen's Bird Style." *Olivier Messiaen: Music, Art and Literature*. Eds. Christopher Dingle and Nigel Simione. Aldershot: Ashgate, 2007. 115–136.
- Fallon, Robert. "Birds, Beasts, and Bombs in Messiaen's Cold War Mass." *The Journal of Musicology* 26.2 (2009): 175–204.
- Feld, Steven. "From Ethnomusicology to Echo-Muse-Ecology: Reading R. Murray Schafer in the Papua New Guinea Rainforest." *The Soundscape Newsletter/World Forum for Acoustic Ecology* 8 (1993): 4–6.
- Feld, Steven. *Sound and Sentiment: Birds, Weeping, Poetics, and Song in Kaluli Expression*. 1982. Durham: Duke University Press, 2012.
- Gardiner, William. *The Music of Nature*. 1832. Cambridge: Cambridge University Press, 2009.
- Glottfelty, Cheryll. "Introduction: Literary Studies in an Age of Environmental Crisis." *The Ecocriticism Reader: Landmarks in Literary Ecology*. Eds. Cheryll Glottfelty and Harold Fromm. Athens: University of Georgia Press, 1996. xv–xxxvii.
- Godwin, Joscelyn. *The Harmony of the Spheres: A Sourcebook of the Pythagorean Tradition in Music*. Rochester, VT: Inner Traditions International, 1993.
- Gray, Patricia M., Bernie Krause, Jelle Atema, Roger Payne, Carol Krumhansl, and Luis Baptista. "The Music of Nature and the Nature of Music." *Science* 291.5501 (2001): 52–54.

- Grimley, Daniel M. *Grieg: Music, Landscape and Norwegian Identity*. Woodbridge: Boydell Press, 2006.
- Grimley, Daniel M. "Music, Landscape, Attunement: Listening to Sibelius's Tapiola." *Journal of the American Musicological Society* 64. 2 (2011): 394–398.
- Guy, Nancy. "Flowing Down Taiwan's Tamsui River: Towards an Ecomusicology of the Environmental Imagination." *Ethnomusicology* 53.2 (2009): 218–248.
- Harley, Maria Anna. "From Postmodernism to Ecomusicology: Towards a New Paradigm in Music Research." Reading at the Spring Meeting of the AMS New York State – St. Lawrence Chapter. University of Ottawa. 08 – 09 April 1995.
- Impey, Angela. "Musical Constructions of Place: Linking Music to Environmental Action in the St Lucia Wetlands." *Southern African Journal of Environmental Education* 23 (2006): 92–106.
- Ingram, David. "'My Dirty Stream': Pete Seeger, American Folk Music, and Environmental Protest." *Popular Music and Society* 31.1 (2008): 21–36.
- Ingram, David. *The Jukebox in the Garden: Ecocriticism and American Popular Music Since 1960*. Amsterdam and New York: Rodopi, 2010.
- Ingram, David, ed. "Eco-musicology". Special issue of *Green Letters: Studies in Ecocriticism* 15 (2011).
- Järviluoma, Helmi, Kytö Meri, Barry Truax, Heikki Uimonen, Noora Vikman, and R. Murray Schafer, eds. *Acoustic Environments in Change & Five Village Soundscapes*. Joensuu: Tampereen ammattikorkeakoulu, 2009.
- Kaipainen, Mauri. "Prospects for Ecomusicology: Inner and Outer Loops of the Musical Mind Environment System." *Brain, Mind, and Physics*. Eds. P. Pylkkänen, P. Pylkkö, and Antti Hautamäki. Amsterdam: IOS Press, 1997.
- Keogh, Brent. "On the Limitations of Music Ecology." *Journal of Music Research Online* 4 (2013): 1–10.
- Kinnear, Tyler, ed. *Sound, Environment, and Action*. Special issue of *Music and Politics* 8.2 (2014).
- Krause, Bernard. *Wild Soundscapes: Discovering the Voice of the Natural World*. Berkeley: Wilderness Press, 2002.
- Leach, Elizabeth Eva. *Sung Birds: Music, Nature, and Poetry in the Later Middle Ages*. Ithaca: Cornell University Press, 2007.
- Marler, Peter, and Hans Willem Slabbekoorn, eds. *Nature's Music: The Science of Birdsong*. Boston: Elsevier Academic, 2004.
- Martinelli, Dario. *Of Birds, Whales, and Other Musicians: An Introduction to Zoomusicology*. Scranton: University of Scranton Press, 2009.
- Morris, Mitchell. "Ecotopian Sounds; Or, The Music of John Luther Adams and Strong Environmentalism." *Crosscurrents and Counterpoints: Offerings in Honor of Bernt Hambraeus at 70*. Eds. P. F. Broman, N. A. Engebretsen, and B. Alphonse. Goetenberg: University of Sweden Press, 1998. 129–141.
- Mundy, Rachel. "Birdsong and the Image of Evolution." *Society and Animals* 17.3 (2009): 206–223.
- Pedelty, Mark. "This Land: Seeger Performs Guthrie's 'Lost Verses' at the Inaugural." *Popular Music and Society* 32.3 (2009): 425–431.
- Pedelty, Mark. *Ecomusicology: Rock, Folk, and the Environment*. Philadelphia: Temple University Press, 2012.
- Pelzman, Marc. "Ecology and Ethno/musicology: The Metaphorical, the Representational, and the Literal" *Ecomusicology Newsletter* 1.2 (2012): 1, 15–21.
- Pijanowski, Bryan C. et al. "Soundscape Ecology: The Science of Sound in the Landscape." *Bioscience* 61 (2011): 203–216.

- Ramnarine, Tina K. "Acoustemology, Indigeneity, and Joik in Valkeapää's Symphonic Activism: Views from Europe's Arctic Fringes for Environmental Ethnomusicology." *Ethnomusicology* 53.2 (2009): 187–217.
- Ramsey, Doug. "The Role of Music in Environmental Education: Lessons From the Cod Fishery Crisis and the Dust Bowl Days." *Canadian Journal of Environmental Education* 7 (2002): 183–198.
- Rehding, Alexander. "Eco-Musicology." *Journal of the Royal Musical Association* 127.2 (2002): 305–320.
- Rothenberg, David. *Why Birds Sing: A Journey Through the Mystery of Bird Song*. New York: Basic Books, 2005.
- Rothenberg, David, and Marta Ulvaeus, eds. *The Book of Music and Nature: An Anthology of Sounds, Words, Thoughts*. Middletown: Wesleyan University Press, 2001.
- Schneider, Marius. "La nozione del tempo nella filosofia e nella mitologia vedica." *Ecologia della musica: Saggi sul paesaggio sonoro*. Ed. Antonello Colimberti. Rome: Donzelli Editore, 2004. 31–40.
- Stimeling, Travis D. "Music, Place, and Identity in the Central Appalachian Mountaintop Removal Mining Debate." *American Music* 30.1 (2012): 1–29.
- Taylor, Hollis. "Composers' Appropriation of Pied Butcherbird Song: Henry Tate's 'Undersong of Australia' Comes of Age." *Journal of Music Research Online* 2 (2011). <http://www.jmro.org.au/index.php/mca2/article/view/43> (18 January 2015).
- Titon, Jeff Todd, ed. *Music and Sustainability*. Special issue of *The World of Music* 51.1 (2009).
- Titon, Jeff Todd. "A Sound Commons for All Living Creatures." *Smithsonian Folkways Magazine*. <http://www.folkways.si.edu/magazine-fall-winter-2012-sound-commons-living-creatures/science-and-nature-world/music/article/smithsonian>. 2012 (18 January 2015).
- Titon, Jeff Todd. "The Nature of Ecomusicology." *Música e cultura* 8.1 (2013): 8–18.
- Toliver, Brooks. "Eco-ing in the Canyon: Ferde Grofé's Grand Canyon Suite and the Transformation of Wilderness." *Journal of the American Musicological Society* 57.2 (2004): 325–367.
- Torvinen, Juha, ed. *Music & Ecology – Themes and Variations*. Special issue of *Finnish Musical Quarterly* 3 (2009).
- Troup, Malcolm, ed. *Guildhall School of Music and Drama Review*. London, 1972.
- Trump, Maxine. *Musicwood*. 2013. <http://musicwoodthefilm.com>. (18 January 2015).
- Turner, Kate, and Bill Freedman. "Music and Environmental Studies." *Journal of Environmental Education* 36.1 (2004): 45–52.
- Von Glahn, Denise. *The Sounds of Place: Music and the American Cultural Landscape*. Boston: Northeastern University Press, 2003.
- Von Glahn, Denise. *Music and the Skillful Listener: American Women Compose the Natural World*. Bloomington: Indiana University Press, 2013.
- Watkins, Holly. "The Pastoral After Environmentalism: Nature and Culture in Stephen Albert's Symphony: RiverRun." *Current Musicology* 84 (2007): 7–24.
- Worster, Donald. *The Wealth of Nature: Environmental History and the Ecological Imagination*. New York: Oxford University Press, 1993.

6.2 Further Reading

- Ecomusicologies*. Website. www.ecomusicologies.org. (18 January 2015).
- Ecomusicology*. Website. www.ecomusicology.info. (18 January 2015).