

ABSTRACT

Title of Dissertation:

An American River: Discourses of Ecocatastrophe, Sustainability, and Belonging in the Potomac River Basin and Beyond

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An American River: Discourses of Ecocatastrophe, Sustainability, and Belonging in the Potomac River and Beyond is a queer ecological intervention in American, Queer, Trans(Gender), and Popular Culture Studies. It critiques the primary reliance on the category of culture to analyze the ways media, science, public policy, and the state make knowledge assumptions about sex, gender, and reproduction to construct stories about environmental catastrophe, species, and kind. Transdisciplinary methods are used to uncover the ecologies, relations, adaptations, and resiliencies that might not otherwise be possibly investigated and known, and challenge conventional popular discourses of environmentalism and conservation in an effort to create the intellectual equivalent of biodiversity.

Three distinct but interrelated cases are considered. First, an examination of the Theodore Roosevelt Memorial Island interrogates how sex, gender and reproduction were intimately tied to discourses of wilderness, nature and nation, and

the ways in which those concepts have been sanitized for consistency with modern sensibilities about an appropriate memorial for an “environmental” president. Next, a consideration of the popular discourse around the emergence of “transgender fish” in the Potomac River leads to an analysis of how trans-related language and concepts can be used to enrich human understanding of transformations and interactions across ecologies, species, and populations. I offer “interdependent ecological transsex” as a term broadly defined through a hormonal, metabolic, and adaptive prism to imagine other bodies—not just transsexual human bodies, but fish, bodies of water, and any other kind of body that experiences change in relation to a larger ecology. Third, I examine the possibilities for queering agriculture, or envisaging alternatives to mainstream rhetorics of agriculture, food security, and farming.

An American River concludes arguing human knowledge about nature, environmentalism, race, reproduction, and transsexuality is laden in antroheterocentric assumptions about progress, degeneracy, and evolution that is problematic for ethically and equitably addressing social and environmental problems. A queer eco ethic is presented to offer ways humans might begin to imagine nature and the environment differently.

AN AMERICAN RIVER: DISCOURSES OF ECOCATASTROPHE,
SUSTAINABILITY, AND BELONGING IN THE POTOMAC RIVER BASIN
AND BEYOND

by

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Chapter 1: Introduction: Offering Missing Links for Transdisciplinary Webs of Study and Practice

Currents of Transknowledge from The Nation's River: An Introduction

The current of the Nation's River, The Potomac River, has no beginning and no end, flowing through the heart of the American Empire—Washington DC— into the Chesapeake Bay and Atlantic Ocean. It could be—and is often is—framed as a beginning at trickling spring at Fairfax Stone State Park in West Virginia.¹ However, it can also be understood to start as transnationally evaporated water transformed into drifting clouds and then rain which might fall near Fairfax stone, but could also land anywhere else in the river, its tributaries, or on connecting land draining water into the river. The Potomac River as humans have categorized it is not just the Potomac River—a national symbol of gravity fed water moving through communities providing irrigation for crops, drinking water for all, and leisure to some.

This dissertation shows how a systemic river in the United States provides an opportunity for American Studies to question current ideas about nature, ecology, gender, race, sexuality, environmentalism, reproduction, and the borders and boundaries of places, bodies, species and kind. The Potomac River functions throughout the project as both a geographic anchor (fixing this project in a specific place and relationship to the land) and a guiding symbol—a river running through the

¹ The Interstate Commission on the Potomac River Basin. "About the Basin: Fairfax Stone State Park." Accessed April 26, 2019. <https://www.potomacriver.org/news/about-the-basin-fairfax-stone-state-park/>

capitol of the U.S. empire. Acting as a geographical hold, the social, ecological, and economic implications of the river are enormous. For instance, the current wealth of the U.S. is anchored in the Potomac River. Scholars have shown how the current wealth and global dominance of the U.S. is the result of hundreds of years of chattel slavery.² Some of America's earliest slaves ended up in the lower Potomac region at slave auctions, forced into farming tobacco that was shipped from the Potomac ports of Bladensburg, Alexandria, and Georgetown to further enrich white plantation owners.

The Potomac River basin has a vast ecological and human social history to explore when it is imagined to be more than just a path of water. This project investigates some of those histories in order to illustrate how human environmentalism to save, protect, memorialize, and conserve through the river is often laden with racism, transphobia, and unexamined assumptions of U.S., white, sexual, and reproductive supremacy.

The Potomac River became known as "The Nation's River" in the 1960s through a series of governmental interventions, research, and projects to not only clean up the river known as an open sewer with massive fish kills and deemed unfit for swimming by the U.S. Public Health Service, but also as a federal plan to preserve an undeveloped green sheath protecting the river through the creation of the Chesapeake & Ohio (C&O) Canal National Historical Park.³ But the Potomac River

² Sven Beckert and Seth Rockman, eds. *Slavery's Capitalism: A New History of American Economic Development*. Early American Studies. Philadelphia: University of Pennsylvania Press, 2016.

³ The name "the Nation's River" appears in the following: Frank Graham and Edward Schell, *Potomac: The Nation's River* (Philadelphia: Lippincott, 1976); Arnout Hyde and Ken Sullivan, *The Potomac: A Nation's River* (Charleston, WV: Cannon Graphics, 1994); U.S. Dept. of the Interior, National Park Service, *The Nation's River: A Report on the Potomac with Recommendations for*

also needs to be known as The Nation's River for another reason. When The Nation's river is examined through queer and trans ecological perspectives, the nation's rich history of racism, transphobia, and environmental destruction become more obvious, conveying that the foundation for this nation isn't merely a river that carved valuable ports to land upon fertile soil, but a combination of factors rooted in normative notions of nature, race, gender, and reproduction.

This dissertation explores interrelated discourses of eco-catastrophe, sustainability, and belonging. It analyzes mainstream environmental discourses in the United States and compares and contrasts these representations with queer ecological perspectives, practices, and politics in order to explore ethical tactics in dealing with the environmental and social problems we face in the 21st century. I do not claim that queer ecological perspectives offer complete or definitive answers to the social and environmental problems we must confront; however, queer ecologies do offer new possibilities for considerations of socio-ecological relations, and provide opportunities to gather insights about some of the most fundamental assumptions embedded in biopolitics. Because queerness defies precise definition it can be used to question normative social, economic, political, cultural, and as I will argue, ecological infrastructures. Queerness can be used as a tool to engage an evolving eco-ethics in reconstructing both discourses and practices constituting the various components of the bioscape. Thus, this project uncovers the invisibilities of some of those assumptions. Making visible the underlying knowledge infrastructures is a first step

Action by the Federal Interdepartmental Task Force on the Potomac (Washington, D.C.: 1968); U.S. Dept. of the Interior, National Park Service, *Proposed Potomac National River: Maryland, Virginia*, Washington, DC, 1969). Accessed February 11, 2017.
<http://ia601208.us.archive.org/4/items/proposedpotomacn00nati/proposedpotomacn00nati.pdf>

towards transforming our practices and the ways we think about economics, ecologies, (re)production, sustainability, and belonging.

This project asks questions about the rise of environmental and sustainability movements in the United States, and how queerness is a factor shaping these discourses—not only in terms of how and what queer communities contribute, but more significantly how queerness has become a normative sign and condition of ecological and social catastrophe. I show that ecologically this isn't necessarily true. Queer is full of ecological, adaptive, social, and economic potential that can be used to address the major environmental and social problems humans have created and face in the 21st century. The key questions guiding this research ask: What do queer ecological discourses and practices offer in terms critiquing mainstream environmentalism? How can a queer ecological critique make largely invisible components of eugenics and the management of populations, species, and resources discernible? How might queer ecological projects create innovative languages and practices that de-center humans and permit a more inclusive understanding of life on this planet?

As a queer ecological geography, this project is not so much about queer identity or “communities”—although that is a small component—but more about considering how normative notions of reproduction have constructed queerness as a toxic hysteria. This hysteria, when investigated through the lenses of reproduction and ecology—whether represented as racial suicide or an invasion of transgender fish—has the ability to illustrate particular stories about reproduction, containment, conservation, purification, and the management of populations, species, resources,

and their labors that might otherwise remain invisible. In other words, queer ecological critiques have the ability to reveal mainstream environmentalism as not just about conserving resources and developing space in a more “environmentally friendly” manner, but also as an endeavor invested in the conservation and development of populations, which according to historical context, may or may not include discourses of species, nation, race, reproduction, class, and health.

Because this is a queer ecological geography, this project is deeply rooted in a spatial orientation. While it asks questions about culture, it argues that culture is not enough. A spatial orientation has the ability to illustrate multiple processes that simultaneously envelop the realms of culture, politics, economics, ecology, and reproduction. A spatial orientation, for instance, allows us to see that the settlement of the Americas wasn’t a multicultural endeavor in which Western Europeans ended up being the “fittest” winners, but that the “progress” and “success” of Western European colonization involved multiple migrations of capital, bodies, diseases, and livestock; the transformation of the landscape and bioscape; and the genocide of particular species and populations in tandem with the forced labor and reproduction of others. A spatial orientation may have some issues (especially in terms of enormous scope), but any shortcomings are outweighed by the benefits of being able to make visible issues that would otherwise remain obscured in a purely cultural analysis.

The transdisciplinary nature of the project, however, means that context must be provided for multiple disciplines and multiple communities of practice if it is to be understood fully and appropriately. To that end, I now examine some of the literature

that's influenced my thinking on this project, and with which it could be understood as being in conversation.

Normative Knowledge Classificatory Infrastructures

This project contributes to several fields of study—American studies, queer studies, trans studies and environmental/ecological studies. This dissertation is also informed more broadly from social and historical anthropology, economics, feminist studies, animal studies, studies of the history of science and knowledge, cultural landscape studies, and geography. Because this project is situated across many different disciplines, it must be understood from the onset as existing within the broader trajectories of academic capitalism and Western knowledge infrastructures. This project is highly invested in examining the problems of intellectual history—thinking about thinking—and the dominant classificatory knowledge structures that make it possible for certain thoughts and ideas to exist, while foreclosing other possibilities. In part, this project seeks to make some of these unimaginable ideas imaginable.

This perspective of making certain ideas possible is influenced by the work of Geoffrey C. Bowker and Susan Leigh Star in their book *Sorting Things Out: Classification and Its Consequences*. Bowker and Starr show how classification systems are large-scale information infrastructures that do political work that make the ordering of much of human interaction, thought, and work obvious, and render other structures invisible.⁴ In American studies we commonly understand

⁴ Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999).

classification work as the process of analyzing intersectional cultural categories, the most common being race, class, nation, gender, and sexuality. However, Bowker and Starr's work forces us to take a step further in the work of analyzing classification to understand how knowledge is produced.

To consider the classificatory infrastructures that allow some things to be thought at the expense and/or impossibility of others, this project follows Bowker and Starr to ask historical questions about the “deeply and heterogeneously structured space of classification systems and standards” in American studies and Western thought in general, in order to deal “with a four dimensional archaeology” in which systems move and develop not just in the mind but also relationally and simultaneously in time, space, and process.⁵ This four dimensional archaeology is necessary for this project because in order to examine mainstream environmentalisms it is essential to consider how nonhuman animals, things, and processes contribute to the production of space, place, and the human symbolic realm over time. I use *process* as an ecological term that encompasses any simultaneous event(s) or things that contribute to the making, transformation, and perpetual changing of any and everything.

“Process,” for Bowker and Starr, is a way of talking about the agency of the classification system itself. This is a useful idea but needs adaptation for my purposes, so I add the term “symbolic realm” and use their conception of “process” in a slightly different way. I use the term “symbolic realm” to refer to the languages, signs, and representations that humans use to construct meanings about reality that

⁵ Ibid., 42.

surrounds them. The symbolic realm is what ties together common meanings for humans to communicate, manipulate, and cooperatively alter surrounding material and social realities. Human symbolic realms are human-centered structures of meaning.

I use “process” primarily to refer to the agency of what we commonly call “nature,” which can act independently of humans and our meaning systems and has just as much agency and ability in altering material realities and landscapes than the meanings people give them. Taken together, space, time, and process might not make decisions in the ways humans make decisions, but instead have complex systems we call “evolution,” and must be understood as having a way of selecting or “choosing” even if that is sometimes random or includes multiple other layers or factors we don’t yet and might not ever fully understand. Thus “nature” must be understood as an agent of change and possibly even “choice,” which means that we must infuse the concept of political ecology to mean not just interrelations of politics, economics, culture, and the environment, but also that nature makes certain decisions that we have much to gain by observing, listening to, realizing we’re part of, and learning from.

While humans have significantly altered process and nature, it has not been mastered and most likely never will. Thus, to consider the human symbolic realm simultaneously in time, space, and process forces us to acknowledge that our categories are not merely socially constructed as we like to think, but also the result of complex processes that involve nature as an agent. With this in mind, it must also be acknowledged that discourses and accumulations of particular sorts of knowledge

also influence how humans produce space, history, and valuations of time—and with it, our technological innovations that attempt to control nature. It is this complex relationship between “natural” processes independent of humans, the human symbolic realm used to categorize processes into social meanings and differentiations, and the use of the symbolic realm to make discourses to manipulate “nature,” that constitutes consideration of the symbolic simultaneously and in addition to space, time and process. How do we address this process methodologically? I have only partial answers unfolding through the following chapters.

The key research question of this project is how might queer ecological projects, practices, and politics not merely superficially combine these knowledge infrastructures to assume it’s a bit of nature and a bit of culture, but instead push this thinking in the direction and expansion of Donna Haraway’s ideas of naturecultures. While Haraway uses the familiar categories of nature and culture as a combination, it’s more complex than just adding the two words together. She unpacks the term throughout much of her life’s work, but specifically in *The Companion Species Manifesto*, explains naturecultures as “the co-histories and co-evolutions of humans and other organisms.”⁶ These co-histories and co-evolutions are where “flesh and signifier, bodies and words, stories and worlds” are joined and various parts “don’t add to wholes” and only “partial connections” are possible.⁷ These partial connections, which if valued as partial, can illustrate “counter-intuitive geometries and incongruent translations necessary to getting on together, where the god-tricks of

⁶ Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness*. (Chicago: Prickly Paradigm Press, 2003), 12.

⁷ Ibid., 20, 25.

self-certainty and deathless communion are not an option.”⁸ What Haraway means is there is never a complete or whole story and somebody who thinks there is, is tricking themselves—it’s not possible. With Haraway’s ideas in mind, what connections do queer ecological discourses and practices make, even if partial, in critiquing normative classificatory infrastructures that get beyond the dichotomy of culture and nature in order to create innovative languages that can account for the simultaneous relations of nature, humans, to ultimately decenter the human in investigations of ecologies, economies, and the environment.

American Studies: Foundations of Culture and Nation and the Paradox of (Inter)Disciplinarity

The first intervention this project contributes is some missing links to American studies. Because U.S. American studies academic traditions simultaneously disrupt and reaffirm traditional academic disciplines, a brief history of the field is necessary in order to illustrate how this project persuades the field toward transdisciplinizing orientations. But before that, I will illustrate a few aspects of what is meant by transdisciplinarity.

“Transdisciplinarity” was coined in the 1970s by Erich Jantsch, who favored “a systems theory approach” that would integrate and coordinate knowledge in order to solve the complex problems of the “life-world, ” defined as “the ongoing lived experiences, activities and contacts that make up the world of an individual or corporate life.”⁹ Contemporarily, transdisciplinarity, a highly contested term,

⁸ Ibid., 25.

⁹ Gertrude Hirsch Hadorn, Susette Biber-Klemm, Walter Grossenbacher-Mansuy, Holger Hoffmann-Riem, Dominique Joye, Christian Pohl, Urs Wiesmann and Elisabeth Zemp. Eds., “The Emergence of

describes a research trajectory aspiring to more holistic considerations of knowledge, with an understanding that (inter)disciplinary knowledge infrastructures of increasing specialization are embedded within interests serving capitalism, and cannot adequately solve the immense problems that multiple “life-worlds” face within capitalism. Julie Thompson Klein, paraphrasing Eric Jantsch’s conception of transdisciplinarity, writes that it “signifies the interconnectedness of all aspects of reality, transcending the dynamics of a dialectical synthesis to grasp the total dynamics of reality as a whole. It is a vision of interdisciplinarity penetrating the entire system of science.”¹⁰ Further, transdisciplinarity is inherently political. The International Center for Transdisciplinary Research’s “Charter for Transdisciplinarity” asserts the necessity of such research because the dominance of techno-science in disciplinary knowledge infrastructures seriously threatens “life on earth,” obeying “only the terrible logic of productivity for productivity’s sake,” and the growth of specialized knowledge that serves techno-science “is increasing the inequality between those who have and those who don’t...”¹¹

In some respects, academic American studies was formed in reaction to confining departmental distinctions between “history” and “literature,” but the “interdisciplinary” result still works within disciplinary institutional knowledge infrastructures. Following the work of Julie Thompson Klein, both disciplinarity and

Transdisciplinarity as a Form of Research,” in *Handbook of Transdisciplinary Research*. (New York: Springer, 2008), 26, 20.

¹⁰ Julie Thompson Klein, *Interdisciplinarity: History, Theory, Practice*. (Detroit: Wayne State University Press, 1990), 66.

¹¹ Lima de Freitas, Edgar Morin and Basarab Nicolescu, editorial committee. *Charter for Transdisciplinarity*. Translated from French by Karen-Claire Voss. International Center for Transdisciplinary Research. Accessed April 14, 2018. <http://ciret-transdisciplinarity.org/chart.php#en>. The charter was adopted at the First World Congress of Transdisciplinarity, Convento da Arrábida, Portugal, November 2-6, 1994.

interdisciplinarity must be understood in a larger historical context of knowledge production since the Enlightenment, in which the previous quest for holistic and unified knowledge was replaced gradually with the specialization and professionalization of knowledges that increasingly served interests of industry, the state, and the various needs of society.¹² While the concept of interdisciplinarity has been utilized for more integrative or unified quests for knowledge, it is unclear if this leans in the direction of aspiring to more holistic orientations, or is itself increased specialization. In fact, this confusion is inherent in these distinctions and Klein writes that there exists “an inevitable paradox” in discussions of interdisciplinarity because “our entire logic of classification—predisposes us to think in terms of disciplinarity”—a logic of classification with a dominate guiding metaphor of war and geopolitics that guides these distinctions where disciplinarity is about territory and private property. And while interdisciplinarity may aspire to convert specialists into generalists, interdisciplinary practices in institutional settings simply perpetuate the same values of knowledge as private property and territory but through the sharing of private property amongst the propertied intellectual class.¹³

Methodological issues, classificatory paradigm foundations, Western knowledge infrastructures, and issues of disciplinary and interdisciplinarity cannot be separated. The foundational categorical paradigms guiding the evolution of institutional U.S. American studies have been the concepts of “culture” and “nation” and these two concepts in many ways are at the heart of simultaneous distinctions and

¹² Klein, *Interdisciplinarity*, 20-22

¹³ *Ibid.*, 77-79

amalgamations of (inter)disciplinarity. Henry Nash Smith, apprehensively questioning if American studies could develop a defining method, noted problems surrounding method in American studies arose “because the investigation of American culture as a whole” didn’t “coincide with the customary field of operations of any established academic discipline.”¹⁴ While the myth, symbol, and image school of thought expanded definitions of what sources of information it would accept to produce knowledge about American culture, there really was no interdisciplinary revolution that occurred—it was merely an expansion of which sources would be considered worthy of investigation.

Likewise, while the rise of postmodern theories and social scientific methods was necessary to critique the assumptions of “dead white men” claiming to represent a whole essence of American culture, studies across an increasing number of disciplines of the multiplicities of American cultures inside the imagined whole was also not an interdisciplinary paradigm revolution. This is because the field’s organizing concepts of “culture” and “nation” still primarily organize the field within the professionalization of knowledge that serves interests of the state and industry. Additionally, the shift from the myth and symbol school to social scientific multicultural constructions of realities was merely a binarized shift of culture—that is culture’s explanatory power shifts from one extreme to the other; from being understood to represent a *whole* national entity to *multiple* cultures within a bounded, yet internationalized nation. Transdisciplinarity expands the ambitions of

¹⁴ Henry Nash Smith, “Can American Studies Develop a Method?” in *Locating American Studies: The Evolution of a Discipline*, ed. Lucy Maddox. (Baltimore: The Johns Hopkins University Press, 1999), 1.

interdisciplinary and uses the concept of culture as one of many factors that has contributed to the vast transformations of humans, ecologies, and the landscapes of North America. It recognizes that researchers in the (inter)disciplines following established methods across disciplines have given us valuable and fascinating work, but are not the only way to produce new and exciting knowledge. Transdisciplinarity questions our current classificatory infrastructure (which the concepts of culture, nature, nation, and world are part of) of knowledge categories and uses methods that might lie beyond academia's comfort. Some of these methods might constitute as this project does, speculation, transgender experience, creativity, observation not rooted in a method, and experiential learning. Transdisciplinarity also seeks to produce knowledge in order to create alternative and more holistic modes of understanding, relating, and choosing in order to address social and ecological problems.

Additionally, the human transgender experience for this project is a vital part of transdisciplinarity and provides possibilities to challenge western knowledge infrastructures. This is because my transgender and transhormonal experience has not only enabled me a unique understanding of my own bodily ecology, but also how I simultaneously transform and am transformed within the ecologies I live. The human experience of being trans is both an exhilarating and gut-wrenching lesson on questioning knowledge as we learned it, particularity through western knowledge infrastructures of sex and gender, but also if one is lucky enough, many other classificatory infrastructures such as human/animal, self/other, biology/culture, etc. Therefore, my own trans personal narrative is part of the transdisciplinarity nature of this project and is woven throughout. Since the 1990s thousands of trans people have

shared trans narratives in published books, on the internet, and in front of curious spectators. This trans archive has challenged and to some extent transformed academic interdisciplinary understandings of sex, gender, sexuality, and reproduction.¹⁵ I believe transdisciplinarity, trans experience, and its queer ecologies has the potential to challenge additional interdisciplinary interpretations of knowledge and classification and offer new insights for social and ecological problems of the 21st century. This project illustrates some of this.

Expansions of Culture and Nation: The Transnational Turn and Roots of a Spatial Orientation in American Studies

The embracing of the “transnational turn” in U.S. American studies has been one of the biggest assets in undoing the field’s paradigmatic reliance upon the organizing classificatory infrastructures of “culture” and “nation.” While discrepancies and similarities between terms such as transnationalism, internationalism, borderlands, empire, neoliberalism, and neo-colonialism are often quite confusing, one thing they all hold in common is that they push the field towards spatial orientations beyond U.S. borders and develop opportunities to contextualize the physical environments. Spatial orientations, by which I mean a return of attention to the sensory human experience of the physical (i.e., not just *water* but the *icy cold, muddy brown rushing water of the Potomac after an April rainstorm*)—open up possibilities to critique not just culture and nation, but to complicate and expand these

¹⁵ In the 1990s and 2000s many healthcare providers believed that transmen and transwomen on hormones and hormone blockers would be rendered infertile and the focus on safe sex preventions was to prevent sexual transmitted infections. However, it is now known and proven that some transwomen and transmen on hormone therapy have impregnated and become pregnant. I personally know a transwoman and transman couple, both on hormones at the time, who to their surprise conceived.

categories for the economic, political, and geographic assumptions inherent in them. From the insistence that the United States be situated as a transnational empire to the avowal that culture be understood not as a sole sphere of differentiated practices, but “as terrain in which politics, culture, and the economic form an inseparable dynamic”; to show that neoliberalism as a cultural project is responsible for creating public focus and interest in the “culture wars,” which diverted attention away from vast transfers of decision-making and wealth from the public realm into the hands of private corporations, it is clear that U.S. American studies has indeed broadened its orienting horizons.¹⁶ However, this broadening of the field has largely ignored how ecology is fundamentally *foundational* to understanding the various economic and political dimensions of the so called success of the U.S. empire and its affiliated corporations. Besides the foundation of slave labor, sharecropping, immigrant labor, and subsequent low-wage labor that made this country’s wealth possible in the first place, understanding ecology solely in terms of populations, resources, and species that can be commodified and exploited is the backbone of capital, at least through the industrial age and quite arguably through the contemporary service, information, military, and technology economies that sustain U.S. dominance and wealth. Thus, my project asks what can an ecological foundation do for American studies?

Transformation of the ecologies of American landscapes has played a foundational role in the conditions that allowed for the so-called “progress” of

¹⁶ Amy Kaplan, “Left Alone with America: The Absence of Empire in the Study of American Culture,” in *Cultures of United States Imperialism* (Durham: Duke University Press, 1993); Lisa Lowe and David Lloyd. eds. *Politics of Culture in the Shadow of Capital*. (Durham, NC: Duke University Press, 1997) 1-2; Lisa Duggan, *The Twilight of Equality: Neoliberalism, Cultural Politics, and the Attack on Democracy* (Boston: Beacon Press, 2003), 11-12.

Western European colonization of the Americas. Additionally, transformations of landscapes in the “developing” world is in many ways contemporarily sustaining the “success” of the U.S. empire through transnational corporate economics. While the work of William Cronon, Carolyn Merchant, Richard White, and others has illustrated relationships between transformations of the landscape and white Euro-American “success,” what these works do not consider is how transformations and devastations of the landscapes led to the subsequent rise of the mainstream environmental movement, and how environmentalism in many ways has become a biopolitical governing technology of the state.¹⁷

Managing and Developing the Landscape and Populations

There are, however, scholars making connections between the management of populations and the landscape. Clyde Woods, for example, has vividly illustrated how the agricultural transformations of the Mississippi Delta up through the twentieth century were not a success story of African American emancipation and increased agricultural progress for the greater good of humanity, but were in fact a series of deliberate political and economic endeavors that simultaneously decimated the quality of life for African Americans in the Mississippi Delta and the landscape itself.¹⁸ Likewise, Kimberly K. Smith has shown, through analyzing the voices of famous nineteenth and twentieth century African Americans, that there is a deep

¹⁷ William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983); Carolyn Merchant, *Ecological Revolutions: Nature, Gender, and Science in New England* (Durham: University of North Carolina Press, 1989); Richard White, *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995).

¹⁸ Clyde Woods, *Development Arrested: The Blues and Plantation Power in the Mississippi Delta* (London: Verso, 1998).

tradition of African American thought linking not only the Euro-American possession of the land and resources as private property to the possession of slaves as private property, but also linking the production of a transformed landscape to accommodate for the surveillance and management of slave populations.¹⁹ Andrea Smith has also made startling connections between the Euro-American treatment (“rape”) of the land and sexual violence (e.g., sterilization and forced birth control for welfare recipients) toward Native women as a tool of genocide. She shows how discourses of mainstream environmentalism framed within what she calls the “overpopulation paradigm” have the possibility to engage contemporary genocide rather than illustrate that “significant environmental damage is actually caused by environmentally destructive development projects, such as hydroelectric dams, uranium development, militarism, and livestock production.”²⁰

While these works consider relationships between transformations of the American landscape and conditions of colonization, containment, surveillance and specific forms of environmentalism as governing technologies, what is missing is an in-depth consideration of how queer studies might provide links about how sexuality is deeply embedded in the most basic assumptions about the management of resources, labor, populations, and the environment. Although queer studies has made significant strides in the last ten years questioning how the cultural categories of “sex” and “gender” are intimately connected to economic, political, and racial conditions of state and transnational citizenships, like American studies, it has clung

¹⁹ Kimberly K. Smith, *African American Environmental Thought: Foundations* (Lawrence, Kansas: University of Kansas Press, 2007).

²⁰ Andrea Smith, *Conquest: Sexual Violence and American Indian Genocide* (Cambridge: South End Press, 2005), 73.

heavily to the cultural. I suggest as my intervention and contribution to both American studies and queer studies that we might be able to think more clearly about the relationships between the management of resources, the environment, populations, and their labor through a reproductive spatial orientation. This reproductive special orientation I call interdependent ecological transsex. Next I provide essential definitions to both frame how and explain interdependent ecological transsex that then provide the foundation for the chapters of this dissertation.

Definitions

While I use many terms common to queer and transgender studies, I also push and redefine meanings to illustrate that queer ecological perspectives and queer and trans studies need new concepts to work with. This terminology makes possible a different way of thinking about environmentalism, transsexuality, ecology, reproduction, and evolution. I show how anthropocentric assumptions about knowledge have framed my interdependent ecological transsex perspective—a different way of thinking about transsexuality as complex constantly evolving interdependent relations full of infinite possibilities and directions. These terms are used to frame discussions in this dissertation's chapters examining Theodore Roosevelt Memorial Island on the Potomac River, the emergence of transgender fish in the Potomac River basin and queering agriculture to intervene in mainstream ideas of food security and reproduction of U.S. society.

I don't claim any conclusive definition for any of the following terminology I describe. These terms through human understanding, use, curiosity, and discovery have their own ability to evolve and transform as new ecologies, knowledges, and

connections emerge. These terms are in some ways like the Potomac river itself. A river basin, like ecosocial cultures, can never be one thing and are always in perpetual transformation. River systems constantly define, are defined by, and redefine everything they contain—the landscape, the ocean(s), weather patterns, its creatures, paths, and its fate. I provide and have developed some of the following terminology to address several questions in this dissertation. What might be possible if trans and queer studies focused more heavily on ecological systemics and not almost exclusively on the human? After all, sex, sexuality, gender, diversity, and reproduction are the processes and products of ecological relations, whereas foundations for human social structures are only one of many facets belonging to the ecological. What if mainstream environmentalism were freed, or at least aware of, its transphobic and anthropocentric assumptions? What if transsexuality no longer simply meant transsexual humans or insinuated reproductive, social, and ecological catastrophe, but were instead understood as one process among many in evolutionary, social, and ecological change? What then might be possible for society and the environment? Ultimately starting now, and then throughout this dissertation I redefine what we've come to know as transsexuality as interdependent ecological transsex—an ecological process of evolutionary, social, and ecological changes in perpetual transformation as an effect of relations amongst a multitude of possibilities. These questions demand what Katie King calls flexible knowledges.²¹ Flexible knowledges allow for the emergence of trans paradigms.²²

²¹ Katie King, *Networked Reenactments: Stories Transdisciplinary Knowledges Tell*. (Durham, NC: Duke University Press, 2012). 1-2.

²² Trans paradigms might be thought of as knowledge infrastructures about change, adaptation, and ecologies which acknowledge that everything including knowledge are already and always in perpetual

Transgender

In 2011 I wrote “everybody on the planet is now encompassed within the category of transgender.”²³ And by everybody, I meant every living biological creature on earth. I now use the term transgender for nonhumans and this section will explain why. I used to use the term “transgender” as I knew it in relation to queer and transgender studies/cultures because it has become much more intellectually flexible than “transsexual.” Not only is transgender thought to be useful for its flexible ability to encompass a range of human genders and sexes, but also because it refuses the hetero and homonormativities that insist sex, gender, and sexuality be “correctly” aligned for gender, partnerships, sexual orientations, and sexual acts so that hetero/homo normativities make “sense.”²⁴ The popularization of the term transgender (starting in the 1990s) was an attempt by transgender communities, activists, and scholars to create their own discourses about sex, gender, and sexuality and to resist the abuse and authority of medical and psychiatric discourses of

transformation. Katie King’s concept of trans knowledges and flexible knowledges is the foundation for thinking about trans paradigms. Trans paradigms leave room for entire knowledge infrastructures to shift leaving knowledge and information open ended in which inter and transdisciplinary players can potentially become relational expertise in production.

²³ Bailey Kier, “Interdependent Ecological Transsex: Notes on Re/Production, “Transgender” Fish, and the Management of Populations, Species, and Resources,” *Women & Performance: A Journal of Feminist Theory*. 20, no. 3 (2010) 299.

²⁴ “Heteronormativity”—a term first coined by Michael Warner in the early 1990s and rooted in Gayle Rubin’s work on compulsory heterosexuality and the sex/gender system in the early 1980s—refers to the patriarchal heterosexual family as the normal and ultimate unit that supposedly upholds a functioning social structure. “Homonormativity,” coined by Lisa Duggan in 2003, refers to some LGBTQ cultures’ adherence to the norms of heteronormativity, which may include marriage, family structures, consumerism, etc. Gayle Rubin, “The Traffic in Women: Notes on the ‘Political Economy’ of Sex,” in Rayna Reiter, ed., *Toward an Anthropology of Women*, New York: Monthly Review Press, 1975. 157-210.; Michael Warner, *Fear of a Queer Planet: Queer Politics and Social Theory* (Minneapolis: University of Minnesota Press, 1993); Lisa Duggan, *The Twilight of Equality? Neoliberalism, Cultural Politics, and the Attack on Democracy* (Boston: Beacon Press, 2003).

transsexuality, which until very recently conveyed strict and heteronormative definitions of sex, sexuality and gender. The popularization of the term transgender allowed for new knowledge and cultures of gender, sex, sexuality, and identity to emerge without preconceived assumptions of sexuality and gender driving them. My initial use of the term transgender made sense—I wanted a flexible term that conveyed shared meaning that I could use to contribute to new knowledges being made about sex, gender, sexuality and ecology.²⁵ But then a friend simply said, “fish are not people.” It occurred to me that fish probably don’t have gender, and that

²⁵ There are multiple origin stories of the term “transgender” that reflect differing meanings of the term. The most famous scholarly origin story claims Virginia Prince coined the term in the late 1970s, not as the umbrella term its known as today, but instead to refer to people who cross-lived gender rather than cross-dressed without SRS (sex reassignment surgery). Prince’s distinction was important because it points to one of many beginnings of resisting medical models of normative sex, gender, and sexual categorical boundaries to articulate diverse gender variant identity categories. Many other events through the 1980s and especially in the 1990s set the conditions for popularizing this term into everyday usage in queer communities. In the 1980s, the AIDS crisis created conditions for queer people to begin resisting the authority of government and medical authority and abuse. Despite the fact that most of the early literature on transgender people was produced by medical “experts,” in the 1990s, mostly MTF transsexual people began to speak for themselves through the publication of autobiographies and the questioning of who gets to speak for transsexuals. Wendi Danielle Pierce’s 1991 article, “Who Speaks for the Transsexual?” problematizes some of the main issues trans people faced surrounding narrative, control and agency. The 1991 publication of Sandy Stone’s “The ‘Empire’ Strikes Back: A Posttranssexual Manifesto,” illustrates the shifts in transgender identity narratives in the late 1980s and was a major material “moment” in the politics of publication, in which the normative confines of the term transsexual began to be challenged with Stone’s insistence that sex, gender, and sexuality did not equate to some heterosexual fantasy. The 1990s also saw the gradual popularization of queer theory, studies, and culture which helped create even more of a space for transgender politics to emerge and flourish. Then in 1992, Leslie Feinberg published a pamphlet titled *Transgender Liberation: A Movement Whose Time Has Come*, which was circulated in trans, queer, working class, and socialist circles. The ideas developed in *Transgender Liberation* led to the eventual publication of the book *Trans Liberation: Beyond Pink or Blue*, which had a much broader circulation and was popular through the 2000s. Susan Stryker, a foundational leader in the field of transgender studies claims that Feinberg’s publication of *Transgender Liberation* “took a pre-existing term, transgender, and invested it with new meaning, enabling it to become the name for Stone’s theorized posttranssexualism.” (212); Virginia C. F. Prince, “Charles to Virginia: Sex Research as Personal Experience,” in *The Frontiers of Sex Research*, ed. Vern L. Bullough (Buffalo, NY: Prometheus Books, 1979); Wendi Danielle Pierce, “Who Speaks for the Transsexual?” *Women and Language* 14 (1991): 29-31; Sandy Stone, “The ‘Empire’ Strikes Back: A Posttranssexual Manifesto” in *Body Guards: The Cultural Politics of Gender Ambiguity*, ed. Kristina Straub and Julia Epstein (New York: Routledge, 1991), 280-304.; Leslie Feinberg, *Trans Liberation: Beyond Pink or Blue* (Boston: Beacon Press, 1998). Susan Stryker, “Transgender Studies: Queer Theory’s Evil Twin,” *GLQ* 10, no. 2 (2004): 212-215.

humans anthropomorphize gender onto other creatures, creating barriers for new knowledges to emerge. So, while transgender is a human socio-cultural construct that should not be extrapolated onto animals, at the time I used transgender as a starting point because the word tends to catch people's attention. Transgender has done that as both a trend and as a result of disgust. I assumed it was the most transgressive term to initially use in order to take transgender studies in new ecological directions.

However, David Valentine's *Imagining Transgender: An Ethnography of a Category* convinced me that transgender isn't the progressive magical term that so many of us would like to imagine. Valentine traces the production of knowledge surrounding the conceptual spaces of sexuality and gender in the United States and how they have been shaped through historical "developments" involving institutionalization of both transgenderedness and homosexuality. Valentine argues transgender has been imagined as a collective, progressive, and all-inclusive identity and political category since its inception in the early 1990s. I was using transgender to include everyone and everything! However, a deeper look into its histories, lived realities, contradictions, and utilities illustrates that the category transgender is not as neat, all inclusive, and ideal as many academics, social service providers, and activists would like to think. The imagined all-inclusiveness of transgender actually reproduces other hierarchies—especially race and class. And while it's commonly understood that the distinction, separation, and evolution of the terms of sex, sexuality, and gender in relation to the development of homosexuality and transgender seem to be progressive and historically cumulative in enlightened states of contemporary LGBTQ politics, in fact its history is much more complicated.

Valentine argues the distinction between sex and gender is more problematic than it has been imagined progressive. Valentine doesn't propose that sexuality and gender revert back to the conflation of early sexology, but he is concerned with the fact that transgender emerged in the 1990s at the same time homosexuality began to become more broadly accepted in U.S. culture. He argues that transgender has absorbed the previous gender inversion of homosexuality so that transgender is seen as a public category of difference and homosexuality is now understood as a private category of sameness to white middle-class notions of neoliberal acceptability.²⁶

After thinking about Valentine's argument, I realized why science, media, and government could so easily and inaccurately call the pollution-affected fish I describe in the next chapter "transgender." The description of "transgender" fish is a way to show that pollution and gender inversion are supposedly related and that gender inversion is a difference to be feared. It is public concern that focuses on the transgender category as spectacle, leaving little room for the class and racial politics of pollution to emerge which I show to some degree in the next chapter. It conflates sex and gender for animals who don't have gender. There is a reason the homosexuality of penguins and other creatures have been used as an argument for homosexual acceptability in humans. If there are homosexual penguins and seagulls, then it must be "natural" to have a few gay men and women for the diversity spectrum, especially if they are monogamous and behave to neoliberal expectations. But there are no arguments in popular culture that pollution-induced and so-called

²⁶ David Valentine, *Imagining Transgender: An Ethnography of a Category* (Durham: Duke University Press, 2007).

“transgender” fish—or even “natural” “transgender” creatures make human transgender expression a “natural” indicator of neoliberal diversity.

Now I refute my prior claim that everybody on the planet is transgender and the broad use of that term because humans are the only species that we know for certain experiences gender. Transgender is a useful term, but not one that can be applied to other non-human animals. Instead, I evolved to the use of trans and sometimes more specifically transsex to include nonhuman creatures, entities, and systemics.

Trans

For Eva Hayward, trans evades classification “for something more transformative.” That might seem like an oxymoron but it’s not. It’s an attempt to create new languages, cultures, meanings, and knowledge infrastructures about sex, gender, desire, and reproduction. For Hayward, trans:

...starts one place and ends in another place.” “Trans-,” a prefix weighted with across, beyond, through (into another state or place elsewhere), does the now familiar work of suggesting the unclassifiable. To be trans- is to be transcending or surpassing particular impositions, whether empirical, rhetorical, or aesthetic.²⁷

Trans is a verb of process and exceeds definite meaning and classification. Trans is defined by what it is not.

Trans: Interdependent Ecological Transsex

Hayward’s notion of trans is the root of my definition for interdependent ecological transsex. I add “sex” on the back of trans because I am interested in

²⁷ Eva S. Hayward, “More Lessons from a Starfish: Prefixial Flesh and Transspeciated Selves,” *Women's Studies Quarterly* 36, no. 3 (2008): 68.

transforming knowledge infrastructures about re/production. Sex is also a verb of process. I add sex to trans in order to incorporate the relational re/productive aspects of systemic ecologies. It is the doings of many things that eventually lead to production of many other things. Interdependent ecological transsex is “a term that is about queering ideas of re/production, and refers to dynamic ecosystemic relations of multiple ‘bodies,’ energies, and things –animals, humans, lakes, plants, uranium, etc. – which compose broader economic re/productive relations and energies of the bioscape.”²⁸ Shared interdependent transsex refers to bodies as constant processes, relations, adaptations, and metabolisms, engaged in varying degrees of re/productive and economic relations with multiple other bodies, substances, and things, in which no normal concept of re/production exists (as based on our common categories of sex, gender, and sexuality). It is a phrase that questions human-centered understandings of re/production, family, species, and kind, which align with developments of agriculture, capitalism, and the rise of the corporate (trans)national state as a governing apparatus that increasingly manages the basic elements necessary for human and animal life, e.g., water, food, shelter, meaningful work, pleasure, and a re/productive landscape and/or waterscape. The perpetual transformations and adaptations that transsex constantly engages in order to re/produce are what bodies have in common. Commonality does not necessarily mean sameness, but is a factor

²⁸ I use the term “bioscape” instead of “biosphere” for a few different reasons. The term biosphere conjures assumptions of life contained within a spherical planet earth. Bioscape here refers to both life and energies in relation to an un-round earth, and also its relations to multiple other possible planes, elements, assemblages, and processes. These various scapes may or may not be considered “alive” by conventional human standards, but all contain energy in some form and/or relation and from or for some time. Commercial and military landscapes, jetscares, oilscares, foodscares, microwavescares, mountainscares, sunscapes, and waterscares, are a few examples of various systemic energy infrastructures. Bioscares is a terminology tactic to unpack processes, components, and “bodies” within, among and beyond the biosphere.

which unites all things into re/productive interdependent transsex—it crosses populations, species, and things of incalculable differences.

Embracing our shared transsex is one component of many that will be needed to address the vast social and ecological problems we face in the unfolding century. As some of the basic necessities for human and animal life—water, forests, agriculture, seeds, migration, knowledge, and shelter—become increasingly privatized and controlled by world corporations, evolutionary re/productive arrangements and relations—which were developed over thousands, perhaps millions, of years—are being rearranged in a very short period of time. This rearrangement in the speed of re/production is made possible largely through the concentrated energy of ancient sunlight and life: fossil fuels. Fossil fuels are the backbone of the corporate economy and possibly the most politically charged substances of the twentieth and twenty-first centuries and continue to be central in the political and economic decisions of the world’s elite.²⁹ Non-elite human and non-human bodies also make “decisions” in re/productive and economic relations that need greater consideration in the politics of globalization. Political ecology should refer not only to the decisions humans make to manage their ecological land and waterscapes, but also should include the decisions non-humans make as well. Interdependent transsex is a mode of conceptualizing systemic relations and queer ideas about politics and identity, in order to create the possibility for humans to observe and interpret the “decisions” non-human bodies, relations, and systems make. This perspective situates humans as

²⁹ The railroads wouldn’t have proliferated on steam engines powered by wood—the wood in the Eastern, Midwest, and Southern United States was more than half gone by the mid 19th century.

merely one component among many in re/productive relations—and one which has a great deal to learn from the politics of interdependent transsex, or the various interrelated decisions systems and things make.”³⁰

These rearrangements in re/production emerge at the cusp of what Donna Haraway has called naturecultures, or “the co-histories and co-evolutions of humans and other organisms.” These co-histories and co-evolutions are where “flesh and signifier, bodies and words, stories and worlds” are joined, various parts “don’t add up to wholes,” and only “partial connections” are possible.³¹ Interdependent ecological transsex engages partial connections and negates fantasies for quests of an (inter)disciplinary whole; it attempts to think more systemically about the interdependence of living and non-living systems. It engages Evelyn Hammond’s notion of a queer geometry for knowledge worlds, capable of illustrating what gets produced as invisible silence in relation to what is knowable, discernable, and readily apparent. Hammond, concerned with the invisible silence of black women’s sexuality, wrote that mere visibility “does not erase a history of silence nor does it challenge the structure of power and domination,” but that our goal “should be to develop a ‘politics of articulation’” capable of interrogating “what makes it possible” for people “to speak and act.”³² My goal in using the term interdependent ecological transsex is to take the transgender fish story—which has made the threat of ecological transsexuality visible in popular culture—and illuminate taken-for-granted

³⁰ Bailey Kier, “Interdependent Ecological Transsex,” 299-300.

³¹ Donna Haraway, *The Companion Species Manifesto: Dogs, People, and Significant Otherness*, (Chicago: Prickly Paradigm Press, 2003) 12, 20, 25.

³² Evelyn Hammonds, “Black (W)holes and the Geometry of Black Female Sexuality,” *Differences: A Journal of Feminist Cultural Studies* 6, nos. 2–3 (1994):141.

assumptions about anthroheterocentrism and transphobia in order to develop a politics of ecological interrogation capable of questioning the normative ways populations, resources, and species are managed in order to allow new possibilities for transsexuality, climate change, and systemic relations.

Again I return to the sentence I wrote in 2011: “everybody on the planet is now encompassed within the category of transgender.”³³ I made this claim because in the 1990s scientists named EDCs (endocrine-disrupting chemicals) as a new category of pollutants—DDT (dichlorodiphenyltrichloroethane), PCBs (polychlorinated biphenyl’s), and POPs (persistent organic pollutants) are a few of the more popularly known EDCs that permeate life on nearly every inch of the planet.³⁴ EDCs affect multiple biological processes including metabolism, development, and cognition, but sex and reproduction have held the forefront. EDCs, like every other environmental and social factor, have the capacity to sexually transform “us” all. Such a sweeping and ambitious claim—that “everybody on the planet” is incorporated through circumstances that induce sexual and/or reproductive trans-formations has helped, through additional research, to now craft a very different argument. I no longer think “everyone is encompassed within the category of transgender” and find such a claim rather sloppy. Rather, we are all full of transsexual possibility and clearing up the evolution of my use of terminology will help craft this argument.

At the time I used the word transgender intentionally, comprehensively, but also problematically, in the development and definition of the term interdependent

³³ Bailey Kier, “Interdependent Ecological Transsex.”

³⁴ Helen Phillips, “Pollution Hits New Heights,” *Nature*, October 15, 1998. Accessed January 1, 2014. <http://www.nature.com/news/1998/981015/full/news981015-2.html>

ecological transsex. I used these terms interchangeably and sloppily to explain sexual transformation as perpetual transformation and as a form of queer planetary belonging where no bodies are neither static nor independent, and which are all always and already in transformation as interdependent systemic relations. I went further, attempting to explain how investigating ecological systemic processes of “transgendering” is an asset for addressing social and ecological problems while exposing significant foundational cracks in the knowledge infrastructure of re/production as the *result* of contact with endocrine disruptors. As a series of categorically interconnected static binaries (culture/nature, human/animal, male/female, sex/gender), these foundations have informed human knowledge about evolution, sexuality, race, gender and desire, which, in turn, all influence how re/production is assumed, studied, understood, utilized, and managed. While queer and transgender politics have made immense strides, what has not been considered enough is how queer, transgender, heterocentric and anthropocentric perspectives have informed what we know about the “Natural” world and how that impacts environmental, population, and resource management politics in the age of climate change.

I assumed that transsexuality was a *result*, something that came *after* exposure to pollution. But the deeper I got into analyzing scientific, media, and public policy discourses of endocrine disruptors, research in queer ecologies, and my own experiences, the more I realized anthroheterocentric assumptions were the foundation for knowledge infrastructures about endocrine disruptors. I also realized that anthroheterocentrism (defined below) had also guided my own research and

assumptions and still probably do. Instead, I suggest, what I've called interdependent ecological transsex is not just an *effect* (but can be), but might be better thought of as a *precondition* of systemic relations with multiple potential outcomes and effects including anything from evolutionary reproductive adaptation, potential splits in "speciation," socialization, as well as disease and potential reproductive dead ends.³⁵ Now I make an even more ambitious claim that we're all full of transsexual potential with and without planetary pollution. But this time with a more precise terminology as well as analysis of media, scientific, and public policy discourses of pollution and sexual/reproductive transformation. I argue that transsexuality—or what I define as independent ecological transsex might be one of several driving forces of evolution, and that the continuing popular cultural and scientific paradigm of (hetero) sexual selection is badly misguided for its anthroheterocentric assumptions.

My claim that everybody—in this case, literally *every body*—is interdependently transsex is not intended as the next inclusionary progressive step in the explosion of signifiers, aesthetics, bodies, commodities and identities that have increasingly become encapsulated within the category trans. In fact, I am rather apprehensive of (although interdependent and indebted to) the use of trans as solely associated with individual human identities and the economies of desires and consumption surrounding identity as we mostly know it. I am not against identity, but I think identity needs to be radically re-conceived in ways that de-center the human,

³⁵ While disease or "abnormal" form is often considered a main factor for deeming a species less fit and thus less desirable for a reproductive future, disease and what I'll call queer form need to be re-thought in particular contexts. For instance, we know that disease (the thriving of one or more forms of life) can bring immunity to the host and sometimes the offspring as well. Additionally, sometimes reproductive dead ends are not only a benefit to a species, but to other species that might sustain the initial species as well.

so that various, perhaps endless, interrelated components of global ecology can be regarded as giving life and death to the human.

I use the term “transsex” to refer to the transformations in the re/production of the larger earthly, interdependent ecologies that have been radically altered through world wars, industrialization, and expansive exploitation of resources, species, and populations. I use transsex as a term broadly defined through a hormonal, metabolic, and adaptive prism to constitute not just human transsexuals, but multiple and possibly endless other bodies, including but not limited to humans, livestock, fish, bodies of water and even the so-called normative bodies of white, middle class Americans who may or may not eat meat and dairy but who consume or are in proximity to water, food, products that contain both human made chemical EDCs but also EDCs that might occur naturally in the environment. Bodies of water and foodscapes contain and are carriers of EDCs. For my sexed body to have been born and survive, systemic reproduction on multiple layers and levels had to occur that not only included my parents conceiving me, but weather to water the once wind-blown seed that humans collected long ago, and then planted for bees to eat and survive to pollinate the flower and turn it into seeds for human sustenance. Additionally, all human bodies go through hormonal changes throughout their lives, whether that be the normative progression of puberty and then the decline of sex hormones with older age or, fluctuating hormonal levels due to illness or simply the uniqueness of a bodily ecology. Furthermore, many common diseases influence human endocrine systems including diabetes and thyroid disorders. These are just a few examples of how humans are not static sexed beings at birth—that is just a

western knowledge infrastructure of sex and gender. The scope of transsex defined through this hormonal prism is far reaching and global, and potentially encompasses every body on the planet.

It is for the de-centering of the human I seek to reimagine the concepts of both trans and identity. Transgender is a category associated mostly with postindustrialized nations of the West, but which is also meaningful in other parts of the world. It is mostly used to describe individuals who do not fit neatly into normative notions of human re/production in which the category of sex has an imagined clear, distinctive, and essential male and female. Transgender relies upon an understanding of gender that is dependent and distinguished, yet closely associated with the category of imagined essential sex. Gender is largely thought of as a constructed human category, a cultural universal displaying diversity across cultures, while sex is considered an essential universal of “Nature,” although much scholarship in the humanities and social sciences now situates sex as a socially constructed category. The prefix trans – meaning to cross, go beyond, and to change – when combined with gender, means to go beyond, to change and to cross the anthropocentric category of socially constructed gender. Transgender as a category is also closely associated with ideas about human individual identities and imagined and real human collective communities, even as David Valentine has shown that the category conveys different meanings to many of those who use it and to those it is used to describe in the same local contexts.³⁶ So why does the term transgender continue to commonly be held in close association with the human, when the term literally means to change and disrupt

³⁶ David Valentine, *Imagining Transgender*.

the human-centeredness of the category of gender itself? Transgender as a category is just as much about queering the human as it is about queering sex and gender.

Because of the human-centered paradox of the category of transgender, I prefer the term transsex in this essay, in an attempt to use another (just as problematic) signifier to expand the trajectory of transgender studies and to describe the eco-systemic relations and negations of re/production of multiple species and things. To change, go beyond and across normal meanings of sex is to expose the queer relations of re/production of multiple species and things.

Anthroheterocentrism

The term anthroheterocentrism pairs the concepts of anthropocentrism and heterocentrism. Anthropocentrism is a normative philosophical world view that holds humans as the most significant, supreme, and central species on the planet. It posits humans hold more value than other entities which are just resources for human exploitation. As a worldview, the only reality that matters is the reality through human perspective. Heterocentrism, a term used a lot less but in the same ways as heteronormativity, is the assumption that heterosexuality is the “normal” and fundamental organizing system for sex, gender, sexuality, and reproduction.³⁷

Queering the Non/Human, a foundational anthology for the field of queer ecology is

³⁷ The term “heteronormativity” has been used extensively in queer and feminist studies, whereas heterocentrism appears more often in the fields of social work, religious critique and the social sciences. I was not able to find a genealogy of the term heterocentrism, but it is interesting to note that the first usage I found of the term was from a 1938 essay in the academic journal called *Social Forces*. John H. Mueller in “Heterocentrism—Proposing a New Term” described heterocentrism as the opposite of ethnocentrism. Mueller writes: “If the cultural heritage may perpetuate the chosen people complex, it may also, as at times among the Negroes, perpetuate the belief that salvation and contentment will be achieved only in slugging off their own folkways in favor of the superior foreign traits. This orientation toward patterns of the alien standards we may call heterocentrism.” John H. Mueller, “Heterocentrism: Proposing a New Term” *Social Forces* 17 (1938-1939): 414-415.

an overall critique of queer theory for its reliance on humanism and anthropocentrism. It uses queer theory as a way of theorizing beyond the confines of humanism and posthumanism to question normative notions of anthropocentrism or what Alice Kuzniar has called anthronormativity.³⁸ I use anthroheterocentrism in much the same way in order to be critical of normative anthropocentrism but to illustrate that anthroheterocentrism is knowledge infrastructure. Scientific, media, and governmental assumptions about sex, gender, sexuality, reproduction, species, and evolution rely on the human and specifically human heterosexuality as the central focus from which to extrapolate all expectations about reality and “Nature.” Even though gay penguins and transgender women defy the expectations of the anthroheterocentrism of the scientific method, governmental laws, and anticipation of the media, notions of contemporary neoliberal biodiversity, inclusion, and ethics posit that queer and mistreated humans and animals be afforded the same or at least similar “rights” as white heterosexual maledom.

Transphobia

The term transphobia, like homophobia, describes the fear, disgust, hate, and other negative emotions and ideas about gender that don’t meet society’s expectations. Transphobia has been applied exclusively to humans and its definition must be widened for the utility it holds. The more recent term, which is often used interchangeably with cissexism, assumes human biological sex determines gender and

³⁸ Noreen Giffney and Myra J. Hird, eds., *Queering the Non/Human* (Aldershot, Hampshire, England: Ashgate, 2008), 6-7; Alice Kuzniar, “I Married my Dog: On Queer Canine Literature,” in *Queering the Non/Human*, 213.

that cis people are biologically and evolutionarily superior to trans people. I want to distinguish the use of both terms and to expand the use of transphobia beyond the human (although it's useful for the human as well) to utilize its literal meaning. As mentioned previously, Hayward defines trans as starting one place and ending another. As a prefix "weighted with across, beyond, through (into another state or place elsewhere)", trans suggests the unclassifiable. For Hayward, trans "is to transcend or surpass "particular impositions, whether empirical, rhetorical, or aesthetic."³⁹ If trans is unclassifiable, then it is a verb, always going across, beyond, and through. Trans is change that is perpetual relational transformation that constantly renegotiates all kinds of borders—physical, biological, intellectual, and practical. Because trans contains the value of perpetual transformation in terms of relationality to multiple possible things, trans is the root and foundation for both the study of and materiality of ecology. Trans is ecological transformation that deviates from anthropocentrism. Transphobia literally translates to fear of transformation and the fear to go beyond, across, or through to another form. Literally transphobic means fear of change. And we know our environment is changing. Mainstream environmental discourses of ecocatastrophe in the media—super storms, droughts, the melting of glaciers and polar ice caps and the CO2 they'll release, overpopulation, collapsing foodscapes, the sixth mass extinction, and deforestation are just some of the ways that the world is transforming. Mainstream environmental discourses are transphobic because they fear not only the changes that are happening to the environment, but also because I believe humans fear the behavioral, economic,

³⁹ Eva S. Hayward, "More Lessons from a Starfish," 68.

societal, lifestyle, and intellectual transformations that will be necessary to equitably sustain each other and the resources we depend upon for survival.

Endocrine Disruptors and Endocrine-Disrupting Chemicals (EDCs)

Endocrine Disruptors or Disrupting Chemicals (EDCs) are a category of pollutants that have been classified as such for their ability to interfere with the endocrine systems of living things. This category of pollutants includes thousands of “Natural” and synthetic substances pertinent to everyday life. While hundreds of different types of plants emit EDCs, the primary concern has focused on synthetic and waste materials contained in plastics, food, water, pesticides, and sewers. The development of the category of EDCs in the 1990s and the vast concern that has followed arise from a complex and interconnected history of developments in the petrochemical, pharmaceutical, agricultural, and synthetic industries and their relationships to the mass mono mechanization of industrial agriculture, eugenics, the “invention” of homo/hetero/trans sexualities, the organization of space and zonings of the landscape ((sub)urban runoff and agricultural management), environmental activism, and advances in scope and scale in medicine, toxicology, and biology. A comprehensive interdisciplinary history investigating EDCs and these intersections is a huge undertaking beyond the scope of this project, but I do touch on some of them.

Simply defined, EDCs are a broad category of substances categorized by scientists because of proven or assumed effects on the endocrine systems of living organisms. EDCs are not defined according to physical characteristics, things, or substances, but the *effects* they have on a living organism. The effects that have been of primary concern are hormonal effects even though the endocrine system is much

more complex than mere hormones. EDCs have become an increasing concern in postindustrial societies for their substantial impact in rearranging distributions of hormonal ecologies resulting in biological transformations in organisms and ecosystems.

The term “endocrine disruptor” emerged in 1991 when a multidisciplinary team of 21 researchers met for a work session at the Wingspread Conference Center in Racine Wisconsin to discuss the “Reproductive Effects of Chemical Contamination.”⁴⁰ Theo Colborn, a zoologist and leading organizer of the conference, was one of the first scientists to suggest and vigorously peruse the hypothesis that synthetic chemicals might possibly mimic hormones. The conference was organized because Colborn with a group of other scientists studying wildlife health in the Great Lakes region insisted that the health of the Great Lakes had not dramatically improved as many others had claimed. Although populations of fish and birds had rebounded since the 1970s, Colborn and other scientists were seeing increasing problems with the offspring of wildlife. Even though animals living within the Lakes were now reproducing in a way they hadn’t previously after the World War II chemical revolution, their offspring were now plagued with problems.⁴¹ The problem was no longer direct death or even the inability to reproduce, but sexual and developmental problems of offspring (and potential offspring) after reproduction has occurred.

⁴⁰ Berm, et al., “Statement from the work session on chemically-induced alterations in sexual development: the human/wildlife connection.”

<http://www.ourstolenfuture.org/consensus/wingspread1.htm>

⁴¹ Theo Colborn, Dianne Dumanoksi and John Peterson Myers, *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story* (New York: Dutton, 1996) 23-27.

The inception of the term “endocrine disruptor” and soon thereafter, the popularization of the acronym EDC, represents a major shift in how the scopes and scales of pollution, environmental degradation, transsexuality, and reproduction, are imagined, researched, and politicized. Public attention and research on how synthetic and (“organic”) industrial chemicals affect ecosystems and life webs became common knowledge to many after the 1962 publication of Rachel Carson’s *Silent Spring*. However, research investigating how absorption of synthetic chemicals might mimic hormones effecting endocrine systems and impacting multi-generational sexual reproduction of a species did not emerge until the 1980s and did not garner public attention until the mid 1990s after concern from researchers, the U.S. public via the internet, and the U.S. Government influenced an explosion in research.

Carson’s work is popularly known for being a major influence in igniting the modern environmental movement, which demanded the banning of certain chemicals in the U.S. and influenced increased research investigating the effects of industrial pollution on wildlife and public health. From Carson’s influence in the 1960s until about 1990 the assumptions guiding research were based on the mostly observable consequences of bioaccumulative effects through exposure and connection through food chains in which the consequences for concern in the first place was poisoning, cancer, death, and direct reproductive complications and/or inviability. Dead fish, cancerous humans, and dwindling bird populations who lived near the sites of industrial pollution garnered the attention of everyday citizens, not just from increased media exposure, but also by what they directly observed in their communities. The scope of this problem was observable to the human eye because of

the direct effects on communities and wildlife. It was most often based in proximity—close proximity—to industrial pollution and waste sites and the paradigm of the time was cancer and observable malformations of life. However, starting in the 1990s scales of surveillance had significantly begun to shift for government and science and a molecular view of life began to guide not only research but public policy. By the 1990s science had produced a visible transsexual human community which became a lot more resistant to medical models of sex, sexuality, and gender than the scientific community probably ever imagined.

The term is defined and recognized by the government as a major public health and wildlife concern. The National Institute of Environmental Health Sciences (NIEHS—a research institute within The National Institute of Health and under by the U.S. Department of Health and Human Services) published a public health pamphlet, “Endocrine Disruptors,” in 2010. The pamphlet provides the public an overview of what endocrine disruptors are, exposure factors, health effects, research, and provides specific examples of EDCs such as Bisphenol A (BPA). According to NIEHS:

Endocrine disruptors are naturally occurring compounds or man-made substances that may mimic or interfere with the function of hormones in the body. Endocrine disruptors may turn on, shut off, or modify signals that hormones carry, which may affect the normal functions of tissues and organs. Many of these substances have been linked with developmental, reproductive, neural, immune, and other problems in wildlife and laboratory animals. Some research suggests that these substances are also adversely affecting human health in similar ways, resulting in reduced fertility and increased incidences or progression of some diseases, including obesity, diabetes, endometriosis, and some cancers.⁴²

⁴² National Institute of Environmental Health Services. “Endocrine Disruptors.” May 2010. Accessed September 15, 2013. http://www.niehs.nih.gov/health/materials/endocrine_disruptors_508.pdf.

While NIEHS's definition of endocrine disruptors acknowledges systemic bodily effects between tissues, organs, growth, development, energy levels, and homeostasis, its central focus is on risks to reproductive health. Reproductive concerns, especially regarding males, are central to how the category of endocrine disruptors has developed. In the section titled "Endocrine Disruptors May Impact a Broad Range of Health Effects," four out of the five adverse health effects are listed as reproductive. According to NIEHS, endocrine disruptors *may* (emphasis original) cause:

"Reductions in male fertility and declines in the number of males born. Abnormalities in male reproductive organs. Female reproductive health issues, including fertility problems, early puberty, and early reproductive senescence. Increases in mammary, ovarian, and prostate cancers. Increases in immune and autoimmune diseases, and some neurodegenerative diseases."⁴³

EDCs, thus, are a diverse category of substances that have warranted distinct attention from science, government, and media, not just because they pervade all regions of the world, but specifically because of the attention given to sexual and reproductive effects with a particular focus on threats to males. They are not something that preceded their effects. ECDs must not merely be understood as substances of transsexual reproductive catastrophe that popular culture exhibits, but also as a knowledge category which includes an expansive breadth and diverse array of substances which will continue to have a substantial impact producing layered and

⁴³ National Institute of Environmental Health Sciences. "Endocrine Disruptors." 3.

interdependent configurations of accumulation, transformation, toxicity, permeability, extinction, and adaptation.

I have provided these definitions in the introduction in order to provide context for the discussion of interdependent ecological transsex throughout the rest of the dissertation. As I've mentioned and will elaborate upon throughout the dissertation, transgender has been used as a sign for ecological catastrophe. The next section explains what I mean when I use the term eco-catastrophe and how it related to notions of sustainability and economics.

Eco-catastrophe and Sustainability: Considering Economics

I use the concept of eco-catastrophe to refer to the dire circumstances we face in the 21st century, the result of a multitude of problems wrapped up simultaneously in both economic relations and ecological relations. It is also a discourse in its own right. As the emerging field of ecological economics makes clear, “the disciplines of ecology and economics are about to be married,” as the world grapples with the depletion of resources and biodiversity and the major first world economies expand capital through innovations and patenting of biotechnologies.⁴⁴ The root term “eco” is from “oikos,” a Greek word meaning “household,” rooted both in economics and ecology.⁴⁵ While the concepts of environmentalism and ecology have different histories (which will be examined in greater detail in the dissertation), for now I use “environmentalism” to refer to the various discourses of state governing of

⁴⁴ Garrett Hardin, “Paramount Positions in Ecological Economics,” in *Ecological Economics: The Science and Management of Sustainability*, ed. Robert Costanza, (New York: Columbia University Press, 1991), 47.

⁴⁵ Michael S. Common and Sigrid Stagl, eds., “An Introduction to Ecological Economics” in *Ecological Economics: An Introduction* (New York: Cambridge University Press, 2005), 1.

populations and resources, and “ecology” to mean the broader bioscope of symbiotic relations. With this in mind, it must be acknowledged that ecology is the backbone of human economics in whatever form—and current global political economy continues to destroy this backbone. The current economic order must change or we face catastrophe in many possible forms, including the possibility of human-enacted genocide disguised in the form of “nature” to address the “problem” of overpopulation. However, the dire circumstances we face create the possibility for creating new economic relations with minimal chances for catastrophe. For instance, Paul Hawken has shown how restorative symbiotic human economies are possible. Hawken argues that an ecologically based “restorative economy” could possibly reconstruct the global economy and bioscope by making better use of resources through a more direct temporal relation to the sun.⁴⁶ A “more direct temporal relation to the sun” includes relying on the sun for energy and seasonal food—industries that could grow new local economies and compete with unsustainable practices of global agriculture (shipping, energy eating storage and transportation, monocropping, pesticides, etc.) and fossil fuels (very old sun energy and plant life).

The concept of “sustainability,” while currently in fashion, might not be the best term to address the circumstances we face. While the term is often used in reference to natural resources, it also refers to economic viability. I include it as an organizing concept because it is so widely used and because it needs further critique. “Sustainability” was initially meant to describe political, economic, and ecological practices that would at least sustain and perhaps even restore the natural resources

⁴⁶ Paul Hawken, *The Ecology of Commerce* (New York: Harper Collins, 1991).

available to further generations, but the term has become problematic, and in some ways, a contradictory concept. While the term has been used to make the general point that humans need to clean up our act, it falls short because merely *sustaining* natural resources fails to adequately address the economic activities that caused ecological damage in the first place. Adrienne Parr's work, for example, shows how the concept of sustainability, intended as a proactive environmental concept, has been hijacked by corporate and militaristic discourses and practices not to fix deep ecological problems, but to perpetuate and exacerbate them even further in the name of economic progress.⁴⁷ This project intentionally uses "sustainability" as a problematic concept in order to address the conservation of local symbiotic ecological relations that create resources, but also the conservation of corporate economic practices which limit abilities for conserving the ecological backbone.

Contingencies of Belonging: Toward a Framework of De-Centering the Human

I use belonging in order to talk simultaneously of difference encompassing categorized humans and specific cultures of place, but also sameness in terms of the basic things that unite people in what it means to be human—adequate shelter, nutritious food, clean water, "community," recreation, and meaningful work. I also use belonging to talk about non-human associations and placements of things and life forms including such things as chemicals, fish, memorials, and skyscrapers. Additionally, a belonging framework encompasses issue of place, forcing issues of

⁴⁷ Adrian Parr, *Hijacking Sustainability* (Cambridge: MIT Press, 2009).

differentiation and sameness—human, material, and otherwise—toward spatial orientations.

In American studies and the humanities in general, differentiation has been approached mostly through the lenses of identity and intersectionality. While intersectionality has indeed been necessary to show how multiple socio-cultural categories are simultaneously enveloped in social structures, both “identity” and “intersectionality” are limited by their human-centered assumptions, largely ignoring the ecological backbone of economic conditions that create conditions of inclusion and exclusion. A belonging framework incorporates understanding human identities thought intersectional analysis, but also integrates an awareness and inclusion of nonhuman elements in the ecology to which one or something belongs. Belonging can be both “home” for someone or something, but its symbolic realm also works to exclude people and things based on assumptions people have about it. Belonging simultaneously includes and excludes. Belonging is an entity of place. Humans say someone or something belongs in a place or space because of the cultural assumptions we have about a person or thing. Place for humans creates uniqueness of culture because the surrounding environment of landscape, plants, animals and other resources create shared types of shelter, food, knowledge, recreation, work, stories, etc. A belonging framework allows for assemblages of people and things to be examined for not only what unites and divides groups of people in terms of culture, but what elements and resources in the surrounding environment contribute to why humans occupy certain places, what their relations are to their resources, and why they include and exclude others (other people, species, and things) in their culture and

environments. While assemblages models have been critiqued for their ability to literally encompass everything, possibly diminishing their analytic power, they also provide the opportunity to engage analysis of belonging beyond human beings, and even de-center humans in a way where relationships between the management and containment of people and “nature” can be made visible.

I use Jasbir Puar’s assemblages model to incorporate non-human elements of belonging and the environment in order to map relations between the intersections of human identities and trace relations between human behavior and interdependent ecologies. For Puar, the assemblages model is “an affective conglomeration that recognizes other contingencies of belonging” and a “series of dispersed but mutually implicated and messy networks” drawing “together enunciation and dissolution, causality and effect” and “organic and nonorganic forces.”⁴⁸ It is through these “other contingencies of belonging,” this project theorizes particular spaces and places deemed fit or unsuitable for particularly categorized humans, resources, toxicities, and symbiotic ecological relations. In other words, it is widely agreed that a trash pile doesn’t belong in a national park, yet it is okay to put a landfill by a river or next to a neighborhood not deemed as beautiful or culturally significant as a national park. The trash pile will belong somewhere. It is a belonging framework that allows us to question which place is suited for waste and why. For instance, a trash pile on the volcanic rocks in Lassen Volcanic National Park might have fewer widespread ecological consequences than the landfill right above the Cedar River in Washington state.

⁴⁸ Puar, *Terrorist Assemblages*, 211.

The problem of assemblages potentially encompassing everything can be addressed by acknowledging that it is impossible to include everything, which leaves the quest for knowledge an open process. This is a powerful realization because it actively promotes that no knowledge system is ever complete and is always partial and in some ways challenges scientific and disciplinary notions of authority.

This project considers what more ethical models of belonging might entail based on Puar's insights but extending in the direction of Simone Weil's work on the distinction between rights and obligations. For Weil, rights "are always found to be related to certain conditions,"—conditions embedded in the various interrelated mechanisms of social structures, the state, and hierarchical personhood.⁴⁹ Obligations, on the other hand, are "not based upon any *de facto* situation, nor upon jurisprudence, customs, social structure, relative state of forces, historical heritage, or presumed historical orientation."⁵⁰ Rather, all humans "are bound by identical obligations" which might be enacted diversely depending upon context, but which can be collectively encapsulated by the overall obligation of respect.⁵¹ Obligations are "only performed if the respect is effectively expressed in a real, not a fictitious, way; and this can only be done through the medium of Man's earthly needs."⁵² Thus, this model of belonging attempts to theorize belonging, not in terms of rights based on socio-cultural categories of identity, but through the concept of obligations performed through humans' earthy needs—or ecology as the backbone of human economies.

⁴⁹ Simone Weil, *The Need for Roots: Prelude to a Declaration of the Duties Towards Mankind* (New York: Routledge, 2002), 4.

⁵⁰ *Ibid.*, 5.

⁵¹ *Ibid.*, 4, 6.

⁵² *Ibid.*, 6.

The following schematic of the four chapters below shows how I will address the various issues discussed above, and how this will contribute (at least partially) missing links to the misguided conception of the “progress” and “success” of the Great American Experiment, and also the study of the Great American Experiment.

This project is comprised of three central research chapters with several subsections and a conclusion. In the first chapter I examine the Theodore Roosevelt Memorial and Island as a cultural landscape depicting Roosevelt as a celebrated icon associated with the rise of mainstream environmentalism in the United States. Roosevelt will be examined as a symbol, combining cultural landscape analysis of the memorial with historical analysis of his writings in order to analyze environmental discourses of manhood, the state, development, conservation and nature, and consider how these discourses bleed into contemporary mainstream biopolitical environmentalism. I also show how the island itself and the other entities it is in relation and transformation to, render the island and its various components a partial agent is making and transforming the island itself. In the second chapter I examine the “emergence” of “transgender fish” in the Potomac River and how this manifestation of transgenderedness is being used by mainstream media as a sign of reproductive and eco-catastrophe. In chapter three, I investigate our inherently queer reproductive relations with the land, with a specific focus on the category of queer farming and agriculture in the Potomac River Basin. Finally, a conclusion will tie together the findings of the three research chapters in order to theorize what a queer eco-ethic might entail.

On the Role of Personal Experience

In addition to scholarly influences, personal experience has played a large part in the development of the ideas in this dissertation. My thinking—not only about this dissertation but about nearly everything—has been significantly shaped not only by academic scholarship but also by my personal physical experience of both what is conventionally considered “Nature” (e.g., woods and streams) and my experiences as a transgender person. While at first these experiences seemed like separate categories of ideas even to me, they have now come to be integrated in my thinking, just as my experiences of them have been integrated into my personal history.

I spent most of my childhood outdoors in the rural Pacific Northwest. I knew from an early age that I didn’t want to be a feminine little girl, and for a while had my third-grade teacher convinced that I was a boy named Vic instead of a girl named Victoria. My family lived in a rural area, and my father had a side business as a farrier, so there was a barn and a small pasture for horses. I spent a lot of time playing outside with my sisters and cousins—camping, playing in the pond and the woods, riding horses, racing bikes and motorcycles off hills, and generally doing a lot of fun and and foolishly dangerous things. I learned how to navigate my way through the land by referencing the creeks and rivers. Everybody had a garden, my grandmother kept chickens, and most of the men in my extended family hunted, so unlike many people my age I grew up seeing a very direct relationship between my food and where it came from (or at least some of it, the rest of it being mass-produced industrial food such as dried milk, cheese slices, and hot dogs). I experienced “the natural environment” by running through it, climbing it, and being made thoroughly

soggy by it. I lived in a world where horses, goats, and dogs were as saturated with personality and individuality as the human beings that cared for and managed their lives.

These experiences were complicated and challenged to some extent in college, where I discovered LGBT studies, but even more so when I came to graduate school in Maryland. The landscape was shockingly different from the Pacific Northwest, and at first I was astonished that I could see *through* the woods in the winter. I had lived in urban environments before, but never one so constantly noisy, and foreign in many other ways. I felt out of place here for years, until I took a job as a live-in gardener for a wealthy family living a few hundred yards from the Potomac River and truly got to know the plants and animals of the area.

This sense of environmental displacement was experienced concurrently with and mirrored my increasing discomfort with my own “natural” body, furthering my understanding that I needed to transition to a more masculine body and a male social identity. Beginning testosterone, however, was also the beginning of a kind of environmental displacement, even though it was one I welcomed. Testosterone changed my appearance as well as the way I thought and felt, my energy, even the way I perceived things physically through my senses of sight, smell, and taste.

There was also an ongoing tension between the rigidity of the boundaries of some kinds of categories (e.g., the classic example of the men’s bathroom or the women’s bathroom) and other circumstances where either the categories were not so oppositional and polarized or where multiple categories might be occupied at once. Generally speaking, people wanted to think about transitioning as a neat and

simplistic change, but it's an intrinsically messy process and I often found myself trying to make sense of things but lacking categories that made sense or bore any relationship to my actual experience. Sight is frequently used as a metaphor (the “female perspective” or the “male gaze”) to talk about gender, but for me it was absolutely literal, and my peripheral vision narrowed markedly when I began taking testosterone. Peripheral vision is not ordinarily understood as something gendered. Yet for me it was definitely part of an experience that was all about gender, intrinsically connected to testosterone and a distinct and discernible part of my physical, bodily lived experience, but something that existed without any framework to think about it. To be transgendered is to be constantly confronting the categories of gender in both obvious and subtler, less easily defined ways, and to be coming up short in terms of productive ways to engage some of these tensions, either intellectually or in terms of lived experience.

My concurrent sense of environmental displacement and the surreal experience of gender transition thus combined to put me in a frame of mind that made the academic work of a particular small group of interconnected scholars especially compelling to me. Donna Haraway, Katie King and Eva Hayward have all produced scholarship focusing on varying kinds of “trans”-ness, in the sense of “trans” meaning “across.” Haraway’s work on “trans-species” made me reexamine not only the way I thought of animals as species subordinate and unastounding compared to humans — both pets and wildlife—but forced me to reexamine both humans and animals as solely distinct independent species. Additionally, those of us living in the post-industrial United States are living with technology because of past relationships to

horses and livestock which enabled the agricultural societies to flourish. Bacteria cells outnumber human cells in the human body.⁵³ We are not just human. King's work and teaching about transmedia practices and transknowleges greatly influenced my thinking because I was lucky enough to take classes with her. King challenged and sometime demanded I think about trans-ness outside of my own trans experience. She insisted that my trans experience was important, but that there was so much more for me to experience, discover, and think about in terms of trans-ness. I will be forever grateful to her for demanding this. It got me out of my own self-absorbed transition drama and into a state of curious discovery and study of the environment around me. For the first time in my adult life I began thinking about things other than my battle with gender everyday. Through her teaching and her book *Networked Reenactments: Stories Transdisciplinary Knowledges Tell*, King taught me that production of knowledge is flexible and can be a creative process.⁵⁴ Eva Hayward's work on "transpeciation" encouraged me like King and Haraway to think differently about what it means to be both human and trans, and to expand trans theory beyond the human so that trans "is not a thing or being, it is rather the processes through which thingness and beingness are constituted" that is prepositionally oriented—marking the *with, through, of, in, and across* that make life possible."⁵⁵ They have created important and fascinating links between feminist theory, queer studies and the field of

⁵³ National Institute of Health. "NIH Human Microbiome Project Defines Normal Bacterial Makeup of the Body: Genome Sequencing Creates First Reference Data for Microbes Living with Healthy Adults." [News release] Accessed April 10, 2018. <https://www.nih.gov/news-events/news-releases/nih-human-microbiome-project-defines-normal-bacterial-makeup-body>

⁵⁴ Katie King, *Networked Reenactments: Stories Transdisciplinary Knowledges Tell* (Durham, NC: Duke University Press, 2012).

⁵⁵ Eva Hayward, and J. Weinstein, "Introduction: Tranimalities in the Age of Trans* Life," *TSQ: Transgender Studies Quarterly* 2, no. 2 (2015): 196.

ecology; collectively, they offer new ways of thinking about the relationships between humans, species, and ecologies. This work seeks to advance that thinking and broaden it to develop new ways of thinking about land-/water-/air-scapes.

If creating knowledge can be flexible and creative as King argues, then this dissertation follows that suggestion in order to offer American Studies different ways to explore the intersections of nature, humans, gender, sexuality, race, and nation. I have started that process in this introduction by charting the terminology this dissertation relies upon and the historical underpinnings which have made the terms possible. I also creatively have provided two new terms—interdependent ecological transsex and anthroheterocentrism—for American Studies (as well as other fields such as gender and queer studies) to utilize in order to allow investigations of cultures, society, nation, transnationalism, race, economics, etc. to decenter the human as a crucial mode of investigation. Additionally, the creative role of personal experience and narrative used highlights ways human transgender experience can be a valuable contribution to American, queer, and gender studies that is rooted in human identity, but is capable of going beyond identity categories and transgender studies, to offer the possibility of trans studies—essentially transdisciplinarity.

As mentioned earlier, the transnational turn in American Studies forced the field to look beyond the United States and its reliance on nation and culture as primary categories of analysis. This dissertation proposes American Studies has room to consider the possibilities of Trans American Studies to question what categories we currently rely upon that might be restraining possibilities for new transknowledges. As mentioned earlier, trans is a prefix, verb, and process conveying notions of

beyond, through, and across that evades classification “for something more transformative”⁵⁶

Like American Studies, rivers are transnational, transitional, and transformative. The Potomac River has no definitive beginning or end and defies borders, boundaries, and classification. The Potomac River has the uncanny ability to show us transformative histories and transitional futures for the ethical obligations of caring for the people, creatures, landscapes, and ecologies of this planet.

⁵⁶ Eva S. Hayward, “More Lessons from a Starfish,” 68.

Chapter 2: Theodore Roosevelt Island and Memorial: Unearthing Connections in Conservation, Development, and Management of Populations and the Environment

Theodore Roosevelt Island and National Memorial is situated in the lower Potomac River between downtown Washington, D.C. and the metropolitan district known as Rosslyn, Virginia. From the south side of the island, looking across two major freeways (I-66 and the George Washington Memorial Parkway) toward Rosslyn, major landmarks include skyscrapers for corporations and organizations such as Lockheed Martin, FBR Capital Markets, and the Conrad Program. From the north side of the island looking toward Washington, D.C., major landmarks include the Watergate Hotel, The Kennedy Center for the Performing Arts, and the Washington Monument. From the west end of the island one sees a significantly human-widened Potomac River flowing slowly downhill from tributaries as far as the Appalachian Mountains. From the east end of the island, one can see two major bridges serving perpetual automobile traffic, and the widening river emptying into the Chesapeake Bay, the Atlantic Ocean, and ultimately the larger hydrology system of earth. In addition to a bronze statue of Roosevelt, the memorial itself consists of four monolith stones each with its own theme: youth, nature, manhood, and the state. Each themed stone is carved with famous quotations by Roosevelt depicting ideas about conservation, development, peace, righteousness, and character. I present this 360-degree consideration of these coordinate orientations in order to situate the Teddy Roosevelt Island and Memorial both in its ecological context of the Potomac River Basin, but also as surrounded by many cultural, economic, and political landmarks

that symbolize American progress—e.g., development, conservation, character, and the state—all organizing themes which have been carved into the monolith stones that compose the memorial.

In this chapter I demonstrate two main arguments. First, while the island is an example of a place that has been significantly shaped by humans, the Potomac River (and other nonhuman systemic factors) has had just as much influence in not only making the island what it is today, but also influencing human use of the island. The island itself is an example of interdependent ecological transsex. Secondly, the island as living memorial of contemporary and historical environmentalism commemorating America's first environmental president can better be understood not as a form of benevolent environmentalism, but instead as the management of populations, resources, and species.

Methodologically, this chapter will utilize a cultural landscape analysis of the island and memorial in tandem with analysis of some of Roosevelt's writings, speeches, advocacy, and policies. By combining cultural landscape analysis in context with Roosevelt's life, an interdependent ecology of environment, history, and discourse emerge. This chapter considers Roosevelt and the memorial valorizing his "accomplishments" together as a major myth and symbol representing the birth of mainstream environmentalism and conservation discourses in the United States. This chapter does not utilize myth and symbol methods, but rather looks at the memorial and Roosevelt's advocacy as doing a particular sort of myth and symbol work. This chapter uses the Roosevelt Memorial as a point from which to pivot through space and time in order to capture images, myths, and symbols that are meant for *collective*

consumption—a broader, more abstract form of textual or visual analysis, and a way of handling metanarratives at their largest level without having to break them down in a way that loses the forest for the trees. This perspective is not meant to imply that environmentalism is understood in the same way by differently raced or classed groups of people. Rather, it attempts to illustrate the kinds of invisible work embedded in the memorial, linked to the rise of environmentalism as a specific governing technology for not only management of resources and the environment, but differently raced and sexualized sectors of the population.

This chapter asks the following questions. If it can be extrapolated that the Theodore Roosevelt Memorial does a particular sort of myth/symbol work, positioning Roosevelt as a significant founder of the mainstream environmental movement, then how are the memorial's main themes of manhood, development, conservation, youth, and the state implicated in the various aspects of the surrounding cultural landscape of the Potomac River Basin in which the memorial is located? In what ways can the Theodore Roosevelt Memorial and his political endeavors be understood as a discourse of relations about development, conservation, and management of "natural" resources and the environment, and more broadly, human resources as particularized racialized, gendered and nationalized discourses about reproduction? In other words, what sorts of relationships through time and space do Lockheed Martin, The Conrad Group, and FBR Capital Markets, for instance, have with Roosevelt's ideas of development, conservation, nature, racial suicide, and righteousness?

The methodological combination of cultural landscape analysis and historical considerations of Roosevelt's writings needs more explanation in order to answer these questions—especially about how to use Roosevelt (as a representation of the rise of mainstream environmentalism) to uncover the connections between managing, conserving and developing the citizenry by managing reproduction, and managing, conserving and developing natural resources. First, it is my assumption that most people who use the island for recreation or tourism would understand the memorial solely as a patriotic celebration of environmental progress, with little or no understanding that the rise of environmentalism has anything to do with eugenics. This discrepancy is largely the result of a marked change in the popular appeal of the idea of eugenics in the half century between the original writing of the texts and the selection of specific quotations for the memorial in the 1960s. While the memorial is sanitized somewhat by taking quotations out of context, allusions to eugenics are not entirely erased, and become more visible again upon examination of Roosevelt's writings and political life. To uncover the close relationship between the discourses of nature and reproduction, I will take the themes of the memorial—manhood, the state, nature, and youth—and investigate these themes in his writing, speeches, and political work. One tactic in this process will involve looking at the binary opposite of the memorial's theme, e.g., while the memorial depicts manhood in a particular way, Roosevelt also wrote and spoke extensively on the conservation of motherhood and childhood. Writings and speeches that I have chosen to examine include the books *The Conservation of Womanhood and Childhood*, and *The Winning of the West*, the article "Nature Fakers," and the speeches "The Expansion of the White Races," "On

American Motherhood,” “The Man in the Arena: Citizenship in a Republic,” and “Lincoln and the Race Problem.”⁵⁷

In other words, I am not simply analyzing a cultural landscape, but also contextualizing Theodore Roosevelt Island within the biopolitics of mainstream environmental discourses as a way of asking how who and what is worthy of (the “good”) life, and under what conditions. This effort is related to Peter Boag’s examination of Mount Rushmore as a cultural landscape in order to explore “hidden meanings” and “secret opinions” of the “real lives, historic reputations, and political ideologies” of the four presidents carved into the mountain—one of whom is Teddy Roosevelt.⁵⁸ Boag argues that idealized notions of democracy and heterosexuality reinforce each other and are linked directly to the land through ideas of expansionism.⁵⁹ For Boag, Mt. Rushmore “symbolizes a social-political story that many, perhaps most, Americans have accepted as natural.” The “natural” landscape

⁵⁷ Theodore Roosevelt, *The Conservation of Womanhood and Childhood* (New York: Funk & Wagnalls Company, 1912); *The Winning of the West: in Six Volumes* (New York: G.P. Putnam’s Sons, 1908); “Nature Fakers,” *Everybody’s Magazine* 17 (September 1907) 427-430, Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/naturefakers.pdf>; “The Expansion of the White Races.” Address at the Celebration of the African Diamond Jubilee of the Methodist Episcopal Church, Washington, D.C., January 18, 1909. Accessed April 14, 2018 <http://www.theodore-roosevelt.com/images/research/speeches/trwhiteraces.pdf>; “On American Motherhood,” National Congress of Mothers, Washington, D.C., March 13, 1905. Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trmothers1905.pdf>; “The Man in the Arena: Citizenship in the Republic.” Speech at the Sorbonne. Paris, France, April 23, 1910. Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/maninthearena.pdf>; “Lincoln and the Race Problem,” Speech at the Republican Club, New York City, February 13, 1905. Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trlatrp.pdf>.

⁵⁸ Peter Boag, “Thinking Like Mount Rushmore: Sexuality and Gender in the Republican Landscape,” in *Seeing Nature Through Gender*, ed. Virginia Scharff (Lawrence, KS: The University of Kansas Press, 2003). 41-42.

⁵⁹ Boag, “Thinking Like Mount Rushmore,” 53. Boag notes that heterosexuality isn’t exactly the correct term to use because it did not exist as a commonly known concept until the early twentieth century. What Boag really seems to mean is white Western European sex for reproductive purposes to maximize that population. However, Boag is stuck in a hard place with language as he also needs a means to talk about the intimate emotional and supportive relationships with men that several of the presidents had.

was carved into a story “that has long promoted ‘heterosexuality’ and its incumbent gender system as ‘natural.’” This racialized reproductive story becomes the “natural” history of the American people, a story “that has significantly influenced the American environment and how people act on and think about it.”⁶⁰ In other words, the manipulation and transformation of “natural” things for “cultural” purposes cannot be separated from “naturalized” ideologies of race, reproduction, and nation.

I apply Jeremy Korr’s “A Proposed Model for Cultural Landscape Study,” to address these questions. Korr sees a cultural landscape as “a cumulative record of the work of humans and nature in a certain place” illustrated “by tangible and intangible evidence” reflecting “the beliefs and values of the peoples in that place” where humans, their artifacts and nature all affect each other.⁶¹ Korr outlines five major points for studying cultural landscapes that I will follow. First is describing the artifacts, humans, and the non-human natural aspects of the landscape. For this step I consider the artifact to be not just the memorial but also the human-made artifacts that can be seen with the naked human eye from the island—the skyscrapers, bridges, and various other aspects of the surrounding built environment. The text inscribed in the stones of the memorial will be of particular focus and because much of it is taken out of context, I will put it back into context through by Roosevelt’s speeches and writings. I observed humans on the island and in parking lots on several occasions and also analyzed how humans talk about the island on social media. I also consider how humans used and/or occupied the island before it became Theodore Roosevelt

⁶⁰ Ibid., 42.

⁶¹ Jeremy Korr, “A Proposed Model for Cultural Landscape Study,” *Material Culture*. 29, 3, Fall, 1997, 2.

Island. The natural aspects I consider include what can be seen and described of the surrounding ecology and bioscope.

The second step describes the boundaries of the cultural landscape by those who created and altered it in time and space, as well as any political, social, abstract, or experiential boundaries it contains. This was challenging because the boundaries of the island in space and through time are not static and complicated by the fact that the memorial depicting environmentalism and nationalism was chosen to occupy an island in the heart of the American empire that was originally a Native American fishing spot. The third step is capturing the dynamic relationships of nature, humans, and artifacts all as simultaneous agents. The fourth step is to describe how the cultural landscape is perceived through terminology and language and also how it is cognitively understood. This step examines both the official promotional literature of the National Park Service and the images and language people use to talk about the island online and on social media. The fifth step involves assessing the cultural significance along with considering absent components that make up the cultural landscape.⁶² While many absences will become visible as I perform this analysis, a major focus will be on what is covered over or made invisible by placing quotations and excerpts on the monoliths in the Roosevelt memorial, severing the words from their original contexts.

While I will follow Korr's model, there is one slight alteration that will need to be made. For Korr, there is a strict separation between humans and nature, and while he acknowledges the artifice of this distinction, he maintains the difference

⁶² Korr, "Proposed Model," 4-10.

because “separation recognizes the unique power that humans hold to alter the natural world.”⁶³ While I agree that humans indeed have an enormous capacity to alter the natural world, this capacity is not unique to humans. Many forces and creatures other than humans alter the environment, some to greater effect than others. Humans did not create the Grand Canyon, Channeled Scablands, the weather causing the Great Famine of 1315-1317, or the Medicine Trails of North America. I acknowledge Korr’s need to separate humans and the environment, but I also think situating humans and their effects as part of an environmental system embraces the possibility of creating transdisciplinary knowledge infrastructures.

Rivers, streams, and lakes have always fascinated me and have been significant in the way I’ve learned to think about and know the world. I was lucky enough to grow up in Washington State in the western foothills of the Cascade Mountains between two logging and coal ghost towns—Kangley and Selleck. My childhood home was located almost at the end of the Kent-Kangley highway—State Route 516—about 36 miles southeast of Seattle between the Cedar River and Green River valley watersheds. I learned the landscape by foot, horseback, motorcycle and in the back of my dad’s truck, following streams and rivers to their headwaters looking for spots to fish, hunt, and find “antiques” from the logging and mining camps that dotted the landscape 70 years prior. The crystal-clear creeks and swamps are burned into my earliest memories. Blackberry, devil’s club, salmon berry, skunk cabbage, ferns, stinging nettles, and huckleberry lined the banks of these creeks and swamps so thickly that often the only way to follow these waterways was to trek directly through

⁶³ Ibid., 2.

and up them. Stinging cold ankles and constant wet feet were a normal part of my first 20 years of life.

These waterways taught me many skills as well as the wondrously beautiful but also harsh realities of nature and how humans are always a part of it. Timothy Morton, in *Ecology Without Nature*, argues that one of the main problems in thinking about environmental issues is the concept of nature itself.⁶⁴ For Morton, nature is just a concept rooted in the effects of the industrial revolution—an idea that has enabled a rupture between “us” and other things. Morton offers a dark ecology that puts humans in and of the environmental catastrophes and wonders that create, sustain, and kill us. These waterways taught me a dark ecology and the skills associated with it. I learned not only how to trek through enormous patches of blackberry bushes and stinging nettles without one single painful sticker, cut, or sting, but also the experiential foundation needed for a five-year-old to comprehend the abstract complexity of topographic maps and how they guide you through and to particular landscapes. I knew how to read topographic maps before I could read a simple book. This experience combined with my and my dad’s love for maps, eventually morphed into a particular way of understanding the landscape. I learned and still perceive particular places (a clear-cut in the forest, a hunting camp, a recent home near the swamplands of Mattawoman Creek, etc.) in relation to their hydrological waterscapes. From a very young age I was able to witness how the hydrology, biodiversity, and topography of a forest is significantly altered through clear-cut

⁶⁴ Timothy Morton, *Ecology Without Nature: Rethinking Environmental Aesthetics* (Cambridge, MA: Harvard University Press, 2007).

logging and the resulting mudslides and erosion. As an adult, I see how housing developments and other infrastructure also impact hydrological systems and this has shaped how I view the Potomac River basin and Teddy Roosevelt Island. From a young age I saw the harm and care humans can impose on hydrological systems but also how the environment shapes humans through the hunting, gathering or farming of food (individually and commercially), the need for care as well as interest with potentially dangerous animals from wasps to bears, and the risks and dangers of geological events such as earthquakes or volcanic eruptions. My experience of learning the environment did not include an idealized nature as a pristine or separate entity from humans.

However, many people, both residents and vacationers alike, idealize the Pacific Northwest as one of the last places of superior pristine nature in the “Lower 48,” (think Mount Rainier, Olympic, and North Cascades National Parks here—not the surrounding logging and mining towns or agriculturalization-turned-industrialization of the Rainier and Yakima Valleys, and the Columbia Plateau).⁶⁵ It is indeed a very special place, but it’s also a place of ecological devastation in many ways like the East Coast, South, and Midwest—the only difference is that it has only had about 100 years (as opposed to 350 years) of settler development and resource exploitation.

As a small child I was never able to idealize a pristine fantasy of nature or to separate myself from it. The main creek (we called it Taylor Creek, but it has no

⁶⁵ The term Pacific Northwest can mean different things to different people. For me, the term means Western Washington State. For those who are from Western Washington, the term is used to describe the unique cultural/ecological/economic zone between the Cascade Mountains and the Pacific Ocean. Washington State has two drastically different cultural/ecological/economic zones—the temperate rainforest oceanic climate of the west and arid desert climate of the east—which has shaped the culture and economy.

name on any map I've seen) pumped surface water from to our house to drink, bathe, and cook with, and flowed at the edge of our property line underneath one of the largest sets of power lines in Washington State. These power lines carry electricity from the Grand Coulee Dam to the populous cities and towns of Western Washington. Under the power lines and along the creek were small signs that read "Do Not Spray"—an attempt to warn the low-flying herbicide planes not to spray directly into the creek to kill the alder trees that quickly outgrow the profitable Douglas fir. But the planes sprayed anyway and anywhere the pilot could spot a young grove of Alder. A few days later the alder groves would begin to turn brown and they slowly died. My dad reassured us the water was fine to drink because the plants, rocks, and soil filter it.

I was five years old when we moved to this area of Western Washington. Our property was surrounded by tens of thousands of acres of second- and third-generation Douglas fir, Western hemlock, and Western Red Cedar trees ranging in age from about 30-70 years old. The shaded an understory of vine maple, mosses, lichen, pacific rhododendron, western trillium, devils club, sword fern, Oregon grape, and red huckleberry. By the time I was 15 years old, everything had been clear-cut as far as the eye could see. The frogs and toads we chased through the mud on warm summer nights slowly stopped peeping in the spring and I never heard or saw one again for decades. The fish disappeared from our swamps and streams and we no longer even got a bite from fishing holes that used to give us more trout that we could use. Some of the creeks and swamps totally dried up. And hunting the fresh meat that poor and working-class people relied upon to feed their families became minimal

because we no longer saw deer or the massive elk herds we used to spot and watch in wonder as they migrated to higher elevations. As a child I cried in mourning and questioned my dad when another tract of trees was wiped out. He'd simply say "Plum Creek." Plum Creek was the logging company that owned and leased state land.

I also began to cry as soon as I would see the next set of logging surveyors arrive. I cried because it meant another part of our playground was gone—sets of trails and streams plugged with slash (the unwanted branches leftover from logging) and an entire understory of rainforest baked and slowly killed by the summer sun. As an adult, I still cry when I see a newly bare mountainside, but I now cry because I understand it's not just the playground and trees that are gone, but entire links through an interconnected ecosystem are severed and destroyed. But in my late 30s as the third and fourth generations of Douglas fir (some cedar and hemlock, but mostly Douglas fir because the logging companies began planting Douglas fir saplings to replace the wait for the natural "seed and spray" method) began to mature into juvenile trees with understories of ferns, moss, and huckleberry, and the creeks and swamps began to fill and flow again but with new courses, the frogs, trout, and many other animals began to slowly reappear. Visiting my dad in the early summer 2009 I heard a twilight chorus of frogs again for the first time in over 20 years and I spent the rest of the visit exploring the surrounding young forests and water ways again. Complex ecological webs had re-emerged—slowly but resiliently.

It is the complex history of growing up a feral kid and experiencing the devastation and resilience of nature that I came with to look at the nature and human cultures in the Potomac River basin and in particular Theodore Roosevelt Memorial

Island. It, too, is a place where ecologies are profoundly transformed by humans but also a place where ecologies have shaped humans and our ideas about nature, conservation, and nationalism. Although my particular interest is the island as a memorial to Theodore Roosevelt (known as the first “conservationist” president influencing early roots to the environmental movements in the United States), a brief history of the island is necessary. This is needed not only because it contextualizes how the island eventually became a memorial to the president, but also because the history exhibits a variety of peoples and uses that contemporary visitors wouldn’t know about and which had significant impacts on the ecology of the island. Additionally, this history provides a context to view the island as a unique web of ecologies with a varied history had order to understand it as not only a memorial to a former president, but as the National Park Service emphasizes, a contemporary *living* memorial that was transformed from “neglected, overgrown farmland” into a memorial honoring “the legacy of a great outdoorsman and conservationist.”⁶⁶

What is known today as Theodore Roosevelt Island was previously known as Analostan, Mason’s Island, and Roosevelt Island as well as My Lords, Anacostien, Anticostan, and Barbadoes Island.⁶⁷ The island’s name was changed from Roosevelt Island to Theodore Roosevelt Island on February 11, 1933.⁶⁸ The name change was

⁶⁶ National Park Service, “Theodore Roosevelt Island: A Living Memorial,” National Park Service website. Accessed January 2, 2016. <http://www.nps.gov/this/index.htm>

⁶⁷ *An Act to Establish a Memorial to Theodore Roosevelt in the National Capital*, Public Law 146, U.S. Statutes at Large (1932): 163-164. <http://www.loc.gov/law/help/statutes-at-large/72nd-congress/c72.pdf>; James F. Duhamel, “Analostan Island” *Records of the Columbia Historical Society, Washington, D.C* 35/36 (1935) 133-135.

⁶⁸ *Act to Establish a Memorial to Theodore Roosevelt*.

most likely to distinguish Theodore from his fifth cousin Franklin Roosevelt, who had been newly elected president the previous November.

Extensive historical and cultural landscape research about Theodore Roosevelt Island already exists. I mostly use two newer extensive reports to provide historical, cultural, and ecological context for this project. This includes a report written by architectural historian Dr. Kay Fanning, which accompanied the registration form for Theodore Roosevelt Island to be listed on the National Register of Historic Places by the United States Department of the Interior and National Park Service.⁶⁹ Dr. Fanning finished the report in 2000 and Theodore Roosevelt Island was listed on the National Register of Historic Places in 2001. A few years later Jonathan Pliska, at the time a historian with the Historic American Landscapes Survey of the National Parks Service, authored a more extensive social and cultural history of the island based on Fanning's previous nomination as a historic place on the national register.⁷⁰

Description, Boundaries, and Location

Korr's model calls for investigating boundaries of the landscape to "clarify what, where, and when is (was) the landscape." Boundaries should be set in both space and time, and the researcher should ask "who set the boundaries, when and why?"⁷¹ Korr also explains the types of boundaries need to be differentiated to determine if they are experimental, abstract, social, and/or political.⁷² However, it's

⁶⁹ Kay Fanning, "National Register of Historic Places Registration Form: Theodore Roosevelt Island." (Washington, D.C.: U.S. Department of the Interior, National Park Service, 2001). (January 31, 1999). Accessed November 22, 2014. <http://focus.nps.gov/pdfhost/docs/NRHP/Text/66000869.pdf>

⁷⁰ Personal email correspondence with Kay Fanning (December 4, 2015).

⁷¹ Korr, "Proposed Model," 5.

⁷² Ibid.

not only humans who have set the boundaries of the island—the transforming power of the Potomac River has materially shaped the island as well. The soil, rocks, tree trunks, and river debris that demarcate the shore from the water are both social and experiential boundaries. Additionally, while Korr calls for boundaries to be described as well as explaining where the island is, the actual *location* is just important in this case. Theodore Roosevelt Island, memorializing a former iconic president of the United States, is geopolitically located and designated as part of the capital city of the United States—the District of Columbia.

It would be easy to assume the experiential boundaries of Theodore Roosevelt Island are blatantly obvious because an island is defined as “a tract of land surrounded by water and smaller than a continent.”⁷³ But this assumption doesn’t account for Korr’s call to clarify the where and when of boundaries of the landscape. In addition to where and when, the boundaries of the island are even more complex because of water. Because the island is surrounded by the lower Potomac River and the conditions change with tides, moon phases, seasons, weather conditions, and impact from humans (including agricultural waste, garbage, water treatment, sewers, and effects of pavement) its boundaries are in perpetual transformation. The river is moving water (and other liquids and debris) that is sometimes calmly slow and green speckled with spots of froth, then other times after storms, a swiftly powerful brown mixture of water, sediment, garbage, and natural debris. The island is always receiving new pieces of matter and losing others. Because the island is located near

⁷³ Merriam Webster Dictionary Online. Accessed December 4, 2015. <http://www.merriam-webster.com/dictionary/island>

the Potomac River fall line (which is the farthest up the river the ocean tides change water levels), the experiential boundaries of the island are in constant cyclical change throughout the day, month, and year. This cyclical change means that depending on the tide levels and output flow of the river, the boundary of where the land ends and water begins (and vice versa) will be varied and constantly changing. Different creatures also utilize and inhabit the tidal zones at different tide levels and different times of a seasonal year, changing the compositional structure and their effects on the island. The flora of the tide flats is also sometimes part of the river and at others, part of the island if strict categories of water, island, tide flats are distinguished. Furthermore, the swamp trail, one of three main trails on the island, utilizes a boardwalk through the tide flats. What humans see from the boardwalk changes as the tides and seasons change. The island's location and boundaries, because of constantly changing tides and river conditions, demonstrate that the island's location, composition, and boundaries are not static and distinct.

Records show the island acts as a foundation for accumulating sedimentary soils that have increased the size of the island by almost 20 acres since the 17th century.⁷⁴ The most significantly growing part of the island is a peninsula on the southeast side of the island. It consists of a tidal swamp, a marsh and a tidal inlet that began forming “in the late 18th or early 19th century as a result of increasing siltation in the Potomac River” and today is “largely stable as a land form,” being one of the

⁷⁴ Fanning, “NHRP Registration Form.” Fanning draws from Nan Netherton's history “Delicate Beauty and Burly Majesty” which “cites 17th century Maryland land records stating the island was 75 acres” compared to “its current size of approximately 90 acres” today. Nan Netherton, “Delicate Beauty and Burly Majesty: The Story of Theodore Roosevelt Island.” National Park Service, 1980, 1.

most significant of 11 different ecological zones on the island providing an ecological niche for a diverse array of animal and plant life.⁷⁵

Sedimentation of the lower Potomac River was a major problem in the late 19th century. By 1830, nearly 50 percent of the land in the Potomac region had been cleared and by the end of the 18th century, very few groves of mature trees were left standing.⁷⁶ By this time, much of this cleared land was being worked by erosion-intensive plowing methods of cultivation, increasing sedimentation rates “as much as fourfold, enough to leave once-bustling harbors silted up and landlocked.”⁷⁷ While sedimentation was a human-induced factor in why the island has gained landmass, weather patterns and the river itself have also been a factor. In Lindsey Kay Thomas, Jr.’s scientific report, *Geomorphology and Vegetation of Theodore Roosevelt Island*, written for the National Park Service, he uses many historical maps as well as science to show how and why the island has changed over time—changes from a combination of human induced forces as well as those of the environment. Today, the river channel east of the island, known as Georgetown Channel, is the main river channel and the west channel, known as Little River, is much shallower and smaller. But the channels have alternated as the main river channels throughout history. Thomas writes:

Alluvium was deposited in the west channel (inside part of the [river] bend making the river shallower at this point. Floods periodically flushed both channels out as happened in 1784 and 1852 and probably in 1870 and 1877... With these flushings the west channel became the main river channel. With the Little River as the main channel the reduced flow of water in the east channel hastened deposition on the east side of the

⁷⁵ Fanning, “NHRP Registration Form,” 1, 18-19.

⁷⁶ James D. Rice, *Nature & History in the Potomac Country: From Hunter-Gatherers to the Age of Jefferson*. (Baltimore: Johns Hopkins University Press, 2009), 249-250.

⁷⁷ Rice, *Nature & History in the Potomac Country*, 249-250.

island...At the same time, however, the west channel began to fill in and as the water depth became shallower more water passed through the east channel and deposition slowed down. When the extreme floods and ice floes came both channels would have been scoured to some extent, but the west channel acting as a chute cutoff, a short cut, would have received the brunt of the flushing and become the main channel again. Thus the east and west channels tend to alternate as the main river channel.⁷⁸

But in 1810, a dam and causeway were built at the very northwestern tip of the island connecting it to the Virginia shore. By damming the west channel, all river deposition was forced to the east channel. The sediment deposition on the west side accumulated much more rapidly and what was mapped in 1792 as a small alluvial accumulation that later disappears from 19th century maps, now has become approximately 20 additional acres.⁷⁹ This fast accumulation of alluvium, as well as the growing vegetation within it, has probably acted as a buffer to keep these 20 acres intact during severe flooding. Additionally, what is known today as Little Island—a small separate island at the south end of Theodore Roosevelt Island—was once part of the main island. By 1864, a channel began to develop between the two islands and by 1884, it was clearly defined on maps.⁸⁰

Moreover, to ask what the island *is* and what its boundaries and location are (besides the obvious boundaries between soil and water that humans experience as sighted terrestrial animals) is even more complex. When asked “what is the island and what does it consist of?” most people would probably answer that it consists of sedentary things (they move but very little and at different rates and under different

⁷⁸ U.S. Department of the Interior, National Park Service, *Geomorphology and Vegetation of Theodore Roosevelt Island* by Lindsey Kay Thomas. Scientific report, no. 2, 1963, 45-46.

⁷⁹ U.S. Dept. of the Interior, *Geomorphology*, 45-49.

⁸⁰ *Ibid.*, 49.

circumstances) that bind the island together—the rocks, trees, and soil. But the animals that inhabit, use, or pass through the island—mammals, birds, fish, and amphibians—are also part of the island, even if temporarily, and their presence (or absence) continually affects the rest of the island and its experiential boundaries.

The island is always in perpetual transformation. The island can partly be thought of as a cumulative amalgamation of things spanning the vast geography of the Potomac River basin over vast periods of time. In regard to the cumulative properties of rivers, in *Flow: The Life and Times of Philadelphia's Schuylkill River*, Beth Kephart writes:

The river is cumulative. It harbors the floating oddments of towns like Auburn, Reading, Birdsboro, and Valley Forge. It widens and rises at the intersection of creeks that turn toward it. There is dust in its waters, the churn of bones. There are the remains of islands and animals, perch and catfish, broken branches and water-logged seeds. You might find the cross-frame of a kite in its silt, or the last page of a diary, or the buckles of a soldier's shoe, or the chunky afterthought of anthracite. You might find the flint tip of a spear. That's the things about this river: You have to imagine it to see.⁸¹

Like the Schuylkill, the Potomac River basin has a long history of human habitation including Native societies as well as remnants of more recent agricultural, industrial, suburban, and consumer societies. The Potomac River basin is over seven times larger than the Schuylkill basin. The Potomac basin covers 14,670 square miles across four states (West Virginia, Virginia, Maryland, Pennsylvania) plus the District of Columbia, and encompasses five geological areas including the Coastal Plain, the Piedmont Plateau, the Blue Ridge, the Ridge and Valley, and the Appalachian

⁸¹ Beth Kephart, *Flow: The Life and Times of Philadelphia's Schuylkill River* (Philadelphia: Temple University Press, 2007), 9.

Plateau. The basin contained roughly 6.11 million people (estimated from the 2010 census) and contains the effects of the basin's key industries, including agriculture, logging, paper, pulp, chemical, light industrial and high-tech production, as well as fishing and government and military installations. The average water flow in Washington D.C. is approximately "7 million of gallons per day" with record high of 388 million in 1966.⁸² Additionally, besides the hundreds of tributaries that feed billions of gallons of waters into the Potomac's main tributaries (the Shenandoah River, the Savage River, Seneca Creek, the Occoquan River, the North Branch, the South Branch, the Anacostia River, the Cacapon River, Conocoheague Creek, Catoctin Creek, The Monocacy River, and Antietam Creek), many other veins of possible contribution exist and must be considered. These include things such as agriculture and industry that dump waste into the river and especially storm drain management systems that carry immense amounts of water very quickly to the river and its tributaries.

The storm drain system and water treatment plants in the Potomac region need to be thought as major tributaries as well. The breadth of storm drain management systems grew immensely as the Washington, D.C. region and parts of the surrounding Potomac basin underwent vast suburbanization throughout the late 20th and into the 21st century, significantly changing how the river basin functions in terms of flow during storms and rainfall. Before European deforestation and agricultural erosion problems, and then again before vast suburbanization, water was more slowly

⁸² Potomac Basin Facts: Interstate Commission on the Potomac River Basin. Accessed December 10, 2015. <http://www.potomacriver.org/potomac-basin-facts/>.

absorbed, contained, and recycled through the land, swamps, vegetation, and the landscapes. Although few mature forests were standing at the end of the 19th century and erosion, sedimentation, runoff, loss of biodiversity, and flooding were major problems in the Potomac basin, the immensity of today's water collectors—roofs, paved roads, parking lots and developments as well as the sewer systems themselves—were much more limited in the past.⁸³ The land contained a lot more available water in slow moving swamps. The Potomac River basin used to be a slower but vast water filtration system. Today, when it storms, water runs off roofs and concrete directly into sewer systems and very quickly into the river. Arguably, the island's capacity to collect or lose bits of things that transform the experiential boundaries of the island is probably much greater today than it was before the vast water management infrastructure that envelops the region was built. Below is an example how extensive the sewer system is in the Washington, D.C. area. This is just the Washington area and does not include the thousands of miles of other sewer systems spanning the 14,670 square miles that make up the Potomac River basin.

⁸³ Rice, *Nature & History in the Potomac Country*, 250.

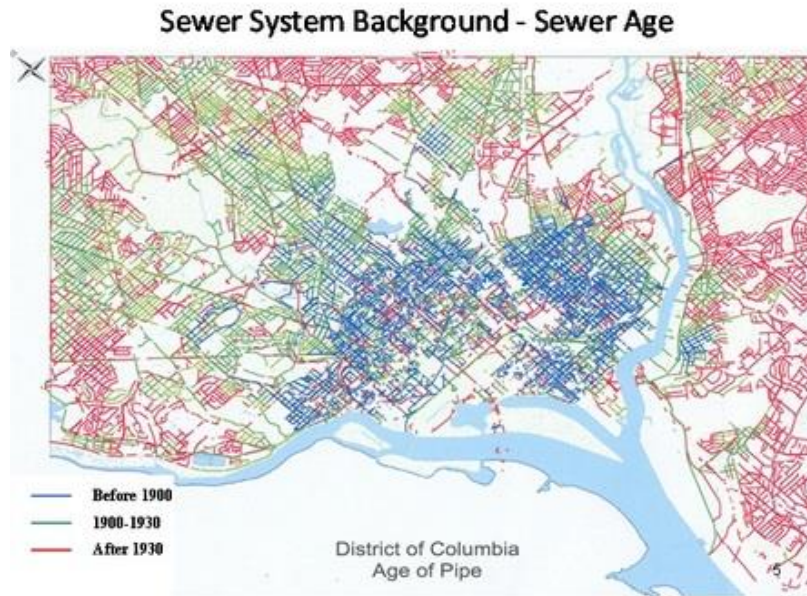


Figure 1: Source: District of Columbia Water and Sewer Authority:
https://www.dcwater.com/news/testimony/2013_testimony_of_charles_kiely.cfm

I am also interested in the boundaries humans experience by sight when visiting the island and memorial. Obviously, the edges of the island where water meets soil, rocks, and the stumps of trees are a boundary that humans experience. What humans see across the river also creates an experiential boundary—a sightscape boundary which contributes to the experience of an island and monument memorializing Theodore Roosevelt. The island has several trails including the upland and woods trails, but a very utilized trail follows the perimeter along the shore entirely around the island. From most places on this trail one can see the Potomac River and various structures on the D.C. and Virginia shores. On the east side of the Island, looking toward D.C., the Kennedy Center, the Watergate Complex, and Georgetown are easily seen. On the west side, looking toward Virginia—especially from the parking lot and foot bridge—is the area of Rosslyn and its many corporate buildings including Lockheed Martin and the Conrad Group. Also visible is the

George Washington Memorial Parkway and Interstate 66. The sightscape from the banks of the island like the memorial itself shows several iconic structures of significance in American history and its imagined communities.

The island also has some interesting social and political boundaries that have changed through time. Archeologists have shown that the island was used by different Algonquin Native American tribes but primarily the Necostin also known as the Anacostin people as both a fishing spot and place of residency up until the 17th century, as indicated by large amounts of projectiles, animal bones, and shards of pottery.⁸⁴ After the English Crown claimed much of Chesapeake region, the island was titled to King Charles 1 until 1632, when the king handed Cecilius Calvert, the Second Lord of Baltimore, the island as well as most of the Maryland Colony. The island during this time became known as “My Lord’s Island.”⁸⁵ Then in 1680 the island was given to “Captain Randolph Brandt of Charles County, Maryland as payment for protecting colonists from hostile” Native Americans. Brandt was an emigrant to Barbados and named the island Barbados and left it to his daughter Margaret. Margaret sold the island “to George Mason III in 1717” and the island began being referred to as Analostan Island—“apparently an outgrowth of the earlier Native American derived names.”⁸⁶ The Island remained in the Mason family until 1833 where it functioned as a self-sufficient plantation estate specializing in

⁸⁴ U.S. Department of the Interior, National Park Service, *Historical American Landscapes Survey: Theodore Roosevelt Island (Analostan Island, Mason’s Island HALS) DC-12*, by Jonathan Pliska. (Washington, DC 2008), 4-5.

⁸⁵ James F Duhamel. 1935. “Analostan Island.” *Records of the Columbia Historical Society, Washington, D.C* 35/36: 134.; U.S. Dept. of the Interior (Pliska), *Historical American Landscapes Survey*, 5.

⁸⁶ Ibid.

experimental and prized crops of corn, cotton, and wool, complete with a mansion and several out buildings as well as a ferry house that “functioned as the only river crossing in the area until 1809.”⁸⁷ Although slaves are rarely mentioned in relation to the island being a plantation, John Mason advertised in the *Columbia Manor* and *Alexandria Gazette* for “12-15 stout young Negro Fellows” to help build the mansion and outbuildings, and because John Mason and George Mason IV owned slaves on other plantations in Virginia, it is likely “that a substantial number” of slaves “were required on the island, at least for a time.”⁸⁸ It can also be speculated that because it functioned as a self-sustaining plantation with prized crops, a substantial number of slaves probably inhabited and worked the plantation full time. The Masons planned the islands orchards, crops, mansion, and ferry crossing carefully which reflected the social structures of the time. As Pliska writes:

John Mason’s residence occupied the most prominent position on the island, a promontory some 50’ about the river’s waterline. From this point he could look down over his entire estate, while the agricultural workers, servants, and slaves quite literally looked up to him. Welcomed guests proceeded up to the house, and in the process elevated themselves physically and socially to the level of the Masons. Conversely, typical outbuildings were also erected on the island, such as a kitchen, icehouse, barns, workshops, cellars, storerooms, privies, and slave quarters. Each would have held a lower position on the ground relative to the mansion, and therefore visually reinforced the island’s social hierarchy.”⁸⁹

The Masons’ legacy on Analostian Island didn’t last forever. After some bad business decisions John Mason was forced to mortgage the island to “the Branch Bank of the United States,” first in 1825 and then again in 1829, losing the island

⁸⁷ Ibid., 5-11.

⁸⁸ Ibid., 57

⁸⁹ Ibid., 12.

along with 1,800 additional acres of land in Virginia.⁹⁰ After the Masons lost the island it was passed to various owners and had many different uses from about 1833-1861. First Nicholas Ash set up “a balloon ascension” amusement and grandstands which held up to 7,000 spectators and ended up being a financial disaster. Then in 1838 Richard Smith held the property in trust for twelve tenants who tended the fields until 1852, cultivating peach trees, roses, asparagus, and other vegetables. In 1852 William A. Bradley the former mayor of Washington DC bought the island and continued to rent it to tenant farmers as well as build part of the island as a resort and constructed a dance hall attached to the mansion. The resort was so popular the *National Intelligencer* published a piece in 1859 praising and advertising the resort as a place of pleasure and excursion.⁹¹

But the resort island was significantly affected by the Civil War. Union troops occupied the island in May 1861 but shortly left in May 1862. Soon after in September 1862 the Union Army returned and used the north end of the island as a supply storage camp and distribution center. In May 1863 “the 1st District of Columbia Colored Volunteers” occupied the island utilizing it as a training camp for African American soldiers peaking at 785 Black soldiers in 1863. In May 1864 the island became a refugee camp for fleeing slaves and by July the population had risen to 1,200 people, many of them children and over half of them sick and many dying.⁹²

After the Civil War the island was returned to Bradley by the federal government and had several different owners and uses. It was used for company

⁹⁰ Ibid., 15.

⁹¹ Ibid., 16.

⁹² Ibid., 29-32.

picnics, medieval jousting competitions, club meetings, an athletic club, a test range for explosives, a place for field work by Professor Samuel Pierpont Langley of the Smithsonian on aerodynamics and aeronautics. It was also considered to be proposed an isolation hospital, amusement park, and jail.⁹³

In October 1931 the Theodore Roosevelt Memorial Association bought the island from the Washington Gas and Light Company and then gave it to the federal government “to serve as a national memorial” to Roosevelt in order to honor him “for his role as a leader in conservation, and the natural features of the island itself—it’s lands, waters, flora, and fauna—was conceived as the memorial”⁹⁴ At this time, the entire living ecosystem of the island was considered the primary memorial. On May 21st, 1932 The United States Congress authorized the director of Public Buildings and Public Parks of the National Capitol to accept the island as a gift from the Roosevelt Memorial Association “as a natural park for the recreation and enjoyment of the public” permitting the Roosevelt Memorial Association to erect a memorial with the approval of the National Capital Park and Planning Commission. However no other plans for development of the island could be made without the agreement of the Roosevelt Memorial Association.”⁹⁵ The development of the memorial is discussed in the following section.

⁹³ Ibid., 42-23.

⁹⁴ Fanning, “NHRP Registration Form.”

⁹⁵ *Act to Establish a Memorial to Theodore Roosevelt.*

The Dynamic Relations of Humans, Artifacts, and Nature on Theodore Roosevelt Island Memorial

The previous task of describing, locating, and discussing boundaries of the island explained some ways humans and nature have acted as agents in shaping what the island is today. I continue that discussion but focus here on how the dynamic interrelations between artifacts, humans, and nature, compose the island as the Theodore Roosevelt Island National Memorial administered by the National Park Service.

After the Roosevelt Memorial Association acquired the island it hired landscape architect Frederick Law Olmsted, Jr. and Henry V. Hubbard along with architect J.R Pope to develop a plan to turn the island into a national memorial to Roosevelt and to also improve the wild and polluted conditions of the island. By 1934 the Civilian Conservation Corps began clearing the island of its understory of deadwood and by eradicating certain vegetation while preserving plants Olmsted deemed desirable. Plants conserved included periwinkle, groundcover ivy, viburnums, hazel, one sumac species, grapevines, and large trees. Those eradicated included blackberry, poison ivy, sumac, Japanese honeysuckle, Joe-Pye weed, and other grasses and weeds. Any weeds in open spaces away from trees were eradicated down to bare dirt. The purpose of this selective landscaping was Olmsted's primary objective for the island—to create a mature climax native forest that “would have naturally evolved on the island without human interference” as the ultimate way to commemorate Theodore Roosevelt.⁹⁶ In Olmsted's words:

⁹⁶ U.S. Dept. of the Interior (Pliska), *Historical American Landscapes Survey*, 68-70.

Under persistent, well-directed management, by the addition of young plants of the species that it lacks and the gradual weeding out of existing trees of kinds that are undesirable and overabundant, the present woodland can be slowly and gradually developed, without any sudden and conspicuous change, into as noble a forest as the first white settlers found here.⁹⁷

Olmsted's plans for developing the island with an outlook terrace on the highest point of the south end of the island were never completed. His initial plans for selection and management of vegetation for a native mature forest didn't exactly equate to a native mature forest prior to European colonization. First, English ivy is not a native plant and if left unmanaged will climb trees and compete for light and space, eventually choking out some trees. Periwinkle, a plant used for its medicinal properties, is also not native. The ivy and periwinkle, according to Olmsted, were "so agreeable in themselves and relatively so unassertive that they should be preserved rather than removed."⁹⁸ Both species are now considered invasive and considered noxious weeds in certain parts of the United States. Second, the blackberry, Joe Pye weed, poison ivy, and sumac that were initially eradicated *are* native species playing a role in the understory and on the edges of forests, providing food, hiding space, and shelter for mammals, insects, and birds. Additionally, both snag and fallen deadwood play an important role in building and maintaining the soil and support insects, microorganisms, and mycorrhizal networks that trees depend on for water, communication, nitrogen, and other nutrients.⁹⁹ I can only speculate that Olmsted understood a mature native forest to simply include large native trees and an

⁹⁷ Frederick Law Olmsted, Jr. "Draft of Preliminary Report upon a Plan for the Permanent Development of Roosevelt Island," May 16, 1934, Olmsted Papers and Records, Library of Congress, Manuscript Division, Washington, D.C.

⁹⁸ Frederick Law Olmsted, Jr. "Draft of Preliminary Report ... Roosevelt Island."

⁹⁹ David Suzuki and Wayne Grady, *Tree: A Life Story* (Vancouver: Greystone Books, 2004), 175-180.

understory desirable to the sight and woodsy recreational meanderings of humans. It is highly likely that Olmsted never saw a mature native mid-Atlantic forest, as they had mostly been eradicated by the 20th century. Finally, while Olmsted may have had agency in influencing the ecology of the early Theodore Roosevelt Island Memorial, it is also important to point out that many of the plants Olmsted chose to eradicate also had agency. They are a nuisance to humans with their thorns, poisons and impassibility. So, while Olmsted had agency in choosing which plants to attempt to eradicate, the plants had their own defense mechanisms to deter humans and other animals.

Funding problems and arguments between Olmsted, the Roosevelt Memorial Association, preservationists, and the National Capital Park and Planning Commission about including a formal Theodore Roosevelt memorial significantly delayed Olmsted's plans throughout the 1930s and 40s.¹⁰⁰ In 1947, the Olmsted firm sent the Roosevelt Memorial Association a set of updated plans to continue developing the island, reiterating their intent that "the whole island is a permanent memorial to a great man" and the "character of the island is ultimately to be set by the character of its vegetation—that of a natural 'climax forest'" in which "human uses of the land are to be restricted" with "guidance towards perfection of its intended kind."¹⁰¹ In 1956, the Theodore Roosevelt Association asked Eric Gugler for architectural plans for a permanent memorial and Gugler chose sculptor Paul Manship for the Roosevelt statue. Their first proposal was rejected, but in 1961 it was

¹⁰⁰ U.S. Dept. of the Interior (Pliska), *Historical American Landscapes Survey*, 75-77.

¹⁰¹ Ibid., 82.

approved and construction began. It was formally dedicated to Theodore Roosevelt by President Lyndon Johnson on October 27, 1967.¹⁰²

The actual memorial and the infrastructure supporting the memorial are artifacts I consider. The memorial sits on the north end of the island, consisting of an open elliptical paved and brick plaza containing two pools with fountains. The memorial is surrounded by a water-filled moat. Paved foot bridges connect the memorial plaza across the moat to various trails leading to other places on the island. Twenty-six boxwood shrubs were planted in four beds next to the two fountains with 4,600 English ivy plants for groundcover. Fifty-four Willow Oak trees are evenly spaced around the moat perimeter. A bronze statue of Roosevelt serves as the centerpiece of the memorial, standing 17 feet with Roosevelt's right arm raised high as if giving a righteous speech. Behind the statue are four 21-foot stone monoliths carved with Roosevelt quotations, each titled with different themes: Nature, Manhood, Youth, and The State.¹⁰³ The human-made infrastructure supporting visitors to the island memorial includes a bathroom and water fountains (that have never functioned the many times I've visited), a map-board, trash cans, dog waste bags and disposal cans, a footbridge across the small channel connecting the parking lot to the island, benches, a series of dirt trails, and a boardwalk through the tidal marsh on the southeast side of the island.

These artifacts have affected both the broader nature of the island in addition to how and why humans use and visit the island. The many times I have visited the

¹⁰² Ibid., 89-91.

¹⁰³ Ibid., 92.

island, I have observed and thought about different ways the artifacts of the memorial act as agents in shaping how humans and nature interact. For instance, the brick and granite plaza prevents reproduction of surrounding trees and vegetation. The plaza shows signs of its age with cracks and some unleveled paving in various spots—evidence of the movement and growth of vegetative life that moves the rocks and soil underneath it. Because the plaza is open and free of dirt and vegetation, the island's animals may not utilize the plaza area the same way they do the surrounding areas.

The intentional placement of trails throughout the island also influences how animals behave and where they may or may not take up residence. The footbridge connects the parking lot to the Mount Vernon trail and George Washington Parkway, facilitating the unlikely but possible movement of animals to and from the island who don't swim or fly. Additionally, the island as a memorial to a popular U.S. president known for early conservation environmentalism draws many more people than it would if it were merely a local park—it draws tourists and environmental enthusiasts in addition to the locals who regularly visit the park. This increased volume of human visitors drawn to the island by its artifacts may influence the creatures of the island in many ways. The island is a popular place to walk dogs. I have observed many dogs (all but one on a leash) peeing, rooting and sniffing around just off the trail, and excitedly lunging for squirrels. The dogs' presence and the smell of their urine likely deter many deer, squirrels, and other animals from the near the trails and plaza. I have seen deer and squirrels in the woods while exploring the island off-trail, but I have never seen them on the plaza. And while I have seen squirrels along the trail I have never seen a deer near a trail. The increased number of human and dog visitors the

memorial brings also causes erosion to trails, exposing the root systems of trees and vegetation which can impact the health of vegetation and influence the direction their roots take. Unfortunately, while it is not a major problem, human litter can be seen throughout the island and can impact creatures—whether they eat it, get stuck in it, or use it to build nests or take up residence.

The broader nature of the island also impacts how and why humans use the island. On my visits to the island I have seen how downed trees, growing vegetation, flooding, and mud cause humans to create trail diversions, which create new paths of erosion and deterrents to wildlife. While the memorial draws many people to the island, so do the island's non-human elements. Humans go to the island to walk, socialize, run, watch wildlife, meditate, take photographs, and immerse themselves in what they believe is a wilder place of nature than the surrounding urban landscape. (I talk about how humans conceptualize the memorial island as a wilder place to visit in the next section). Additionally, the topography, different ecosystems, and flow of the Potomac river influenced where the islands memorial artifacts and infrastructure were placed. Olmsted's original plan was for a memorial to be built on an outlook terrace on the south end of the island—this highest point of the island would enable visitors to see the Lincoln Memorial from the Roosevelt Memorial. However, construction of the Theodore Roosevelt Memorial Bridge began in 1960 on the south side of the island and Olmsted's original plans were thwarted.¹⁰⁴ Because no large trees were to be removed in constructing the memorial, the northwest side of the island was chosen

¹⁰⁴ Ibid., 126-128.

for the memorial because it was a natural clearing.¹⁰⁵ In other words, human choice for a location for the memorial was in part influenced by the vegetation and ecosystems that existed on the island at that time, which was influenced from previous human use and the “decisions” and/or random life of vegetation, as well as effects the wildlife have had on the vegetation.

Cognitive Perceptions of the Memorial Island

In this section I consider how humans perceive the memorial island through language and terminology and how this language shapes and is shaped by cultural assumptions about the memorial island. I utilize National Park website content and how people talk about the island on social media, specifically Facebook.

The Theodore Roosevelt Island Facebook check-in page has hundreds of posts including reviews, (most of which are 5 stars) pictures, videos, text, and comments about visiting the island.¹⁰⁶ Pictures consist of selfies, groups, wildlife, landscape, sightscape (across the water and off the island), signs, the river, the tidal marsh, trails, and the footbridge. Many of the pictures posted with text describe the island as place to enjoy the outdoors, a natural refuge away from the city and a place to run, exercise, and/or recover from the workweek. For instance, one user posted “Happy Sunday! Spend some time outside today to help your body recover from the week” while another wrote “I don't know how I've lived in DC this long and never have been to Teddy Roosevelt Island! It's a secluded little oasis in between Georgetown and

¹⁰⁵ Ibid., 127.

¹⁰⁶ *Theodore Roosevelt Island Facebook Page*, Accessed April 14, 2018. <https://www.facebook.com/pages/Theodore-Roosevelt-Island/108199842534558>. This is not the official National Park Service page. I have included this unofficial “check in” page because over 16,000 people have checked into it and hundreds have posted text, pictures, reviews, and videos.

Rosslyn and it's so pretty.” Another person posted “Playing hookie...shhhhh.” These visitors indicate the importance of the memorial island as a place to enjoy being away from something else—either their jobs or outside the urban shores of the Potomac River and within the secluded oasis of the island. Another visitor also comprehends the island as a place to enjoy nature away from their current everyday reality by posting “It's a beautiful destination to reach back into time and enjoy the outdoors!” While it is unclear if “reaching back in time” for this user indicates enjoying the historical significance of Teddy Roosevelt as iconic of the island or yearning for the natural forested areas that used to cover the region, the visitor perceives the island as a place away in time from what they regularly experience as nature and the outdoors. Another person also understands and presents their experience on the island as destination of the imagined past by posting “loved the contrast of primitive vs. modern civilization. Bummed the parking lot was closed for repairs, but understand that is the price of progress and accommodating more visitors and their safety.”

One person made their cover photo the Manhood monolith after visiting the island, suggesting the identity and gender they present to their online friends, family, and the public is conceived through the massive presence of the monolith as well as Roosevelt’s ideas about gender—that manhood is defined through usefulness, success, duty, courage, hardship, endurance, and fitness for life through not fearing death. Deeper in this person’s profile is a post declaring “I like this Roosevelt guy.” The use of “this Roosevelt guy” as language suggests the visitor is likely unfamiliar with the memorial and Theodore Roosevelt. But what was likely this person’s first visit to the memorial influenced the visitor enough to represent himself publicly

through Roosevelt's ideas about gender. This suggests that people like this visitor can be deeply influenced by the memorial and may come to understand and represent themselves through Roosevelt's ideas. Another post declares:

"Today's early AM (beat that D.C. Heat) historical workout for Kasey doggie at the very underrated Theodore Roosevelt Island. One of my faves. Bet you didn't think my favorite President was a Republican! His words on government, nature and manhood deserving of more eyes than ever."

For this visitor the island is a favorite place to walk "Kasey doggie," a "historical" workout space and a place memorializing a favorite president. The visitor also proclaims the island is underrated and the Manhood, The State, and Nature monoliths deserve many more people to see them than ever. "Deserving of more eyes than ever" implies the visitor comprehends the monoliths and their messages to have a particular sort of work to do, influencing the eyes and minds of other people. The experiences represented through people's Facebook posts can also be understood as a form of consumer mainstream environmentalism because the experience of visiting the island can only be accessed through consumer culture (the island is only accessible by car or boat). Additionally, this experience is displayed through billion-dollar tech industries by being documented through social media to project one's experience and garner admiration and likes in order to display what one values—the environment, manhood, the state, and youth.

The National Park Service web page reflects multiple kinds of decisions about the appropriate language to represent the memorial island in the desired manner to the public. The main landing page first declares the island as a living memorial to Theodore Roosevelt, briefly describing the transformation of the island from neglected farmland into a "real forest" mimicking the "natural forest that once

covered the island” in order to “honor the legacy of a great outdoorsman and conservationist.”¹⁰⁷ The page has the usual drop-down menu information the National Park Service provides for planning a visit, learning about the park, getting involved, alerts, maps, and a calendar. The bottom of the main landing page contains topics and content specific to the island. This contains “Things to do,” the “Junior Ranger Program,” “Theodore Roosevelt’s Birthday Event,” (no content exists) and a brief history of images of “Developing the Memorial.” The “Things to do” page’s introductory sentence declares, “As president, Theodore Roosevelt was notorious for dragging diplomats and government officials on tough hikes through the area’s “wild” lands. Here are just a few ways you can live up to his legacy during your visit.” Suggestions include taking a ranger-guided tour, walking, running, kayaking, and wildlife viewing.¹⁰⁸

The Junior Ranger Program is an educational booklet that promotes creativity for children as part of their visit to the island. The booklet contains a series of lessons about the island’s animals and history, Roosevelt’s presidency and conservation efforts, as well as history about the National Parks. After the lessons, the final page before the Junior Ranger Pledge contains the iconic 1903 photograph of Theodore Roosevelt and John Muir atop a mountain at Yosemite. Beneath the photo, the page reads “The National Park Foundation supports the Junior Ranger program as part of their nationwide effort to connect children to America’s heritage and ensure the future of our national parks.” When completed, children can sign the Junior Ranger Pledge

¹⁰⁷ National Park Service, “Theodore Roosevelt Island,” Accessed April 14, 2018.
<https://www.nps.gov/this/index.htm>

¹⁰⁸ National Park Service, “Theodore Roosevelt Island – Things to Do” Accessed April 14, 2018.
<https://www.nps.gov/this/planyourvisit/things2do.htm>

and mail the completed booklet to the National Park Service, and in return, receive a Junior Ranger badge. The pledge: “As a Junior Ranger, I pledge to explore the wonders of the national parks, learn about the world around me, and protect the natural and cultural resources of the National Park System for the enjoyment and inspiration of this and future generations.”¹⁰⁹

While I think the Junior Ranger program is a great thing because it encourages children to engage in environmental stewardship through discovering the flora, fauna, and history of particular places, deeper analysis illustrates that this particular sort of environmentalism can be better understood as mainstream consumer culture environmentalism. I point this out not because I think our National Parks should stop providing this kind of programming, but because it provides an opportunity to unpack environmental discourses in order to engage in better practice in the future. The fact is only some kids can participate in the National Parks Junior Ranger program because it mostly requires parents with the kinds of jobs that produce money, vacation leave, and transportation. Most trips to national parks also require other forms of consumer culture in order to experience and participate in the preservation and conservation of the “natural” environment. Some of these might include souvenirs, hotel rooms, corporate fast food, and visits to other attractions of entertainment along the way.

¹⁰⁹ National Park Service, “Theodore Roosevelt Island,” (brochure) Accessed April 14, 2018. <https://www.nps.gov/this/learn/kidsyouth/upload/TRI.pdf>

Cultural Analysis and Historical Contextualization

In this section I use the above research and descriptive observation I've gathered to examine relationships among the landscape, its textual monolith artifacts, and what Korr describes as:

...its human actors by relating the different uses of the landscape to the social, political, economic, or cultural contexts that surround those uses. What ideologies, meaning systems, social systems, shared beliefs, attitudes toward nature, attitudes toward people, can the landscape help to understand? How do the boundaries perceptions, and dynamic tensions previously identified shed light on these issues?¹¹⁰

I specifically focus on the text of the monoliths to associate it with its cultural significance and historical context—Theodore Roosevelt's life as the first environmental conservationist president. While I do not analyze every statement on the monoliths, I do survey each of the monoliths' themes and make connections to existing research on Theodore Roosevelt's work and life.

While the Roosevelt statue is the primary component of the memorial because of its centered location and realistic human form, the monoliths can also be considered primary—if not by design, then by how humans experience the monument. This is because they provide an enormous centering backdrop for the statue and contain culturally loaded words (manhood, youth, the state, nature) in large letters that immediately draw the human eye when entering the plaza. Each monolith displays four different tenets of Roosevelt's philosophy, all in caps, some of which are direct quotes and others pieced-together concepts from his writing or speeches. There is no indication at the memorial or on the National Park Website where the

¹¹⁰ Korr, "Proposed Model," 10.

statements are taken from. Therefore, the text displayed on the monoliths represent an absent component of the memorial landscape—the historical contextualization of his words.

Facing the Roosevelt statue, the first monolith on the left—titled Nature—proclaims: “There is delight in the hardy life of the open. There are no words that can tell the hidden spirit of the wilderness that can reveal its mystery its melancholy and its charm. The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased not impaired in value. Conservation means development as much as it means protection.”

The first two statements are from the concluding paragraph of the forward to Roosevelt’s book *The African Game Trails: An Account of the African Wanderings of an American Hunter-Naturalist*. The first quote is only part of a complete sentence from the book proclaiming, “There is delight in the hardy life of the open, in long rides rifle in hand, in the thrill of the fight with dangerous game.”¹¹¹ The part of the sentence not included is an absent component in the memorial landscape. This is likely not because the sentence is too long (other sentences of the memorial are longer), but because the memorial valorizes Roosevelt as a conservationist and seeks to downplay “the thrill of the fight with dangerous” but now endangered or near-extinct game. For many visitors who are familiar with the history of conservation in the U.S., long rides (“in the open” equates to the American West) with rifles used for thrill killings of large game, conjure historical memories of the near-eradication of

¹¹¹ Theodore Roosevelt, *African Game Trails: An Account of the African Wanderings of an American Hunter-Naturalist*. (New York: Scribner, 1910), xi.

North American bison, the interdependent genocide of Native Americans, and taming of the “wild” west.

African Game Trails chronicles the Smithsonian-sponsored Africa expedition that Roosevelt and his son Kermit took to collect specimens for what was then called the National Museum at Washington.¹¹² The expedition “amassed a collection of 23,151 natural history specimens, totaling 160 species. The mammals alone numbered 5,013 specimens.”¹¹³ Roosevelt describes in eloquent detail the flora, behavior and morphology of fauna, drastically varying landscapes and ecosystems, the people he met and worked with, along with the thrill and gruesome details of hunting. Roosevelt also wrote about what he thought about race, history, and evolution. For instance, the expedition was supported through the use of 200 Swahili porters as well as gun bearers, tent boys, solders, and horse boys. Roosevelt wrote that it was possible to use ox wagons or donkey trains, “but for a considerable expedition it is best to use a safari of native porters, of the type of which the commerce and exploration of the country have always been carried on.”¹¹⁴ Roosevelt wrote:

It is these Swahili trading caravans, under Arab leadership, which, in their quest for ivory and slaves, trod out the routes which the early white explorers followed. Without their work as a preliminary the work of the white explorers could not have been done... The part played by the white-topped ox wagon in the history of South Africa, and by the camel caravan in North Africa, has been played in middle Africa by the files of strong, patient, childlike savages, who have borne the burdens

¹¹² Roosevelt, *African Game Trails*, 3.

¹¹³ Smithsonian National Museum of Natural History, “Celebrating 100 Years: Smithsonian-Roosevelt Africa Expedition” Accessed July 14, 2017.

https://naturalhistory.si.edu/onehundredyears/expeditions/SI-Roosevelt_Expedition.html

¹¹⁴ Roosevelt, *African Game Trails*, 22-23.

of so many masters and employers hither and tither, through and across, the dark heart of the continent.¹¹⁵

Additionally, the first chapter of the book titled, “A Railroad Through the Pleistocene” compares British East Africa to Pleistocene Europe. Roosevelt explains how white men fearlessly took great risks to colonize and explore Africa, a place where “most of the tribes were of pure savages,” and other places contained “intrusive races of higher type,” while “on waters of the Nile proper, lived a people which had advanced to the upper stages of barbarism, which might almost be said to have developed a very primitive kind of semi-civilization.”¹¹⁶ The railroad, the figurative “embodiment of the eager, masterful, materialistic civilization of to-day” connected Mombasa to Nyanza and traversed “a region in which nature, both as regards to wild man and wild beast, did not and does not differ materially from what it was in Europe in the late Pleistocene.”¹¹⁷

The second two statements on the Nature monoliths are from Roosevelt’s famous speech “The New Nationalism.” The two statements are from the same paragraph in the speech. “Conservation means development as much as it means protection” is a direct quote. “The nation behaves well if it treats the natural resources as assets which it must turn over to the next generation increased not impaired in value,” is a pieced-together idea from a lengthier description incorporating the first statement that reads:

Conservation means development as much as it does protection. I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us. I ask

¹¹⁵ Ibid., 23.

¹¹⁶ Ibid, 2.

¹¹⁷ Ibid.

nothing of the nation except that it so behave as each farmer here behaves with reference to his own children. That farmer is a poor creature who skins the land and leaves it worthless to his children. The farmer is a good farmer who, having enabled the land to support himself and to provide for the education of his children, leaves it to them a little better than he found it himself. I believe the same thing of a nation.¹¹⁸

The speech given to 30,000 people in Osawatomie Kansas on August 31, 1910, was, according to historian Robert S. La Forte, “perhaps the most important speech ever given in Kansas” and at the time considered by some to be “the greatest oration ever given on American soil.”¹¹⁹ The speech was framed upon the idea that the United States had changed radically after the Civil War not only in its abolition of slavery, but also because the second industrial revolution of coal, steel, railroads, urbanization, and communication, created rich capitalists who ravished resources, creating new social and economic issues for the nation. The speech called for major social, economic, and political reform so the federal government could regulate the economy, social welfare, and labor standards in order to protect its people, resources and democracy. Roosevelt called for “practical equality of opportunity for all citizens” without special privileges so that one could “get for himself and his family substantially what he has earned.”¹²⁰ But this equality of opportunity also meant “that the commonwealth will get from every citizen the highest service of which he is capable”¹²¹ The speech went on to become the political foundation for the National

¹¹⁸ Theodore Roosevelt, “The New Nationalism,” Speech at Osawatomie, Kansas, August 31, 1910. Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trnationalismspeech.pdf>.

¹¹⁹ Robert S. La Forte, “Theodore Roosevelt’s Osawatomie Speech,” *Kansas Historical Quarterly* (vol. 32, no. 2), Summer, 1966.

¹²⁰ Roosevelt, “The New Nationalism.”

¹²¹ Ibid.

Progressive Party in 1912, and was an initial milestone of the powerful regulatory modern U.S. nation-state. However, the context for Roosevelt's words of "equality of opportunity" does not account for the fact that there were groups of people (Native Americans, African Americans, Asian Americans, newer immigrants, etc.) that might not value such service to a nation that had so recently enslaved, murdered, and employed them for meager wages and awful conditions in mines, railroads, and factories. Individuals in these groups of people typically did not have the resources, property, privilege of mobility, or legal rights to "get for himself and his family substantially what he has earned" in order to tend to those resources to leave them in a better condition for their children, the next generation and the nation. Asians and African Americans who built the railroads did not earn any of the profits or share in owning the vast amounts of property the railroads acquired and held to be later sold to mining and forestry companies. African Americans didn't earn or inherit much of anything from hundreds of years of abuse and producing wealth for their owners and the nation. And most Native Americans were either exterminated or removed from their ancestral lands to undesirable and unsustainable lands in the West.

Moreover, what is not apparent in the quotes on the monolith in regard to the "highest service" and duty to the nation as a form of Roosevelt's new progressive nationalism is the fact that Roosevelt's nationalism was deeply rooted in white supremacy. Roosevelt published "Race Decadence" in the weekly New York magazine on April 8, 1911. Roosevelt was concerned that two-thirds of the recent population were immigrants from Eastern and Southern Europe and that United States white middle-class birthrates were declining because of the use of birth control. He

called the use of birth control willful sterility that leads to (white “native stock”) race decay for the nation. Roosevelt insisted that white middle-class women had a citizenly duty to have more than three children and that “no man, not even the soldier who does his duty, stands quite on the level with the wife and mother who has done her duty.”¹²² The decline of the white middle-class birthrate, according to Roosevelt, “inevitably signalizes race decay, and which, if unchecked means racial death.”¹²³

While “Nature” was chosen as the title for the first monolith, the statements chosen to represent nature have more to do with Roosevelt’s notions of nationalism of the time than either his eloquent descriptions of nature (throughout his volumes of writing) or his environmental conservation legacy, and also reflect visitors’ current understandings of nature. As discussed earlier, people who visit the island tend to experience the island as a place to get away from the city, their jobs, and to recreate in a forested oasis.

African Game Trails, while it movingly describes “nature”—the flora and fauna of Africa—is primarily about Roosevelt’s descriptions and photographs of specimens, the landscape, and African people in order to create new knowledge (science) for the United States. It was also to bring back tens of thousands of specimens for the National Museum at Washington and the American Museum in New York. Roosevelt’s expedition to Africa was not to conserve the natural resources of Africa, but to produce and conserve knowledge about nature of animals, people, and the landscapes for the advancement of the United States. The expedition can be

¹²² Theodore Roosevelt, “Race Decadence,” *The Outlook* 97. April 8, 1911, 767. Accessed April 4, 2018. <https://www.unz.com/print/Outlook-1911apr08-00763/>

¹²³ Ibid. 763.

better understood as a nationalistic quest for the United States to profit in knowledge supremacy and to fill world-famous museums in order to produce and manage knowledge about species and kind.

The historical context of the text on the monoliths is embedded in the U.S. nationalisms of Roosevelt's time which depended on colonial settlement, exploitation of resources, and finding solutions to manage populations, resources and species. "Conservation" might have been a better title for the monolith to represent the statements chosen. First, Roosevelt's ideas about nationalism are interrelated with his ideas about conservation. While his New Nationalism speech was primarily about the necessity of government regulation, Roosevelt's other writings convey a much more complicated promotion of nationalism and conservation.

The second monolith titled Manhood displays the following statements. "A MANS USEFULLNESS DEPENDS UPON HIS LIVING UP TO HIS IDEALS INsofar AS HE CAN." "IT IS HARD TO FAIL BUT IT IS WORSE NEVER TO HAVE TRIED TO SUCCEED." "ALL DARING & COURAGE ALL IRON ENDURANCE OF MISFORTUNE MAKE FOR A FINER & NOBLER TYPE OF MANHOOD." "ONLY THOSE ARE FIT TO LIVE WHO DO NOT FEAR TO DIE AND NONE ARE FIT TO DIE WHO HAVE SHRUNK FROM THE JOY OF LIFE AND THE DUTY OF LIFE."

This monolith's quotes not only depict for visitors what Roosevelt thought constituted manhood, but also directly implicate ideals of gendered citizenship through the use of words like nobler, live, die, life, daring, courage, and duty.

“A man’s usefulness depends upon living up to his ideals insofar as he can” is from a letter Roosevelt wrote to Dr. Sturgis Bigelow on March 29, 1898 regarding Roosevelt’s aspirations to become Major or Lt. Colonel in the New York regiment militia to serve his country, do his duty and help push the United States into war with Spain.¹²⁴ Roosevelt explained to his friend his love for life and how he didn’t want to leave his wife and children, yet also highlighted his profound duty to serve.

Moreover a man’s usefulness depends upon his living upon to his ideals in so far as he can...One of the commonest taunts directed at men like myself is that we are armchair and parlor Jingos who wish to see others do what we only advocate doing. I care very little for such a taunt, except as it affects my usefulness, but I cannot afford to disregard the fact that my power for good, whatever it may be, would be gone if I didn’t try to live up to the doctrines I have tried to preach. Moreover, it seems to me that it would be a good deal more important from the standpoint of the nation as a whole that men like myself should go to war that we should stay comfortably in offices at home and let others carry on the war that we have urged.¹²⁵

In terms of the monument, when this quote is contextualized, it frames manhood with a duty to go to war for not only the nation but also for the Roosevelt’s moral belief that those who start wars also serve on war grounds. The fact that this quote is decontextualized at the memorial says a lot. The memorial island is accessible only by car, trail, or boat, and the people I have seen there appear to be mostly white people in semi-fashionable outdoor attire, leading to my assumption that the memorial island is used by mostly white middle- and upper-class visitors. At face value, the first quote describing usefulness as living up to one’s ideals seems as though it would be universally agreeable and acceptable. However, I speculate that if

¹²⁴ Joseph Bucklin Bishop, *Theodore Roosevelt and His Time Shown in His Own Letters* (New York: C. Scribner's Sons, 1920), 101.

¹²⁵ *Ibid.*, 103.

the visitor reading the quote knew the broader scope and meaning behind the quote and history of Roosevelt's life—even if one supported the wars and conflicts that the United States is currently engaged in—most would not, nor would they encourage their children to sign up for the Marines or Army (except perhaps as officers in “safe” jobs). Additionally, when it is contextualized, manhood bestows the necessity of men of all social classes the duty and honor to be willing to go to war.

Roosevelt's quote “It is hard to fail but it is worse never to have tried to succeed” is from “The Strenuous Life” speech he gave in Chicago on April 10, 1899, later published into a book as a series several speeches and essays.¹²⁶ The speech was a call for men to engage in strenuous effort no matter what their social class (middle- and upper-class men were told they should study the arts and sciences to advance the knowledge of the nation) in order to the United States to become the greatest country in the world. The speech also advocated for building up to become the strongest military in the world so that the United States could expand its presence and benefit from the Philippines the same way “England's rule in India and Egypt” benefited England, with even a “greater benefit to India and Egypt” in order to “greatly benefit the people of the Phillippine Islands, and, above all...play our part well in the great work of uplifting mankind.”¹²⁷

The quote on the monolith comes right after the introductory part of the speech that praises the men of Chicago for doing more than their share “in making America great” because of their hard work and leisure not spent in idleness, but in

¹²⁶ Theodore Roosevelt, “The Strenuous Life,” Speech at the Hamilton Club in Chicago (April 10, 1899). Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trstrenlife.pdf>.

¹²⁷ Ibid.

knowledge and exploration for the country reflecting the “most honor upon the nation.”¹²⁸ Roosevelt then continued to expand on the masculinity of hard work and service for the betterment of the nation, by saying:

We do not admire the man of timid peace. We admire the man who embodies victorious effort...who has those virile qualities necessary to win in the stern strife of actual life. ***It is hard to fail, but it is worse never to have tried to succeed.*** (quote on the monolith)...A man can be freed from the necessity of work only by the fact that he or his fathers before him have worked to good purpose. If the freedom thus purchases is used aright, and the man still does actual work, though of a different kind, whether as a writer or a General, whether in the field of politics or in the field of exploration and adventure, he shows he deserves his good fortune. But if he treats this period of freedom from the need of actual labor as a period not of preparation, but of mere enjoyment, he shows that he is simply a cumberer of the earths surface, and he surely unfits himself to hold his own with his fellows if the need to do so should again arise.¹²⁹

The third monolith, titled “Youth,” displays the following declarations. “I WANT TO SEE YOU GAME BOYS I WANT TO SEE YOU BRAVE AND MANLY AND I ALSO WANT TO SEE YOU GENTLE AND TENDER.” “BE PRACTICAL AS WELL AS GENEROUS IN YOUR IDEALS KEEP YOUR EYES ON THE STARS BUT REMEMBER TO KEEP YOUR FEET ON THE GROUND.” “COURAGE HARD WORK SELF-MASTERY AND INTELLIGENT EFFORT ARE ALL ESSENTIAL TO SUCCESSFUL LIFE.” “ALIKE FOR THE NATION AND INDIVIDUAL THE ONE INDISPENSIBLE REQUISITE IS CHARACTER.”

“I want to see you game boys I want to see you brave and manly and I also want to see you gentle and tender” is a quote from a speech Roosevelt gave to the graduating class at the New Friends School in Washington, D.C. on May 24, 1907

¹²⁸ Ibid. 4.

¹²⁹ Ibid.

and later published in *Presidential Addresses and State Papers*. While the speech exhorted the school boys to have manly courage, do hard work, and stand up to bullies, it also instructed parents on how to raise manly young men. After saying “I want to see you game boys...brave and manly” and gentle and tender” Roosevelt proclaimed:

In other words, you should make it your object to be the right kind of boys at home...you must be able to hold your own in the outside world. You can not do that if you have not manliness, courage in you. It does no good to have either of those two sets of qualities if you lack the other...I do not care how nice a little boy you are, how pleasant at home, if when you are out you are afraid of other little boys...for if so you will not be a very happy boy nor grow up a very useful man... the decent man is not only his superior in decency, but his superior in strength; not necessarily physical strength, but strength of character, the kind of strength that makes a good and forceful citizen.¹³⁰

Additionally, Roosevelt had advice for the fathers “and especially to the mothers” for raising their sons. He insisted that what happens inside the home is just as important as outside, and that sons should have “neither hardness of heart nor softness of head” and “the mother who lets her boy grow up selfish” is preparing the son to “be a brutal and unfeeling husband and father.” Furthermore, if a son becomes a brutal and bad husband and father:

...she is showing folly, and wicked folly at that. She is doing the worst that she can for the boy, and she is preparing misery and suffering for all those who come in contact with him...The men, and especially the women (for it is the woman who counts the most in the household) who fail...fail signally in their duties as fathers and mothers.¹³¹

¹³⁰ Theodore Roosevelt. “At the Graduating Exercises of Friends School.” Washington D.C. May 24, 1907. Accessed April 14, 2018. <http://www.theodore-roosevelt.com/images/research/txtspeeches/250.txt>

¹³¹ Ibid.

While three-fourths of the speech was directed to the boys on how to be manly, tender, to stand up to bullies, and not to torture helpless creatures, the last part of the speech is substantial and directed at parents—but especially mothers. This is not surprising considering that Roosevelt had a lot to say about the citizenly duty of motherhood during his time. For example, in March 1905 Roosevelt gave a speech to the National Congress on Mothers' meeting in Washington, D.C. In this speech, he warned of dwindling and failing small farms in contrast to the development and speed of immigration and growth of cities. However, he proclaimed it is not the occupation that matters, but as long as “there is a real home” of those who “do their duty to one another, to their neighbors and to the State,” it doesn't matter if it's “in the country or in the city” or is the “work of the hands or the work of the head.”¹³² What mattered for Roosevelt and the advancement of the United States was not the potential wealth, brilliance, or artistic ability of any individual, but what he or she contributed to home life. For men, this included “honesty, courage, common sense, and decency,” hard work and a willingness “to fight hard.” For women, the greatest duty consisted of being “able and willing to bear” “healthy children, sound in body, mind and character, and numerous enough so that the race shall increase and not decrease.”

The final monolith to the very right of the statue titled, “The State” displays the following assertions. “OURS IS A GOVERNMENT OF LIBERTY BY THROUGH AND UNDER THE LAW.” “A GREAT DEMOCRACY HAS GOT TO BE PROGRESSIVE OR IT WILL SOON CEASE TO BE GREAT OR A

¹³² Theodore Roosevelt, “On American Motherhood,” Speech to the National Congress of Mothers, Washington, D.C., March 13, 1905. Accessed January 7, 2016. <http://www.theodore-roosevelt.com/images/research/speeches/trmothers1905.pdf>

DEMOCRACY.” “ORDER WITHOUT LIBERTY AND LIBERTY WITHOUT ORDER ARE EQUALLY DESTRUCTIVE.” “IN POPULAR GOVERNMENT RESULTS WORTH HAVING CAN BE ACHIEVED ONLY BY MEN WHO COMBINE WORTHY IDEALS WITH PRACTICAL GOOD SENSE.” “IF I MUST CHOOSE BETWEEN RIGHTEOUSNESS AND PEACE I CHOOSE RIGHTEOUSNESS.”

The first quote is from the speech “Liberty through Law” given in Spokane, WA on May 26, 1903.¹³³ Roosevelt begins by describing how Washington State was connected to the world and grew immensely through the great railroads and steamships of the country, and Washington State “will owe no small part of its future greatness...for the fact that it is thus doing its share in acquiring for the United States the dominance of the Pacific.” He praised the “individuals and corporations” that created business enterprises for doing great good for the country by developing “the Oriental trade.” And “in return good is done to them, not harm, when they are required to obey the law. Ours is a government of liberty by, through and under the law.”¹³⁴ The rest of the speech moralizes the monolith’s quote, giving examples of how individuals and corporations should behave and why no one is under the law regardless of class or creed.

The second quote “Order without liberty and liberty without order are equally destructive” is from Theodore Roosevelt’s book *The Great Adventure: Present-Day*

¹³³ The Almanac of Theodore Roosevelt. “Chronology of Speeches of Theodore Roosevelt” Accessed April 29, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trspeechchronology.pdf>.

¹³⁴ The Almanac of Theodore Roosevelt. “Liberty through Law.” May 26, 1903. Accessed April 29, 2018. <http://www.theodore-roosevelt.com/images/research/txtspeeches/78.txt>.

Studies in American Nationalism.¹³⁵ It was the 46th of 47 books Roosevelt published and was written during World War I, hence contains a lot of reference to Europe, Germany, and German Americans. A quote on the Manhood Monolith also was taken from *The Great Adventure* and is from the very first sentence in chapter one. “Only those are fit to live who do not fear to die; and none are fit to die who have shrunk from the joy of life and the duty of life.”¹³⁶ It is quite fitting both quotes are from *The Great Adventure* because the book is Roosevelt’s moralizing philosophical history of Americanism, stemmed from its unique form of democracy and self government made possible by the proper manhood of different types of people he valorizes as the American people. For Roosevelt, idealized manhood—fearless, virile, hard working, tender, and dutiful—were the required aspects of character a man needed for the obligation to their family, and proper contribution to one’s family was an asset to the state. In Roosevelt’s eyes, this type of manhood both contributed to the development of the United States, but would also be a driving factor in the progressive future dominance of the United States globally. But for Roosevelt, the different types of people he speaks of—the “true American”—that made “our great nation, our great America,”¹³⁷ were the people who came from Europe. This did not include peoples of African, Native, or Asian descent. Roosevelt repeatedly called for equality and unity of “all” Americans and repeatedly only included notions of class and creed. The priority of unity and equality for Roosevelt was not just so white Americans could work hard and reproduce as many children as possible to provide a better future for

¹³⁵ Theodore Roosevelt. *The Great Adventure: Present-Day Studies in American Nationalism*. New York: C. Scribner’s Sons, 1919. 102.

¹³⁶ Theodore Roosevelt. *The Great Adventure*, 1.

¹³⁷ *Ibid.*, 49.

themselves, their children and the white future of the country, but also to prevent the United States from resembling the balkanization of Europe into separate white ethnic communities and states. Race was absent virtually absent from discussions of equality and unity in *The Great Adventure*. Roosevelt wrote:

We must shun...all efforts to make us separate in groups of separate nationalities. We must all of us be Americans, and nothing but Americans; and all good Americans must stand on an equality of consideration and respect, without regard to their creed or to the land from which their forebears came.¹³⁸

When Roosevelt did mentioned race in *The Great Adventure*, it was not to discuss racial problems in the United States, but a concept to frame the duty of heterosexual social engineering in order to manage the population of United States into a white nation. That American (white) “race” had a noble duty perpetuate the population. Roosevelt wrote:

the highest of all duties, the one essential duty...of perpetuating family life with one man and...one woman...to rear the healthy and fine-souled children whose coming into life means that the family and, therefore, the nation shall continue in life and shall not end in a sterile death. Woe to those who invite sterile death; a death not for them only, but for the race; the death which is insured by a life of sterile selfishness.¹³⁹

Roosevelt spent ample time researching how “the American ‘race’” had advanced to become “the greatest English-speaking race the world had ever known.”¹⁴⁰ Race was a concept for Roosevelt that didn’t fit in national discussions about equality, opportunity, and unity, but rather was interwoven with the evolutionary biological eugenic philosophies at the time masked as “science.” And for Roosevelt, it wasn’t

¹³⁸ Ibid., 50.

¹³⁹ Ibid., 5.

¹⁴⁰ Gary Gerstle, *American Crucible: Race and Nation in the Twentieth Century* (Princeton: Princeton University Press, 2017).

simply that white Americans had become the greatest English-speaking people on the planet through the pursuit of democracy, hard work, and manly virility of conquering the frontier while the “weaker” races either stood by in servitude, were exterminated, or too weak to withstand harsh treatment or disease. Roosevelt believed that the development of the white American “race” and the history of white European colonization benefited the peoples it conquered. For instance, in “Expansion of the White Races,” a speech Roosevelt gave at the celebration of the African Diamond Jubilee of the Methodist Episcopal Church in Washington, D.C. on January 18, 1909, he opened the speech saying that one feature that should always be remembered regarding the expansion of white people in the past 400 years, is that it had a “lasting benefit to most of the peoples already dwelling in the lands” colonized.¹⁴¹ In the speech he Roosevelt acknowledged “cruel injustices” upon indigenous people and “although not very frequently, a mild and kindly race has been treated with wanton, brutal, and ruthless inhumanity by white intruders.” While Roosevelt acknowledges the brutality of “a few” whites, his view is ultimately rooted in white supremacy notions of whites being the fitter and most civilized and evolved race because “savages” died out when treated both badly and kindly by whites because they were “so primitive as to be absolutely incompatible with the existence of civilization.”¹⁴² Roosevelt also declared that indigenous populations across the world were at that time, greater than when colonization began and that even though Natives of the Americas “were well-nigh exterminated...it is undoubtedly true that the Indian

¹⁴¹ Theodore Roosevelt. “The Expansion of the White Races.” Address at the celebration of the African Diamond Jubilee of the Methodist Episcopal Church in Washington, D.C. January 18, 1909. Accessed April 30, 2018. <http://www.theodore-roosevelt.com/images/research/speeches/trwhiteraces.pdf>.

¹⁴² Ibid.

population of America is larger today than it was when Columbus discovered the continent, and stands on a far higher plane of happiness and efficiency.”¹⁴³ Roosevelt believed that the United States had one obligation to Africa because of its history of slavery at that was the responsibility “for the moral well-being of the people of Africa” which included the spread of Christianity to redeem a continent “lain for thousands of years in darkness.”¹⁴⁴

Conservation to Mainstream Environmentalism: A Showcase of the Management of Populations, Resources, and Species

With this cultural landscape analysis, I have attempted to contextualize the memorial island in a way that makes visible many aspects of the island, memorial, and Theodore Roosevelt that wouldn’t necessarily be known or seen by someone visiting the island or familiar with Theodore Roosevelt. National memorials—whether they celebrate or mourn people or moments of history—symbolically attempt to tell particular types of stories sanctioned by the state. In this case, the infrastructure and monoliths honoring Roosevelt as the first conservationist president attempt to portray Roosevelt as someone who felt most alive and righteous surrounded by the nature of a “climax” forest who cared deeply about nature, the state, manhood, and youth. The original plans for a natural climax forest in which “human uses of the land” would be restricted” with “guidance towards perfection of its intended kind.”¹⁴⁵

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ U.S. Dept. of the Interior (Pliska), *Historical American Landscapes Survey*, 82.

The imagined climax forest surrounding the towering and larger than life bronze statue of Roosevelt and the monoliths that surround it does not tell the story of Roosevelt's quest to guide the American white race "towards perfection of its intended kind." Likewise, the surrounding *contemporary* climax Eastern deciduous forest (that doesn't resemble precolonial forests because of imported and extinct vegetation and species) doesn't reveal either the historical human uses of the island or the non-human factors at work in what constitutes the island and its environmental history. The memorial does a particular kind of work in terms of producing and imagining mainstream contemporary environmentalism reserved for particular forms of consumptive recreation for those who have the car, boat, or bike to access the island.

Theodore Roosevelt Memorial Island is an example of historical and contemporary mainstream environmentalism sanctioned by the state. What this cultural landscape analysis of the island demonstrates is that this type of mainstream environmentalism is rooted in normative notions of gender, race, nation, and nature. Conservation, a key concept in environmental discourses, was used by Theodore Roosevelt to not just save western forests, mountains, waterways, and America's pure magnificent places from being destroyed by corporations, but was also a key racial and gendered concept at the time. The country needed its natural resources and beautiful places conserved, but it also needed the white race, white manhood, and womanhood conserved through one's duty to reproduce for the state. It is more useful to not think of Roosevelt's work or the memorial island as a form of environmentalism, but as the deliberate management of populations, resources, and

species. When mainstream environmentalism is framed as a management project—especially that of managing people and populations, it’s easier to include human concepts of race, gender, and sexuality into analyses, planning, and practices of environmentalism. Mainstream environmentalism (which includes consumer culture environmentalism) is not always a benevolent quest to save the environment or protect and care about the people in particular environments. It is full of unexamined assumptions of who the good life and a beautiful, likable, and livable environment is for.

Chapter 3: The Emergence of Transgender Fish in the Potomac River Basin: The Sexual, Racial, and Reproductive Politics of Endocrine Disruptors

The Emergence of Transgender Fish in the Potomac River Basin

“Transgendered” fish were first noticed in the Potomac River in 2003 when scientists with the West Virginia Division of Natural Resources and the United States Geological Survey examined widespread and pervasive fish kills and discovered that smallmouth bass exhibited widespread reproductive anomalies. They found that nearly 80 percent of male smallmouth bass exhibited an intersex condition in which eggs were found inside the testes.¹⁴⁶ Since then, there has been extensive coverage in both mainstream and scientific media on what are referred to as “transgendered,” “intersex,” or “sexually confused” fish, linking the rise of this new phenomenon to alarming amounts of “endocrine-disrupting chemicals” or EDCs, found in synthetic chemical waste, sewer runoff, and “treated” grey water. The correlation between toxic conditions in waterways and reproductive anomalies is not a recent phenomenon, however. Since the late 1970s, reports by English anglers of “sexually confused fish” caught the attention of both media and researchers and it now appears that correlations between EDCs and reproductive anomalies are widespread and pervasive not only geographically, but across multiple species as well, including alligators, birds, panthers, turtles, mink, otters, and even large mammals such as polar

¹⁴⁶ Douglas B. Chambers and Thomas J. Leiker, “A Reconnaissance for Emerging Contaminants in the South Branch Potomac River, Cacapon River, and Williams River Basins, West Virginia, April-October 2004” (Reston, VA: U.S. Geological Survey, 2006), 7. Accessed January 7, 2016. <http://pubs.usgs.gov/of/2006/1393/>.

bears and humans.¹⁴⁷ In fact, the issue has become enough of a concern that legislation was submitted to Congress in December 2009 to push for the Endocrine Disruption Prevention Act, H.R. 4190, which if passed would legislate government-funded research investigating the sources of the problem.

In this chapter I argue that transgeneriness is used by media, researchers, and government to present sensationalized and unscientific anthroheterocentric assumptions about sexuality and reproduction. Transgender fish emerge as an imagined feminized transsexual ecocatastrophe to be feared that do not belong in The Nation's River. An interdependent ecological transsex interpretation is necessary to expose the anthroheterocentric paradigm in order to better understand the evolutionary ecologies of nonhuman, human, and systemic reproduction. Transsexuality might very well have reproductive and evolutionary possibilities and potential. And if transsexuality is or becomes an evolutionary "dead end," that may be a larger systemic adaptation of a larger interrelated ecosystem. This chapter demonstrates that environmental concerns about of The Nation's River are encased in discourses of ecocatastrophe about reproduction, the sustainability of male sex ratios, and the belonging of anatomically correct fish.

I examine media attention to the emergence of "transgendered" fish in the Potomac River to consider why the idea of transgenderedness is being used to represent toxicity and sexual ecocatastrophe, instead of the various economic and political aspects of "development" that create toxic endocrine-disrupting conditions in

¹⁴⁷ Nancy Langston, "Gender Transformed: Endocrine Disruptors in the Environment," in *Seeing Nature Through Gender*, ed. Virginia J. Scharff (Lawrence, KS: The University of Kansas Press, 2003), 129-132.

the Potomac River.¹⁴⁸ Stated simply, why is “transgender” the signifier and not “Merck & Co, Inc.,” or “Perdue, Inc.”? Upon preliminary consideration, it’s obvious that the use of “transgenderedness” as a sensationalized cultural signifier of eco-catastrophe illustrates that certain assumptions about reproduction are at play and entangled with specific human socio-cultural categories in these mainstream media discourses. What assumptions about reproduction are at play, and how can my examination of “transgender” fish be used to make them visible? How does the mainstream media’s focus on particular socio-cultural and species categories divert attention from the ecological and economic roots of the problem?

Many feminist scholars and scholars of race have illustrated that the generic normative white male is what has enveloped the category of what counts as human throughout most of Western history, while women and non-white bodies have been comparatively associated with “lower” taxonomical categories more similar to animals.¹⁴⁹ With this in mind, what historical residues of that knowledge infrastructure seep into the present and how can “transgendered” fish, as a symbol of eco-catastrophe and toxicity, be used to link the seemingly separate categories of “economic production” and “biological reproduction”?

Theoretically, this section draws from Jennifer Terry’s work illustrating what she calls the “traffic between nature and culture” to trace some of the pathways EDCs

¹⁴⁸ Portions of this chapter were previously published. Bailey Kier, “Interdependent Ecological Transsex.”

¹⁴⁹ Cary Wolf, *Animal Rites: American Culture, the Discourse of Species, and Posthumanist Theory*. (Chicago: University of Chicago Press, 2003); Susanne Kappeler, “Speciesism, Racism, Nationalism...or the Power of Scientific Subjectivity,” in *Animals and Women: Feminist Theoretical Explorations*, ed. Carol J. Adams, and Josephine Donovan. (Durham: Duke University Press, 1995), 320-352; Lisa Kemmerer, *Sister Species: Women, Animals, and Social Justice* (Urbana: University of Illinois Press, 2011).

and discourses of EDCs travel, simultaneously through the Potomac landscape, transnational mediascape and global bioscape.¹⁵⁰ The methodological interplay is intended to sort through some of the discrepancies about what is *really* happening and what is *ideologically* happening. While I don't claim that I will be able to give a concise definitive answer to what is really happening in an ecological sense versus what is happening in terms of discourse and ideology, I can offer pieces, and more importantly, through the process of such investigation, offer insights into expanding available research models to tackle such questions in the age of increasingly corrupt corporate privatization of information, research, and science. In other words, this chapter is more focused upon *processes* of how to sort through distinctions of reality and ideology, and is more concerned with the how—the methodological—than with the what.

The first set of sources I utilize is a collection of mainstream media news stories reporting on the relationships between toxicity and “transgendered” fish in the Potomac Basin. A preliminary search shows that a vast array of local, national, and international mainstream media sources have covered this story from roughly 2003 to the present although there are bits and pieces since about 2000. These sources include stories from *The Huffington Post*, *The Washington Post*, *the Washington Examiner*, Fox News, the BBC, *National Geographic*, *Science Daily*, the magazine *Outdoor Life*, and various other print, broadcast, and internet media. These sources will be

¹⁵⁰ Jennifer Terry, “‘Unnatural Acts’ in Nature: The Scientific Fascination with Queer Animals,” *GLQ: A Journal of Lesbian and Gay Studies*. 6, no. 2 (2000):151-193.

examined not only for what they are reporting, but for the assumptions and language they use to describe this particular instance of reproductive-sexual eco-catastrophe.

What methods and sources could possibly fill in the gaps, to sort through ways to determine what is actually happening and what is happening in terms of ideology and discourse? In many ways this is a question of what it would entail to identify various accessible components of a cultural-eco-bio archive of EDCs. This archive is improvised and consists of the following: 1) surveying some of the scientific literature to compile a partial list of specific chemicals acting as EDCs in living creatures; 2) Analyzing the gendered and reproductive discourses of EDCs in media and government response to this sexualized environmental issue; 3) investigating to the extent possible the underlying assumptions which frame how science, government, and media look at EDCs and their reproductive effects 4) Unraveling the human gender discourses from the ecological response of organisms to suggest new ways of viewing transsexual ecologies.

In April 2010, the popular New York-centric blog *Gawker*¹⁵¹ declared “Promiscuous DC Residents are Creating Sexually-Confused Fish.” According to writer Jeff Neumann the “toxic stew” of birth control pill saturated Potomac River water-urine mixed with “a cocktail of household items” is causing normal fish to mutate into “sexually confused fish.” Once originally male, now “sexually confused”

¹⁵¹ The blog Gawker was owned by Gawker Media. Gawker Media was estimated by *24/7 Wall St.* (an online financial analysis news agency which delivers content for major news portals such as MSN, MSN Money, The Huffington Post, Yahoo!, etc.) to be the first most valuable blog company in the U.S., worth \$300 million. Douglas A. McIntyre, “The Twenty-Five Most Valuable Blogs in America,” *24/7 Wall St.* November 10, 2009. Accessed March 4, 2012. <http://247wallst.com/2009/11/10/the-twenty-five-most-valuable-blogs-in-america/>

fish lurk in ‘The Nation’s River,’¹⁵² representing a so called “intersex species” by carrying “eggs in their testes.” *Gawker* sarcastically declares mutant testicles “should be comforting news to anyone who drinks tap water,” from the Potomac River—the water supply for 90 percent of the Washington D.C. region.¹⁵³

Only minutes after it was published, *Gawker* pulled information for this story from *The Guardian*’s story—“‘Toxic stew’ of chemicals causing male fish to carry eggs in testes”—itself obtained from information from The Potomac Conservancy and the U.S. Geological Survey.¹⁵⁴ *The Guardian* used U.S. Geological Survey biologist Vicki Blazer’s expertise in explaining the “toxic stew”:

The chemicals could include birth control pills and other drugs, toiletries especially those with fragrances, products such as tissues treated with antibacterial agents, or goods treated with flame retardants that find their way into waste water.¹⁵⁵

Gawker’s multiply borrowed sensationalism represents a common formula for how science, media, activists, consumers, and governments have responded to pollution induced sexual and reproductive transformation. *Gawker*’s portrayal of “sexually-confused” fish places both feminized blame and risk towards the masculinity of humans at the forefront of stories about pollution induced sexual and reproductive transformation. This is just one of thousands of media stories since 2003 when “transgender” fish were first discovered in the Potomac River. One of the most

¹⁵³ Jeff Neumann, “Promiscuous DC Residents are Creating Sexually-Confused Fish,” *Gawker* April 21, 2010. Accessed March 6, 2013. <http://gawker.com/5520990/promiscuous-dc-residents-are-creating-sexually-confused-fish>

¹⁵⁴ Suzanne Goldenberg, “‘Toxic stew’ of chemicals causing male fish to carry eggs in testes.” *The Guardian*. April 21, 2010. Accessed March 7, 2013. <http://www.theguardian.com/environment/2010/apr/21/toxic-stew-chemicals-fish-eggs>.

¹⁵⁵ Goldenberg. “‘Toxic stew.’”

obvious assumptions, exhibited in the block quote above, is associating the waste products of normative femininity as the main ingredients of transsexual toxic stew—birth control, beauty products, tissues, fragrances, antibacterial products, and flame-retardants.¹⁵⁶

I attempt to expose the common formula Gawker and so many other media, government, and scientific sources use to perpetuate very inaccurate, misguided, and dangerous research, public, and global health agenda—one I believe is almost entirely backwards—and one where relationships between environmental destruction, pollution, and transsexuality need to be radically reassessed. I suggest that the story of “transgender” fish and its related narratives of pollution induced transsexual ecocatastrophes might consider using queer ecology as a method of interpreting both environmental change and unpacking discourses of eco and reproductive catastrophes. And most importantly, reevaluating provides the potential for very different stories, possibilities, and hope to emerge about pollution, transsexuality, and planetary change.

A decade after the US Geological Survey’s findings, thousands of scientific studies have been produced, and local, state, and federal governments and the non-profit sector have advanced public and environmental health agendas—as well as millions of dollars for the issues. Thousands of media accounts now exist from personal blogs to National Geographic as well as thousands of scientific studies in

¹⁵⁶ While femininity isn’t the first thing one might think of when it comes to flame retardants, they do have a gendered history within consumerism as women are typically expected to be the ones making purchasing decisions for household items.

addition to national and global-wide consumer and environmental activism regarding pollutants and their sexual and reproductive biological effects.¹⁵⁷

“Feminized” male Bass, arguably symbolized as “*the nation’s* game fish,”¹⁵⁸ carrying eggs in “*The Nation’s* River” appearing on the front page of a highly read top political US news outlet, sparked the beginnings of the extensive transphobic and anthroheterocentric media frenzy that continues today. This has co-evolved with an extensive research and public health agenda investigating relationships between pollution, toxins, transsexuality, and reproductive anomalies.

Five years later, by the time the “transgender” fish story had spread throughout mainstream media, I became fascinated with how science, government and media assumed transsexuality as a core of modern day narratives of pollution as well as an ecological catastrophe well underway. This was also a time I was undergoing significant effects of my own transsexual transition while living on the banks of the Potomac River. I just couldn’t believe transsexuality was at the heart of

¹⁵⁷ Searches on June 5, 2013 in the Science Citation Index (Web of Science) database which catalogues scientific articles revealed 3,147 results for keyword “endocrine disruptors,” and 2,789 results for “endocrine disrupting chemicals” There are probably many more articles than this considering several other key words exist. Additionally, a Google search reveals 684,000 hits for “endocrine disruptors” and 340,000 hits for “endocrine disrupting chemicals.” The Google hits represent a wide range of media, government, activist, research, and consumer websites.

¹⁵⁸ According to The U.S. Fish & Wildlife Service’s *2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*, black bass (which includes the smallmouth bass) is the most popular freshwater game fish in the United States with 10 million anglers pursuing the fish outside the Great Lakes an average of 161 million days in 2006. This number goes up even more when considering the number of black bass pursued in the Great Lakes. U.S. Department of the Interior, Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. *2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. 12, Accessed on June 11, 2013, <http://www.census.gov/prod/2008pubs/fhw06-nat.pdf>. Additionally, bass fishing was the root of today’s multimillion dollar fishing industry of fishing gear, tourism, reality television, tournaments, and literature. The bass is also known as a delicious highly sought after fish that fights until its death making the catch exciting, dramatic, and violent. Ken Schultz, *Bass Madness: Bigmouths, Big Money, and Big Dreams at the Bassmaster Classic* (Hoboken: John Wiley & Sons, 2006); Robert H Boyle, *Bass Boss: The Inspiring Story of Ray Scott and the Sport Fishing Industry He Created* (Pintala, Alabama: Whitetail Trail Press, 1999).

environmental catastrophe. Too much about my own transsexual, ecological, and social experiences assured me that ecocatastrophe is largely culturally manufactured, both in its material forms and knowledge structures and despite biological effects—some indeed not desired—and is full of unpredictable transformations that are more resilient and surprising than we're often led to believe.

The media hype surrounding the “rise” of transgender fish caught my attention at a time I simultaneously fell in love and despair with this river and when my own hormonal bodily ecology was undergoing intense transformations. At first I didn't know the dramatic changes to my mental state were attributable to hormones, because mental “health” topics commonly discussed within transmasculine communities and by medical providers mostly include depression, gender dysphoria, PTSD, anxiety, and testosterone induced “roid” rage. I had been taking hormones for several years and never experienced changes in my mental state other than the ebbs and flows of depression. So I assumed something else was forcing this emotional and perceptual intensity and affecting me “independently” from my pharmaceutical transsexuality. I thought I might be experiencing symptoms similar to but not exactly like schizophrenia, autism, heavy metal poisoning, or Lyme's disease, very well knowing my symptoms breached categorical borders of modern diagnoses and that I was afraid enough of the “treatment” (except heavy metal poisoning), that I would avoid being diagnosed at all costs.

My sensitivities were heightened and my hearing, sense of smell, and tactile sensation were at times nearly unbearable while my peripheral vision got narrower. I felt like the filters I once had to distinguish and focus on one sensation were not

working properly. I could hear everything at once—hissing gas lines, jets and helicopters, tens of thousands of tires and car engines rotating around the Capital Beltway, the conversations of multiple neighbors, millions of water molecules moving through rocks in the river and creek beds, crickets, birds, electricity, leaves brushing each other in the wind, and wi-fi signals. At times I didn't know what was "real." Was I really hearing all these sounds at once and feeling organisms crawling on my body while simultaneously inhaling the overwhelming smells of molds, exhaust, and chlorine?

I then found out my testosterone and estrogen levels were both exceedingly high and I began to become convinced that this was all indeed "real" without me having to know or separate if it was in my mind or bodily ecology, accepting it was as much part of me as it was part of everything in this River Basin. I felt utterly and wholly connected for the first time in my life, knowing my materiality was so much bigger and beyond me. My life of being conscious of my systemic presence and ability to think about it came into being at a time when my medically monitored binarized sex hormones were considered "wrong" by the authority of medicine. But something about this all seemed too right.

Eva Hayward in "Spider City Sex" utilizes Susan Stryker's method of transsexual autoethnography to theorize transitional embodiment and the politics of place. Hayward asks:

"How might places come to matter in the changing of one's sex? How do the intensities, energies, and forces that accompany transsexual transitions shape and reshape a neighborly self? What is the somatic sociality of trans-becoming? By trans-becoming, I mean an emergence of a material, psychical, sensual, and social self through corporeal,

spatial, and temporal processes that trans-form the lived body.”¹⁵⁹

Hayward’s questions are central to how I came to know myself, my dis-ease and my environmental impact as well as the Potomac River. I began to think very differently about transsexuality, pollution, and trans-ness (perpetual change and/or adaptation, death, and life). The ways I began reimagining these concepts were beginning to look very different than mainstream representations in media, science, government, and even contemporary transgender communities. My transsexuality, my body, the things I have learned from this river, and the millions of things that make up the materialities of the Potomac region cannot be separated for me. If it wasn’t for the intensities of my hormonal ecologies at this time spent of the river, I’m not sure any of these ideas would have ever taken hold.

The Potomac, its swamps (what’s left of them), creatures, garbage, wildness, and raw power taught me to love the volatile transitional zones of this “Natural,” social, and political landscape after years of hating the Washington D.C. metropolitan area. I hated this area not only because I compared it to the idyllic mountains and river systems of the Western Cascade Mountains in Washington State that shaped my mind as a child, but also because I believed humans had permanently ruined the “Natural” world here. Before my life on the Potomac I didn’t believe “wild” spaces existed in this place. But slowly my hormonal induced intensified perceptions exposed the vast wildness and biological diversity of this place—the resilience, destruction, peace, chaos, and breath taking beauty. For the first time I was

¹⁵⁹ Eva Hayward, “Spider City Sex,” *Women & Performance: A Journal of Feminist Theory*. 20, no. 3 (2010): 225-226.

aware that I was thinking and getting to know this River basin systemically—a skill I had taken for granted growing up in the Western Cascades where I was taught to read maps, the landscape, and the behavior of animals before I was taught to read. It took putting me in a new and completely foreign wild raw landscape in the midst of emotional and bodily despair to realize I not only had these skills, but this was how I was taught to think and know the world around me. I would never again know “home” or so many of the other things I took for granted the same way again. My ideas about health, wildness, nature, the body, pollution, purity, gender, species, race, environmentalism, segregation and transgender took on new meaning as my experiences on the Potomac solidified the Cascade roots that molded my systemic ways of perceiving, observing, and thinking. These experiences made new ideas about the region, the Potomac River basin, and ecological transsex possible.

Interdependent ecological transsex—or ecological transsexuality—has otherwise popularly become known around the globe as mutant “tranny” fish, hermaphroditic polar bears, alligators with tiny penises, and a number of other highly inaccurate descriptors, assumptions, and “fish stories” about fish, humans, and other creatures. What has ensued is a frenzy of pseudoscientific information exchange mongering, relying on very inaccurate information, false concepts, and assumptions that drive anthroheterocentric transphobic research and public policy agendas. I use the “transgender” fish story to show how anthroheterocentrism and transphobia have become core values of contemporary mainstream environmentalism, and like so many other facets of environmentalism, are paradoxically detrimental to the quest for more equitable social and environmental relations in the age of climate change. I illuminate

this normative formula used for investigating and respond to ecologically induced transsexuality—whether it be from pollution, consumer goods, or other “natural” sources to show how anthroheterocentrism and transphobia set the foundation for detrimental key components of this formula to flourish. Media, science, and government have used misinformation, sensationalization, and fear to transsexualize the effects of pollution and human induced environmental catastrophes. However, transsexualization is not an end-all effect—it is a real life evolutionary response with various possible outcomes whether those be “good” or “bad.”

So-called transsexual ecocatastrophes add yet another layer of fear in discourses of climate change already well over saturated with overpopulation narratives full of racism and hatred for the poor which valorize U.S militarism and (mostly) white consumerism for doing their part (green consumerism, war, securitization, etc.) to “save” the planet. Noël Sturgeon’s *Environmentalism in Popular Culture: Gender, Sexuality, and Race and the Politics of the Natural* focuses on the racial, sexual, and class politics “saving the planet,” arguing popular culture fails to illuminate how environmental and social problems are inseparably fused. The invisible dependence of social and ecological problems helps normalize and conceal the racism, heterocentrism, and militarism that perpetuate causes, responses, and solutions to environmental problems. Sturgeon cites countless examples from children’s movies, consumer behavior, advertising, and entertainment, showing how green approaches to “saving the planet” fortify gender, racial, and class inequalities

while positing the white suburban “Natural” nuclear family as the foundational necessity for securing the planet.¹⁶⁰

Sturgeon’s assertion that white heterosexism and the nuclear family are primary factors in shaping discourses of mainstream environmentalism can be taken even further. I do this through examining inaccuracies, myths, and assumptions about pollution induced transsexuality, showing how anthroheterocentrism and transphobia function as the base for knowledge infrastructures of environmentalism that science, public policy, consumers, and the media use to perpetuate fear, security, and violence as motivating factors to secure a future. The anthroheterocentrism of mainstream environmentalism *is a social problem* masked as “Nature,” which produces an inaccurately dangerous narrative of biological transformation in relation to pollution, climate change, adaptation, and social and political structures.¹⁶¹ Through this analysis I challenge what often appears as benevolent environmentalism in order to clarify more precisely complex realities of ecosocial¹⁶² problems so that “saving the

¹⁶⁰ Noël Sturgeon, *Environmentalism in Popular Culture: Gender, Sexuality, and Race and the Politics of the Natural* (Tucson: University of Arizona Press, 2009).

¹⁶¹ I capitalize and use quotation marks for “Nature” to convey the theoretical orientation of “Nature” this project assumes. It comes from Timothy Morton’s *Ecology Without Nature: Rethinking Environmental Aesthetics*, which theorizes how ecological critique must do away all together with the concept of “Nature.” According to Morton, environmental and ecological thought produced a mythical idea of a “Nature” that surrounds us and that needs to be healed. Instead Morton proposes a dark ecology in which environmental catastrophes are already well underway.

¹⁶² Nancy Krieger, “Theories for Social Epidemiology in the 21st Century: An Ecosocial Perspective,” *International Journal of Epidemiology* 30 (2001): 668-677. The term “ecosocial” comes from the field of epidemiology and was devised by Nancy Krieger in 1994. It’s a term used to both highlight the social inequities of health and also to critique epidemiology’s paradigm of multiple causation and the web of causation. Krieger argues biomedical individualism influences what researchers incorporate into the web of possibilities. Instead ecosocial refers to a “visual fractal metaphor of an evolving bush of life intertwined at every scale, micro and macro, with the scaffolding of society that different core social groups daily reinforce or seek to alter.” Building upon Krieger, I think the meaning of ecosocial can be expanded to not only cross interdisciplinary fields beyond epidemiology, but also enhance the term for epidemiology itself. I use the term ecosocial to refer to three dimensions where they are all interdependent in their effects and ultimately one thing but can be broken down into parts—economy, ecology, and the social. Anything and everything can be included such as humans, bacteria or rocks.

planet” can be revealed for what it more accurately represents—the management of planetary populations, resources, and species. Discourses of climate change need to be thought of not only as the current hype regarding global warming, but in context and relation to the historical rise of environmentalism—the early conservation movement—that coincided with manifest destiny, the closing of the frontier and the management of population, resources, and species (timber, minerals, buffalo, wolves, Native Americans, wilderness, cattle, hogs, fencing, etc.). While the term “climate change” came to replace “global warming” as a way of sidetracking deniers of global warming, the rubric of climate change is intertwined with corporate and government interests in the contemporary management of populations, resources, and species. Therefore, while the planet is indeed warming, more investment is put into managing the secured livelihood of resources and species for use by certain populations at the expense of others. While there are attempts being made to combat climate change such as carbon trading and research (and most likely experimentation) being done on weather and jet stream control, evidence points to a much more concerted effort to secure the necessities for survival (privatization of water, massive agricultural land grabbing, privatization and genetic modification of seeds, fish, and livestock, the militarization of national borders, the implementation of drone warfare and surveillance, etc.). Therefore, the contemporary “emergency” of climate change cannot be decontextualized from discourses of overpopulation, immigration, birth/reproductive control of people, livestock, and wildlife, xenophobia, de-facto

Economy is what is used, given, taken, moved, traded stolen, shared, etc. Ecology is the relations and the social are conscious relations (671).

segregation, the management of water resources, etc. The danger of simply using and perpetuating the term of climate change solely by itself without connecting it to the many other things it is related to and implicated within is that the effects (segregation, population control, etc.) will be represented as “natural” responses to a “natural” planetary effect. Just as the Cold War and threat of nuclear annihilation taught populations to think and behave in particular ways, climate change will and is doing the same.

Besides anthroheterocentrism and transphobia, the use of fear and catastrophe are also major components to the way contemporary environmental discourses function. In the media we hear of these catastrophes daily from Facebook to CNN. Pollutants turning male fish female and if this can happen to fish, it might happen to humans. Climate change is causing droughts, massive wildfires, superstorms, and loss of inhabitable coastal cities threatening human homes and habitation. Bee populations are dwindling, potentially causing collapse of entire crops and food systems. Dwindling aquifers, low snowpack, and shrinking rivers threaten the water supply of entire cities. The fixation on fear and catastrophe are cultural effects of planetary degradation, but also have systemic social and environmental impacts similar to mass scale pollution, over consumption and resource extraction that fear induces in the first place. In other words, the fear and possibility of dwindling water and food supplies has a further negative impact on the environment. Water becomes increasingly privatized and purchased in plastic (oil) bottles from a store because people are afraid to drink out of their tap. Rich people buy land in Idaho, Western Montana, Alaska, and West Virginia to cut down trees while wildlife evacuates to build a second or

third (after their vacation home) Doomsday fortress full of guns and ammo to keep others out, filled with unsustainable freeze-dried food they'll probably never eat. People throw away their current collection of EDC tainted goods to buy the latest cookwear, dishes, toiletries, and foods free of chemicals that will threaten their gender even though they can't escape the scope of EDCs in the environment that surrounds them.

The effect of fear is the second step in a cycle of environmental destruction that creates a feedback loop perpetuating further destruction and fear and more degradation and more fear. Fear of resource depletion, overpopulation, inter-population, invasive species, invasive populations, and lack of space, water, and resources for invasive species and populations create the conditions for unethical management of populations, resources, and species. As I previously mentioned, mainstream environmentalism must be understood not merely as a benevolent service to fellow humans and the planet,¹⁶³ but as the tactical management of populations, resources, and species. But even further, it must also be understood in context and as a part of the rise of health and safety culture since the 1980s perpetuated by the media, science, and government.

Christopher Booker and Richard North argue that the rise of modern safety culture is a phenomenon of the 1980s rooted in widespread media scares (backed by

¹⁶³ There are of course “environmentalists”—activists, government officials, and scientists who can be categorized as devoting their life to service for the betterment of the planet. But the problem with the term “environmentalism” is that it is a broad concept that has been ill-defined and overused—and we don't really know exactly what it means when it's used except for a vague sense of environmental degradation and possibly the desire to fix things. This project is more concerned with investigating what “environmentalism” means in the context of how resources are managed and knowledge about them is made through the triad of media, science, and government than what tends to flourish in U.S. popular culture.

science and government) having mostly to do with food (consumption and exposure) and sex. The rise of the modern environmental movement in the late 1960s along with the wind-down of threats by nuclear annihilation and communism paired with the spread of AIDS and the increasing need for food regulation (because of the filth of industrial farming) has produced a culture of fear and security. Booker and North argue mass scares produce more social and economic problems because the costs, logistics, and “solutions” to these scares do more harm than they prevent.¹⁶⁴ They contend that modern mass scares consist of seven major attributes. Six of the seven attributes are central to how the story of pollution induced ecological transsexuality has functioned, making it a mass scare that will most likely significantly define how we will think about climate change and the 21st century. The pattern by which full-blown scares develop includes:

1. A real problem becomes exaggerated, often by extrapolating from it to include something else.
2. The threat must be universal.
3. It must contain a strong element of uncertainty.
4. The threat must seem scientifically plausible.
5. The scare must be promoted by the media.
6. The crisis arrives when the threat is acknowledged by government.
7. Finally the truth emerges.¹⁶⁵

¹⁶⁴ Christopher Booker and Richard North, *Scared to Death: From BSE to Global Warming: How Scares Are Costing Us the Earth* (London: Continuum, 2007). Although Booker and North focus on the economic and social consequences of the rise of health and safety culture, there are just as many ecological consequences. The social, economic, and ecological, as Sturgeon points out, cannot be separated. Although their focus is indeed anthropocentric, transphobic, and many might argue conservative, their overall argument that the energy put into these scares by (pseudo) science, government, media, and consumers takes valuable energy away from actually addressing social, economic, and health problems, is very accurate. They contend that modern scares and the popularity of apocalyptic futures is equivalent to the past scare tactics of religion and witch hunts.

¹⁶⁵ Booker and North. *Scared to Death*, 165-166.

The story of “transgender fish” which has developed into the wide-scale scare of pollution induced transsexuality contains six of the seven of these attributes. First is the real problem of pollution effecting systemic ecologies and the biological systems of individual beings. The sexual and reproductive catastrophe is what has become exaggerated because creatures affected by endocrine disruptors still live and still reproduce, despite the multiple problems exposure to massive industrial pollution induces. It has been extrapolated from fish, to turtles, alligators, polar bears, and onto humans—especially males and children. Second, the threat of endocrine disruption has become a universal threat in media, science, and public policy. Endocrine disruption in the waters of the Potomac and as far as the Arctic is thought to be a threat to all sexual and reproductive systems on the planet. Third, endocrine disruptors create immense amounts of uncertainty since exposure thresholds do not conform to traditional toxicology models. Exposure and its effects can pass through generations, can be minuscule, can surface years later, or have immediate effects. Because bodies respond differently and are always exposed to varying environments as well as contain genetic diversity, exposure will always be unpredictable. Fourth, the threat is scientifically plausible because the history of the endocrine hypothesis (a hypothesis of the late 1980s that predicted exposure to certain industrial pollutants caused hormonal havoc) is based in the discovery of synthetic estrogen which was derived from coal tar in the early 20th century and the discovery that DDT caused endocrine disruption. Fifth, the media began promoting the scare of endocrine disruptors in the early 21st century, first focused on the Potomac River and then stories exploded exponentially to cover river and estuary systems around the globe.

Sixth, even though scientists were warning of endocrine disruptors throughout the 1990s and persuaded the EPA to set up a set of standards for investigating and regulating this new type of pollution, it was when “transgender” fish were discovered by the U.S. Geological Survey that Congress began drafting the Endocrine Disruptor Prevention Act. This is when the story of “transgender” fish vastly accelerated in the media. Lastly, I don’t believe the “truth” has yet emerged about how bodies respond to endocrine disruptors, which is why I am pursuing this project.

While the pollution that alters endocrine systems indeed seems frightening and the widespread destruction of the planet and the way that it has and will be managed is indeed even scarier, I argue that fear is one of the worst and potentially most detrimental responses that we can just let happen. Fear as a response shuts down the chance for other possibilities to emerge and will not allow the seventh attribute—“the truth”—to emerge about sexual and reproductive transformation. As I argue later, exposure and then bodily responses to that exposure are not always detrimental to systemic ecologies and individual bodies. It is merely assumed that ecological transsexuality is a catastrophe as a result of pollution, but it might be better thought of as not something to be afraid of, but a possibility for adaptation, evolution, and survival, and in the range of naturally occurring fluctuations.

I reveal the main components of falsely imagined transsexual ecocatastrophe through analyzing not just “transgender” fish but the cause of ecological transsexuality which has been attributed to endocrine-disrupting chemicals (otherwise

known as EDCs and endocrine disruptors.¹⁶⁶ The primary components of imagined transsexual ecocatastrophe include: 1.) A central focus on and fear of estrogenic effects as well as blaming the female; 2.) The fear of feminized maleness; 3.) Ecological transsexuality has mostly been observed in aquatic or aquatically-linked animals but anxieties are extrapolated onto humans; 4.) A grave concern regarding the reproductive capabilities of males—especially white human males; 5.) The need for consumer protection to preserve the hormonal integrity of humans—especially children and men; 6.) An almost total disregard for the fate of other species and an obsession of what this means for humans despite most research being conducted on animals; 7.) The use of fear as opposed to curiosity and possibility regarding ecological transsexuality; and 8.) The fact that many other interconnected biological systems are affected by EDCs (including metabolism, growth, development, cognition, and behavior.) However, the fear of transsexuality has been the focus and core of research, media attention, and public policy.

One particularly interesting element of the imagined transsexual ecocatastrophe is the way that it illustrates and escalates the cultural fears of the moment. As noted above, blaming the female is a central component, and there is unquestionably a general misogyny at work. However, in the specific context of the Potomac River and the Washington, D.C. area, the misogyny also carries a distinctly

¹⁶⁶ There is a false distinction that has been made and is easily assumed between the different terms “endocrine disrupting chemicals” and “endocrine disruptors.” Endocrine disrupting chemicals are most often thought of as synthetic products of the petrochemical age—plastics, pharmaceuticals, pesticides, and many other industrial materials that interfere with the endocrine systems of living things. Endocrine disruptors can and often do include petrochemical elements, but also refer to “natural” substances such as the estrogens in legumes and many other plants. This false distinction is based on the assumption that human petrochemical technologies are not a part of “Nature” or the “natural” that plant estrogens represent. (See the previous chapter and remarks on Timothy Morton’s work.)

racist overtone. *Gawker*'s portrayal of D.C.-area residents who use birth control as "promiscuous" imagines that birth control is used solely outside of cisgender heterosexual marriage. Further, given the role of eugenic thought in U.S. history, "promiscuous" likely also references eugenic notions about Black women's sexual activity and reproduction.

In *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty*, Dorothy Roberts illustrates the intimacy of race and reproduction, and the ongoing hegemonic project of controlling reproduction, and African American female bodies in particular.¹⁶⁷ Roberts ties the social and racial history of an earlier United States slave economy, reliant upon controlling African American women's reproductive bodies to re/produce the labor force, to the contemporary economic conditions of late capitalism, in which poor African American women's bodies have shifted from being material economic commodities to an expendable managed population, imagined as draining the monetary resources of the US nation state. As part of welfare "reform" in the 1990s, many states required that women receiving welfare benefits have Norplant implanted into their bodies and after Norplant was considered dangerous, Depo-Provera injections. *Gawker* taps into an updated image of Roberts' African American welfare mother—a promiscuous Black woman, now taking birth control—and the white working class's fear of displacement. Ironically, however, studies in contraceptive use and reproduction indicate that "Black women are more likely than white women to report using a contraceptive method associated with lower efficacy

¹⁶⁷ Dorothy Roberts, *Killing the Black Body: Race, Reproduction, and the Meaning of Liberty* (New York: Pantheon Books, 1997).

(e.g., withdrawal, condoms) or no contraception at all” and use of the implants is more likely among white women.¹⁶⁸ If birth control pills are contributing to endocrine-disrupting chemicals in the water, it’s not predominantly African American women who are putting them there.

The purpose for using queer ecological perspectives to reexamine the normative stories of pollution induced ecological transsexuality perpetuated by science, the media, and governments provides the potential for very different stories, possibilities, and hope to emerge about climate change, transsexuality, and planetary change. Transsexuality is a *possibility*; quite likely an asset, and definitely not only the catastrophe it has been deemed. I argue discourses of climate change are immersed within apocalyptic and catastrophic narratives that hinder so many other possibilities of how to deal with the challenges humanity faces for a more ethical management of populations, resources, and species.

When intersex fish were first noticed in the Potomac River in 2003 by the West Virginia Division of Natural Resources and the United States Geological Survey the media soon exploded with stories about “transgender” mutant fish lurking in the Nation’s River, the story eventually spread to different contexts all over the United States. Within the next five years, popular culture was inundated with the

¹⁶⁸ Carolyn Payne and Nicole Fanarjian, “Seeking Causes for Race-Related Disparities in Contraceptive Use,” *AMA Journal of Ethics* [Virtual Mentor] 16, October, 2014. Accessed March 12, 2019. <https://journalofethics.ama-assn.org/article/seeking-causes-race-related-disparities-contraceptive-use/2014-10>; Christine Dehlendorf, et al., “Racial/Ethnic Disparities in Contraceptive Use: Variation by Age and Women’s Reproductive Experiences,” *American Journal of Obstetrics and Gynecology* 210, no 6 (June 2014). Accessed March 12, 2019. <https://doi.org/10.1016/j.ajog.2014.01.037>. The study considered “barrier” methods such as condoms or diaphragms to be “less effective,” with hormonal methods (including pills, patches, rings and injections) to be “moderately effective. IUDs, implants and sterilization were considered “highly effective.”

potential threat of pollution and consumption induced transsexual ecocatastrophe. “Transgender” fish, alligators, polar bears, prepubescent girls, and low sperm counts are now a major concern for how life on a polluted planet will perpetuate itself. Initially the concern stemmed from the fact mentioned at the beginning of this chapter that most people in the Washington D.C. region get their drinking water from the Potomac River. However, the fear of transsexual reproductive catastrophe and hormonal havoc caused by endocrine disruptors now permeates nearly every aspect of consumer culture. Endocrine disruptors are found in water, canned foods, factory farmed meat, produce with pesticides, plastics in our cars, dishes, homes and offices, pesticides on our new clothing, and even in the air we breathe. As media, science, and the government have shown, everybody and every creature is potentially at risk through contact with the basic necessities for survival and life—and the risk has overwhelmingly been postulated as feminization and potential reproductive havoc despite the multitude of other effects as a result of contact with endocrine disruptors. Media accounts of endocrine disruptors ignore the complex technicalities of both what EDCs constitute and the multiple endocrine effects on living things. Instead incorrect and/or imprecise transphobic language is the norm. Although many media such as *The Washington Post* or *National Geographic* are more professional than *Gawker*’s rendition of blaming human females for promiscuity and estrogen laced urine turning all-American Bass of the Potomac River into “transgender” mutants—this professionalism is still seeped with transphobia and fear of estrogenic catastrophe for males of multiple species.

For instance, soon after West Virginia and Federal scientists discovered nearly 80 percent of male smallmouth bass exhibited an intersex condition in which eggs were found inside their testes the front page of *The Washington Post* proclaimed: “Male Bass in Potomac Producing Eggs: Pollution Suspected Cause of Anomaly in River’s South Branch.”¹⁶⁹ The article described the Potomac River near Moorefield West Virginia, 230 miles upstream from Washington D.C., as “clear as bottled water” but with a “mystery” of intersexual male fish. For the *Post*, this pollution-induced “inversion of nature,” beneath the “glassy surface” was feminizing smallmouth bass. But this wasn’t a type of pollution state and federal officials had ever tested for. Unfamiliarity and inexperience with testing for what scientists are now calling “emerging contaminants” as well as the invisible pollutive deception within the supposed pristine waters of Appalachian Potomac, rings familiar as a description commonly used for trans people often described as normal enough that one would “have never known” until they are outed and the deceptive original invisible threat now must be managed. The *Post* uses common transphobic cultural ideas to describe a supposedly deceptive nature lurking in the river. According to the post, scientists speculated estrogenic hormones from poultry manure, human sewage, synthetic chemicals, cleaners, and pesticides, were most likely to blame. *The Washington Post* explained:

The discovery has made the South Branch the latest example of an emerging national problem: Hormones, drugs and other man-made pollutants appear to be interfering with the chemical signals that make fish grow and reproduce... Whatever's doing this to the fish may be the canary in the mineshaft," said Margaret Janes, a West Virginia activist with the Appalachian Center for the Economy and the Environment.

¹⁶⁹ Chambers and Leiker, “Reconnaissance for Emerging Contaminants,” 7.

Scientists say it's still too early to tell what these findings will mean for the bass population in the South Branch; they aren't sure whether the affected males are still able to reproduce. And no one is aware of any effects on human health in the Potomac watershed.¹⁷⁰

This story of “Intersex” fish in “The Nation’s River” on the front page of *The Washington Post* marked the beginning of an extensive media, scientific, and government, and consumer campaign about EDC pollutants and threats to sexual/reproductive health in ‘The Nation’s River, The Nation’s Rivers, The Nation’s drinking water, The Nation’s population, particularly men and children, and to a lesser extent The Nation’s wildlife. Although scientists and some activists had been concerned and researching sexual and reproductive effects of EDCs since the 1990s, I believe it wasn’t until *The Washington Post* broke the story in 2003 that a popular culture discourse of pollution induced transsexual ecological catastrophe emerges that captivates not only science and government on a massive scale, but also the consuming public.

From 2004-2013, *The Washington Post* published at least 21 articles about pollution and intersex fish in the Potomac River and hundreds, perhaps thousands more stories emerged about the mysterious deceptive waters of the Potomac in news outlets around the world, including National Geographic, ABC News, USA Today, PBS, The Huffington Post, The New York Times, The BBC and NPR just to name a few. Transgender fish in ‘The Nation’s River’ also emerged as a hot topic on personal blogs, radio shows, and in fishing magazines.

¹⁷⁰ D.A. Fahrenthold, “Male Bass in Potomac Producing Eggs; Pollution Suspected Cause of Anomaly in River’s South Branch,” *The Washington Post* (2004, Oct 15). Accessed June 7, 2018. <http://search.proquest.com/docview/409739165?accountid=14696>

While *The Post* often used medical terms like intersex, hormones, and feminized to describe the sexual predicament of the fish, the media proliferated in describing the shocking dismay of estrogen induced “tranny” fish through descriptors such as “transgender,” “sexually confused,” “fishy,” “fooling,” “mysterious sex changes” “getting feminization” “estrogenic,” “engendering gender confusion” (my personal favorite), and “gender bending.”¹⁷¹ The broad use of imprecise language to describe the evolving discourse of pollution induced sexual transformation is indicative of the fact that the media, activists, and many researchers rely on anthropocentric assumptions of sex, gender, and reproduction to study, describe, and understand the world around them.

Almost a decade after the first story emerged in *The Washington Post* and in context with what some have called remarkable progress for human transgender advances in human rights in the United States, *The Washington Post* ran another story in March 2013 that is more transphobic than the first. In the Health and Science section, Darryl Fears wrote “Bay’s Intersex Fish Mystery Remains Unsolved.” Despite the reputation of *The Washington Post* as a highly read, respected liberal and

¹⁷¹ Kate VanEmriik, “Transgender Fish: Male Bass Produce Eggs in Potomac,” *Outdoor Life* September (2007). Accessed October 1, 2013. <http://www.outdoorlife.com/articles/kate-vanemriik/2007/09/transgender-fish>; Neumann, “Promiscuous DC Residents are Creating Sexually-Confused Fish,” *Gawker*; U.S. Fish & Wildlife Service: Chesapeake Bay Field Office. “Something Fishy is Going on...Male Fish with Immature Female Eggs.” Fall 2005 Newsletter. <http://www.fws.gov/chesapeakebay/newsletter/Fall05/Intersex%20Fish/Fishy.htm>. Accessed October 1, 2013; William Cocke, “Male Fish Producing Eggs in the Potomac River.” *National Geographic* November 3, 2004. Accessed July 31, 2011. http://news.nationalgeographic.com/news/2004/11/1103_041103_potomac_fish.html; KAT, “Sexually Confused Fish Popping Up in the Potomac” September 8, 2006. Accessed July 31, 2013. http://livingliberally.org/eating/story__sexually_confused_fish_popping_up_in_the_potomac_sep_08_2006_id90; Chesapeake Bay Foundation, “CSI Chesapeake Bay: Case of the Gender-Bending Bass,” *Bay Daily* May 27, 2009. Accessed August 4, 2013. http://cbf.typepad.com/bay_daily/2009/05/welcome-to-csi-chesapeake-bay--inside-a-morgue-like-room-furnished-with-a-steel-table-spread-with-hypodermic-needles-and-gla.html.

reputable news outlet that positively reports on advances for human transgender rights, Darryl Fears uses transphobic and incorrect language to describe the “gender-bending” smallmouth bass that switch “from male to something called intersex.” Fears writes: “Ten years have gone by since one of the weirdest discoveries in the Chesapeake Bay region, on the south branch of the Potomac River—male smallmouth bass with lady parts, eggs in places where they absolutely should not be.”¹⁷²

In essence, *The Washington Post*’s breaking story helped facilitate a national stage for new trans discourses to emerge in science, politics, reproduction, and the media. For the public, transsexuality was no longer just about humans, but the nonhuman and nature becomes transsexual as well, inciting public alarm and captivation in regards to pollution-induced reproductive transformations within national river basins of fish, wastes, hormones, pavement, agriculture, the pharmaceutical industry, infrastructures of suburbia, industry, sewer and waste management, and hydrology and runoff. Margaret Jane’s early speculation that “fish may be the canary in the mineshaft” has driven research, consumer behavior, and public policy agendas still attempting to answer if males of multiple species across the globe will continue to be able to reproduce.” Not surprisingly anxiety about male reproduction (desexualization) and early onset puberty for girls (hypersexualization) has driven research and public policy and dramatically expanded investigation from fish to multiple other creatures as well.

¹⁷² Darryl Fears, “Bay’s Intersex Fish Mystery Remains Unsolved,” *Washington Post*, March 17, 2013. Accessed October 3, 2013. https://www.washingtonpost.com/national/health-science/bays-intersex-fish-mystery-remains-unsolved/2013/03/17/7f368734-8746-11e2-9d71-f0feafdd1394_story.html?utm_term=.7a2c1d8c87df.

Most often the health of Native Americans is of little concern for governments and scientific research. But in 2008, the Canadian Broadcasting Corporation broke the story “Aboriginal Canadians Chemical Valley: Aamjiwnaang First Nation in Sarnia Sounds Alarm Over Toxins.” The article reported the details of a research symposium on pollution and reproductive health in the Great Lakes region. About 80 people from First Nations, environmental groups, and the scientific community gathered at the southern tip of Lake Huron in Sarnia (“Chemical Valley”), Ontario. The symposium convened because the Aamjiwnaang’s First Nation had “the lowest rate of live male births in the world (two girls born for every boy)” as well as high rates of disease, death, and miscarriage.¹⁷³ The Aamjiwnaang gained international attention after researchers published a study of birth rates from 1984-2003 showing a significant decline in male births from 1993-2003.¹⁷⁴ After publication in a leading journal, people began calling the Aamjiwnaang for further sex ratio studies. The Aamjiwnaang were also able to obtain funding from the Canadian government for the research symposium. Cancers and other illness that effect poorer communities who live within toxic sites often don’t catch the interest of researchers and governments.

The Aamjiwnaang are of interest because of the fear of sexual and reproductive catastrophe, probably not because the government or scientists are particularly worried about their fate, but because of what EDCs might do to desirable populations of nations. For instance, the national UK newspaper *The Independent*

¹⁷³ Mary Ann Colihan, “Aboriginal Canadians Chemical Valley: Aamjiwnaang First Nation in Sarnia Sounds Alarm Over Toxins,” Canadian Broadcasting Corporation, April 1, 2008. Accessed May 12, 2013. <http://www.cbc.ca/news/background/aboriginals/health.html>.

¹⁷⁴ Constanze A. Mackenzie, Ada Lockridge, and Margaret Keith, “Declining Sex Ratio in a First Nation Community,” *Environmental Health Perspectives* 113, no. 10 (October 2005) 1295-1298.

published a story in 2006 titled “Pollution: Where Have all the Baby Boys Gone?”

The story compares the declining sex ratio of British boys to the study of

Aamjiwnaang sex ratios. It reads:

Every year, thousands of British babies who should be boys are born girls. The answer to this mystery could lie in a small town in Canada...Something very strange is happening in a small but highly polluted Canadian community. And it may explain why every year thousands of British babies who should be boys are born as girls instead.¹⁷⁵

The story mentions sex ratios of The Aamjiwnaang are one boy for every two girls (56 boys to 100 girls)¹⁷⁶ and explains that the “normal” worldwide sex ratio is 106 boys to 100 girls. The story notes ratios for boys have fallen for rich countries in the last 25 years and “In Britain it has fallen to about 105 since 1977—which suggests that every year more than 3,000 babies are born as girls instead of boys.”¹⁷⁷ So the British boy sex ratio has declined by one in 100 girls since 1977 and they have lost 3000 boys to girls. What the story fails to mention is that sex ratios fluctuate across nations and across time. In the United States, for instance, the sex ratio for a mother aged 25-29 was 105 boys in 2002, 104.4 boys in 1991, 105.6 in 1977, and 106.3 in 1942 and 105.7 in 1940.¹⁷⁸ How and why are the UK’s sex ratios even being compared in this story? Perhaps because environmental degradation and the threat of eco-catastrophe can only be taken seriously enough to motivate governments,

¹⁷⁵ Geoffrey Lean, “Pollution: Where Have all the Baby Boys Gone?” *The Independent* April 2, 2006. Accessed October 2, 2013. <http://www.independent.co.uk/environment/pollution-where-have-all-the-baby-boys-gone-472477.html>

¹⁷⁶ Mackenzie, Lockridge and Keith, “Declining Sex Ratio in a First Nation Community.”

¹⁷⁷ Lean, “Pollution.”

¹⁷⁸ T.J. Mathews and B.E. Hamilton, “Trend Analysis of the Sex Ratio at Birth in the United States,” *National Vital Statistics Reports*: from the Centers for Disease Control and Prevention, National Center for Health Statistics, *National Vital Statistics System*. 53 no. 20, (2005): 11.

citizens, and dare I say corporations, to do something when the assumed norms of anthroheterocentric reproduction are disturbed—especially those of “desirable” populations?

Sarnia’s Chemical Valley illustrates the need to look at ecocatastrophe as not merely the detrimental effects of human industrial and agricultural impact on the planet, but as a discourse of science, government, and popular culture that demands analysis from a non-male centric perspective and instead a systemic perspective. Clearly fewer people are being born healthy and staying that way in Sarnia. Indeed, fewer males are being born, but that also means more females are being born than males. Since the toxicity of “Chemical Valley” is indeed doing damage to human health on population, then the ecological evolutionary response of the human species may be breeding more females because you can create a lot more humans with females than you can with more males.

However, a focus on the threat to maleness might not be the best approach if your assumptions guiding research are that anthrohetero reproduction applies to most other life forms. Male reproductive anxiety doesn’t make much sense in this paradigm. Female reproductive anxiety would actually make much more sense under human anthrohetero assumptions of reproduction for continuation of a species because the more reproductively successful females there are, the faster population will increase, since theoretically it only takes one man to impregnate 20 women.

As the *Washington Post* first reported, the first male intersex bass found in the Potomac River were discovered not because scientists were researching intersexuality in fish, but because “massive fish kills and widespread lesions” were being

investigated. It was only under the microscope they discovered testicular oocytes (eggs).¹⁷⁹

The U.S. government first began investigating the health effects of “estrogenic pesticides” in 1993 when researchers in wildlife biology, epidemiology, and environmentalism testified to the first session of the 103rd Congress that many human-made synthetic chemicals most likely interfere with the endocrine and reproductive systems of animals and most likely humans. Many of the scientists, Theo Colborn being one of the most well-known, testified at the hearing and published their findings three years later in the best selling book, *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? : A Scientific Detective Story*. This book helped spawn interest and research producing studies both providing evidence for and negating that EDCs were harmful to human and ecological health. The increase in research, public awareness, and push by scientists and activists kept the attention of the federal government. By 1996 Congress ordered a screening program for detecting EDCs by amending the Safe Drinking Water Act and by adding to the Food Quality Protection Act, requiring the EPA to determine within three years what pesticides “produce effects in humans similar to those produced by naturally occurring estrogens or, at the discretion of the Administrator, other endocrine effects in humans.”¹⁸⁰ In 1998 the EPA put together the Endocrine Disruptors Screening and Testing Advisory Committee (EDSTAC) and the Endocrine Disruptor Method

¹⁷⁹ V. S. Blazer et al., “Intersex (Testicular Oocytes) in Smallmouth Bass from the Potomac River and Selected Nearby Drainages,” *Journal of Aquatic Animal Health* 19, no. 4 (2007): 242, 242-253,

¹⁸⁰ Linda-Jo Schierow and Eugene H. Buck. “Environmental Exposure to Endocrine Disruptors: What Are the Human Health Risks? *Congressional Research Service Report* RL31267, February 4, 2002. Page 1-3. WikiLeaks Document Release, February 9, 2009. Accessed October 1, 2013. <http://crs.wikileaks-press.org/RL31267.pdf>

Validation Subcommittee in order to develop the Endocrine Disruptor Screening Program, but it was not yet functional in 2002, at the time The Congressional Research Service delivered its report, “Environmental Exposure to Endocrine Disruptors: What Are the Human Health Risks” to Congress.¹⁸¹ It wasn’t until October 2009, that the EPA released “test orders announcing the availability of initial standardized screens and testing protocols.”¹⁸²

The Congressional Research Service report began by defining endocrine disruptors as “chemical compounds in drugs, food, consumer products, or the ambient environment that can interfere with internal biological processes of animals that are normally regulated by their hormones.” After defining endocrine disruptors as affecting biological processes broadly, the report then focuses primarily on reproductive issues with little regard to other components of the endocrine system with a specific focus on “environmental estrogens,” xenoestrogen,” and declining sperm counts. The report, centered in concern for harm to maleness and reproductive capacity, mentions descriptors such as these several times: “Premature births,” “deformities of male reproductive organs,” “puberty at earlier ages,” “vaginal cancer,” “genital tract abnormalities,” “altered semen quality,” “shorter height at maturity,” “undescended testes,” “low sperm counts,” “feminization of males,” “presence of eggs in the testes,” “complete sex reversal of male salmon.”¹⁸³ The report briefly mentions thyroid dysfunction, attention deficit disorder, and certain cancers, but its main concern is reproductive and sex abnormalities.

¹⁸¹ Schierow and Buck “Environmental Exposure to Endocrine Disruptors.”

¹⁸² U.S. Congress, House. *Endocrine Disruption Prevention Act of 2009*, H.R. 4190, 111th Cong., 1st sess. Introduced in House December 3, 2009. <http://www.govtrack.us/congress/bills/111/hr4190>

¹⁸³ Schierow and Buck. “Environmental Exposure to Endocrine Disruptors,” 4-9.

The Endocrine Disruption Act of 2009, led by Congressman Jim Moran, senator John Kerry, and cosponsored by 18 other Democrats, was an attempt to amend the Public Health Service Act to sanction the National Institute of Environmental Health Sciences to conduct research “on endocrine disruption, to prevent and reduce the production of, and exposure to, chemicals that can undermine the development of children before they are born and cause lifelong impairment to their health and function, and for other purposes.”¹⁸⁴ What’s interesting about the text of this bill is it isn’t centered on sex and reproduction and sees the endocrine system as a complex system where EDCs produce a diversity of effects such as ADHD, autism, Parkinson’s, and asthma, to name a few. While Congress presents the effects of EDCs on the body more broadly and systemically, EDCs are also now framed as a threat to the “health and wealth of the Nation,” as well as capable of triggering “outcomes that could lead to population decline and loss of biodiversity” among plants and animals. Additionally, the bill found “one out of five male black bass in nine river basins in the United States exhibit intersex organs and up to 100 percent of smallmouth bass at some sites in the Potomac River.”¹⁸⁵

In 2011, the 112th Congress, led by John Kerry, proposed the Endocrine-Disrupting Chemicals Exposure Elimination Act of 2011, which would have greatly advanced a research agenda which focus was much broader than an obsession on male reproductive abnormalities and early puberty. The act would sponsor new research to discover more chemicals that might be EDCs, but also how EDCs affect

¹⁸⁴ U.S. Congress, House. *Endocrine Disruption Prevention Act of 2009*.

¹⁸⁵ Ibid.

endocrine systems and the body systemically. The bill was proposed twice but turned away both times. The bill proposed to investigate and discover many more types of chemicals that would be a threat to the petrochemical industry, and also to implement a ranking system of risk that would ban all chemicals discovered to be dangerous to human and animal health.¹⁸⁶

While science began investigating the ways EDCs have an estrogenic effect on sex and reproduction in the mid 1990s, recently scientists have increasingly been focusing on multiple facets of the endocrine system, human body, how estrogenic effects can skip bodies and generations, and the effects on populations. While new technologies scientific knowledge of scope and scale have made these types of systemic and temporal investigations possible, it seems—at least preliminarily, that estrogenic effects still seem to be the main focus of much scientific research.

Scientific literature mostly uses scientific language to describe how EDCs effect biological transformation but while the language is more formal and less “offensive,” like media portrayals, the focus is primarily on sexual/reproductive anomalies, threats to male reproduction, and centers in on estrogen at the expense of multiple other components of the reproductive system. Scientific studies with formal and less offensive language are still guilty of using transphobic and inaccurate rhetoric and terms.

For example, the peer reviewed journal *Bioscience*, a publication of the American Institute of Biological Sciences and the University of California Press, has

¹⁸⁶ U.S. Congress, Senate. *Endocrine-Disrupting Chemicals Exposure Elimination Act of 2011*, S 1361, 112th Cong., 1st sess. Introduced in Senate July 13, 2011. <http://www.gpo.gov/fdsys/pkg/BILLS-112s1361is/pdf/BILLS-112s1361is.pdf>.

published four pieces on the search word “endocrine disruptor.” Three are reports of scientific research and one is an essay in the “BioBriefs” section by freelance writer Beth Baker. All three articles center on estrogenic effects where a concern about lower sperm count prevails at the expense of other endocrine system functions.¹⁸⁷ While their use of scientific language is more or less accurate, Baker’s review essay brings transphobic language and assumptions to Bioscience through the bold use of a title: “Fishy Parents: Gender-Benders in the Wild.”¹⁸⁸ The first two sentences of the article proclaim:

For nearly 20 years, scientists have observed hormone disruption from exposure to environmental chemicals in a wide range of species, from marine snails to freshwater fishes, frogs, turtles, alligators, and humans. It was not known, though, whether and how gender changes in vertebrates, such as feminized reproductive traits in males, affect the fertility and sustainability of wild populations.”¹⁸⁹

Baker’s title and introductory sentences reveal a lot about the assumptions driving scientific research on environmental transsexuality. First, the title, “Fishy Parents,” invokes deceitful suspicion for an assumed transsexual-causing predecessor—the parents are suspect because how could Nature go wrong in an ordered clear-cut anthropocentric heterosexual reproductive order? From the title one would expect parental inversions of heterosexual Nature. Poorly yet sensationally

¹⁸⁷ Yoshinao Katsu and Taisen Iguchi, “Commonality in Signaling of Endocrine Disruption from Snail to Human,” *Bioscience* 58, no. 11 (December 2008): 1061-1067; Matthew R. Milnes and Louis J. Guillette, Jr., “Alligator Tales: New Lessons about Environmental Contaminants from a Sentinel Species,” *Bioscience* 58, no. 11 (December 2008): 1027-1036; Tyrone B. Hayes, “There Is No Denying This: Defusing the Confusion about Atrazine,” *Bioscience* 54, no. 12 (December 2004): 1138-1149.

¹⁸⁸ Beth Baker, “Fishy Parents,” *Bioscience* 61, no. 2 (February 2011): 168.

¹⁸⁹ *Ibid.* 168.

conceived, the title is an example of how discourses of ECDs and transsexuality convey information and knowledge in everyday culture.

Synthetically human-made reproductive and sex hormones were invented in the 1930s and have increasingly been used and promoted as a progressive invention for global public health, especially in the realm of birth control and reproductive drugs. The history of the development of sex and reproductive hormones through the twentieth century is intimately connected to developments in industrialization, fossil-fuel economies, mono-mechanical factory and pesticide agricultures, epoxy resins, dyes, plastics, computers, genetic engineering, etc. More recently, what are now called EDCs include an ever-growing list of plastics, pesticides, herbicides, epoxy resins, and agricultural run-off and waste. EDCs are thought to affect the endocrine and hormone systems of animals and humans and are thought to mimic the effects of estrogen and other hormones and processes of metabolism that bodies produce. Theo Colborn, Frederick S. vom Sall, and Ana M. Sota write: “Literally, thousands of synthetic compounds [many made from oil], a number of which are endocrine disruptors, have been released in the environment, generating concern about their additive and synergistic effects.”¹⁹⁰ In less than 100 years, synthetic hormones and EDCs have most likely played a significant role in human population, species, and plant compositions and re/productions of the global present.

Both estrogens and testosterone have been willingly taken and forcefully prescribed in order to control re/production or change physical and/or emotional sex

¹⁹⁰ Theo Colborn, Frederick S. von Sall, and Ana M. Sota. “Developmental Effects of Endocrine-disrupting Chemicals in Wildlife and Humans.” *Environmental Health Perspectives*. 101, no. 5, (1993): 380.

characteristics of humans and animals. Multiple “bodies” have also passively consumed, absorbed, and contained EDCs, altering endocrine and reproductive systems. Estrogens are of particular interest because of both the symbolic and material relationships between the control of animals, poor women, and the environment, for the maximization of profit in the social relations of human-centered re/production.

Julie Sze’s work has documented the rise and fall of DES – one of the most promoted and distributed synthetic estrogens invented in the 1930s. It was promoted as both a pregnancy and livestock drug. Sze sees the historical rise of estrogen-mimicking DES as both “a symbol connecting women and animals, and as a technological process to control nature and maximize efficiency through technology.”¹⁹¹ Sze argues that female identity and the categories of sex and gender became defined socially and medically to a significant extent through DES, given to “categories of women who were considered insufficiently female, such as menopausal women and lesbians.”¹⁹² If Sze is right that DES and other synthetic hormones are a technology to control nature and to maximize efficiency and profit, then the increasing use and invention of multiple other hormones and hormone-mimicking substances must be considered a technology of social engineering for the nation.

¹⁹¹ Julie Sze, “Boundaries and Border Wars: DES, Technology and Environmental Justice,” *American Quarterly* 58, no 3 (2016): 803.

¹⁹² *Ibid.*, 797.

Although DES was banned for use in humans in the 1980s, many more synthetic sex and reproductive hormones and EDCs have been invented, promoted, and absorbed into the bodies of multiple species.

Long-duration sex and reproductive hormones used to control reproduction can be injected or implanted into the body, and the newest frontiers in research and experimentation involve immunological contraceptives, contraceptive vaccines, and possible recombinant DNA technology. These contraceptive vaccines can last for three months or for years, and many effects may even be irreversible.¹⁹³ The first generation of contraceptive related vaccine to emerge was Depo-Provera. The FDA approved Depo-Provera for human use in the United States in 1992, despite the fact that it produced breast cancer in beagles. By the late 1990s, more than 15 million women across 90 countries received injections of Depo-Provera—a highly concentrated amount of the hormone progestin, shutting down reproductive processes for 3 to 6 months.

The further research and development of contraceptive vaccines into the 21st century involves a wide range of techniques and strategies to manipulate cellular and biosystematic function of sexual hormonal reproductive networks and their related immunological systems and relationships. A 2005 report in the medical research journal *Human Reproduction* illustrates developments and advancements in contraceptive medicine, where various “targets are being investigated in various laboratories for the development” of the contraceptive vaccine.¹⁹⁴ What is meant by

¹⁹³ Ibid, 145.

¹⁹⁴ Rajesh K. Naz et al, “Recent Advances in Contraceptive Vaccine Development: A Mini-Review,” *Human Reproduction* 20, no 12 (December 2005): 3271-2, <https://doi.org/10.1093/humrep/dei256>.

“targets” here are the various and differing molecular and cellular processes involved in manipulating hormonal functions and cycles and permanently terminating the ability to reproduce. This research implicates both “sexes” and includes sperm vaccines and anti-hCG hormone (human chorionic gonadotropin) blockers that prevent pregnancy. These vaccines use anti-sperm antibodies (ASA) to change the body’s hormonal immune responses to prevent reproduction. This 2005 report frames the “progress” of this research in terms of the overpopulation crisis we face. In their introduction they write:

Population explosion and unintended pregnancies continue to pose major public health issues worldwide. The world population has exceeded 6.431038 . . . Ninety-five percent of this growth is in the developing nations. In the USA, half of all pregnancies are unintended . . . This calls for a better method of contraception that is acceptable, effective and available both in the developed and developing nations . . . Since the developed and most of the developing nations have an infrastructure for mass immunization, the development of vaccines for contraception is an exciting proposition.¹⁹⁵

This report mentions nothing of the potential consequences and risks of manipulating antibodies, potentially triggering damaging immune responses such as autoimmune disorders and allergies, let alone the possible exacerbation of health problems such as AIDS.¹⁹⁶ Nor does it consider that contraceptive vaccines will be used as an alternative to condoms, increasing the likelihood of HIV transmission. Equally problematic is the statement that “developed and developing nations have an infrastructure for mass immunization” and that these new possible contraceptive vaccines are therefore “an exciting proposition.” Exciting for whom? What would a

¹⁹⁵ Ibid.

¹⁹⁶ Roberts, *Killing the Black Body*, 146.

possible “mass immunization” of human re/production of the populations of nations entail? If most humans don’t have much choice about the basic living conditions of everyday life including food, water, and shelter, then how will most humans contribute to the decision of who will qualify for possible mass re/productive immunizations?

The ways we come to know and assume knowledge, through classificatory infrastructures and popular cultures of racism, US and Euro-centrism, environmentalism, speciesism, xenophobia, and self-righteousness, actually legitimize practices of collective human population management that are then promoted as socially progressive. Neo-eugenics is not a thing of the past and is embedded in discourses of overpopulation and helping people out of poverty. Just as US environmental conservation efforts of the early twentieth century were linked to eugenics through what Charles Wohlforth calls “population-control work” that simultaneously intended “to save nature and improve human existence,” contemporary discourses of eco-catastrophe including global warming, possible pandemic disease, and shortages of food, water and energy, are also linked to human “population-control work.”¹⁹⁷

Neo-eugenics refers to the technologies now available for consumer parents who have enough money to not only screen for genetic defects of unborn children (with an option to abort) but also the reproductive technologies available to enhance or decrease one’s chance of having children (fertility drugs and new forms of birth

¹⁹⁷ Charles Wohlforth, “Conservation and Eugenics: The Environmental Movement’s Dirty Secret,” *Orion Magazine: Nature/Culture/Place*, July/August 2010, 22-8.

control), and a certain type of child (the sperm bank industry). The fact that women in lower income (sub)urban areas in the United States can usually get free birth control while wealthy women and men pay tens and sometimes hundreds of thousands of dollars for fertility drugs and/or specifically raced, classed, and educated sperm out of a catalog, is a form of population control work in itself. Additionally, The Bill Gates foundation and the country of Denmark have given billions of dollars of contraception aid to governments in Africa.¹⁹⁸ While the Gates foundation claims the action is to help women out of poverty (which is a good thing), it also constitutes a form of global social engineering and population control work by one the richest corporate couples in the world. Denmark considered the contraception aid to Africa as “an important foreign and security policy priority for the Danish government.”¹⁹⁹ Definitions and studies of contemporary neo-eugenics need to also consider contemporary population control work mandated not only by the state, but also by corporate wealth. The population control work the state and corporations employ is not the blatant public health policies of the past, but includes family planning for the sake of helping people out of poverty embedded within the discourse of overpopulation. My question is, why not help people out of poverty in different ways? For instance, what would billions of dollars in small business grants do for Africa, if the conditions of the grants included starting a small sustainable business

¹⁹⁸ The Bill and Melinda Gates Foundation, “What We Do: Family Planning Strategy Overview.” Accessed April 21, 2018. <https://www.gatesfoundation.org/What-We-Do/Global-Development/Family-Planning>; Celia W. Dugger, “For Melinda Gates, Birth Control is Women’s Way Out of Poverty,” *The New York Times*, November 1, 2016. Accessed April 21, 2018. <https://www.nytimes.com/2016/11/01/health/melinda-gates-birth-control-poverty.html>; British Broadcasting Corporation, “Denmark’s Contraception Aid to Africa ‘to Limit Migration,’” *BBC News*, July 12, 2017. Accessed April 21, 2018. <http://www.bbc.com/news/world-europe-40588246>

¹⁹⁹ Ibid.

that was part of a broader economic plan for sustainable, renewable resources, and ethical business practices that involved not just the foundations and think tanks involved, but women from these communities in Africa?

For example, an essay originally from the conference “Connecting Environmental Ethics, Ecological Integrity, and Health in the New Millennium” (also a cooperative collaboration with the Earth Charter Initiative and the Global Ecological Integrity Project) estimates the carrying capacity of the Earth to be “two to three billion” individuals.” This estimate “is based on maintaining a European-style standard of living for everyone in the world associated with sustainable use of natural resources.”²⁰⁰ This reflects many of the assumptions of mainstream academic and media environmentalism, in that human over-population is the root of larger ecological crises and over-use of resources. The over-population and sustainable re/productive European lifestyle assumption, when framed within Noel Sturgeon’s findings that popular representations of environmentalism naturalize stories of (white middle class) re/production, militarism, and the race for space exploration and planetary security, illustrates that we are dealing with more than just benevolent environmentalism and progressive immunological reproductive medicine.²⁰¹

We are also dealing with the politics of human re/production – a politics questioning who will decide what populations will qualify to live, die, and re/produce. Which populations will qualify for mass immunization of their

²⁰⁰ Clive A. Edwards and David Pimentel, “The Future of Human Populations: Energy, Food, and Water Availability in the Twenty-first Century,” in *Just Ecological Integrity: The Ethics of Maintaining Planetary Life*, ed. Peter Miller and Laura Westra (Lanham, MD: Rowman & Littlefield, 2002), 121.

²⁰¹ Sturgeon, *Environmentalism in Popular Culture*.

re/productive capacities? Which populations qualify as naturalized re/production for militarism and planetary security? The “who” here is a tricky question and even though women of color, prisoners, people with disabilities, queer and poor people have borne the brunt of medical re/productive experimentation, everyone potentially has the possibility of qualifying as one of the “managed” populations—it just depends what categories, characteristics, behaviors, and locations constitute qualification. And since we don’t yet know the conditions for qualification even though we might have accurate predictions, re/productive immunology is a possibility for most humans on the planet.

Immunological re/productive medicine and the transformations of human endocrine, reproductive, and immune systems constitute all humans as potentially transsex. If we could create planetary ethics and avoid not only genocide but also mass starvation, ecocide, disease, and “natural” disasters, then we are still left with an over-population for a sustainable European lifestyle. To reach a human population of two billion, either two thirds of humanity will have to die or there will have to be dramatic interventions in human re/production across the planet, in which anyone potentially becomes re/productively managed. Perhaps a European lifestyle should be the goal of sustainability and we need to begin asking questions about what other kind of lifestyles are possible, and the population carrying capacities those lifestyles entail.

Populations of humans are not the only things to be counted in sustainable carrying capacities. Other species and resources must also be considered in relation to balancing sustainable renewal. However, much of the language of sustainability is wed to sustaining or keeping economic and ecological conditions the same. Perhaps

we need to look for resilience in species, populations, and things, instead of or in addition to a fixed idea of sustainability. “Transgender” fish are an excellent example with which to begin considering not just resilience but the hormonal links across bodies and species of interdependent transsex, and the ways in which our interdependent transsex transpires through the byproducts of (post)industrialization and mono factory agriculture.

Humans as much as fish are caught up in the transformations of re/production that are unfolding as a result of human-made EDCs circulating in the environment, water, and food chains. Although fish may hold EDCs in their bodies at higher concentrations than humans, humans share a habitat with plastics, pesticides, and factory farming, just at different scopes and varying degrees of intimacy depending on where one works, what one eats and drinks, and where one lives. But if we are to de-center the human in this unfolding problem, what does it really matter that humans absorb lower concentrations of EDCs than fish, if EDCs are possibly creating marine “dead zones” in rivers, water tables, bays and estuaries that are used to hydrate and feed global populations? Instead of eating locally and coastally, the majority of humans in the United States now eat from the agricultural and factory farms which are themselves their own tributaries for EDCs, draining to create “dead zones” of the world’s major bays and estuaries. EDCs are part of the food, productive and re/productive chain of non-human and human life and we will need to devise ways, just like fish, to adapt to their influence.

EDCs clearly do not cause everyone to transition gender in the same ways and capacities as transsexual humans using medically prescribed hormones. But certainly

most humans on the planet have most likely come into contact with EDCs; especially the pesticide DDT, the resin BPA (bisphenol A) and PCBs (polychlorinated biphenyl); all of which are highly estrogenic and at different points in time have saturated most parts of the globe. DDT and PCBs saturated industrial, urban, suburban and agricultural land and waterscapes through the mid-twentieth century, and even though DDT is now banned in many places and levels have dropped, PCBs in the production of coolants, pesticides, sealants, PVC coatings, and many other home and industrial construction products still saturate our living environments. BPA in the epoxy resins of hard plastics also surround us in our homes, offices, cars, and bottled drinking water.

So why do mainstream media representations of EDCs and this larger global ecological reorganization of re/production focus on the spectacle of the transgender fish? The use of “transgenderedness” as a sensationalized cultural signifier of re/productive eco-catastrophe illustrates that certain assumptions about re/production are at play and entangled with specific human socio-cultural categories in these mainstream media discourses. The fearful assumption that human-made environmental problems led to “transgender” fish, and possibly other “transgender” organisms that cannot re/produce, seems to be a motivating fear in governmental and scientific intervention into the problem. But I presume EDCs are not going anywhere anytime soon. Many EDCs come from oil and the thousands of products made from oil, and a transition from an economy of oil, plastics, pesticides, and factory agriculture will take time. How might we begin to grapple with this time? Embracing our shared transsex is a first step, not out of fear that we might not be able to

re/produce or be clearly distinguished as male or female, but out of the knowledge that life in many ways is simultaneously fragile, resilient, adaptive, and that transsex exhibits the ability to find ways to transform the possibilities of re/ production. Perhaps our “emerging” interdependent transsex is only one step in the larger adaptation to adjusting to the damages that humans have caused to the larger Earthly ecology. That isn’t to say that we shouldn’t clean up our act, but what would it mean to imagine that transgender fish might just in fact be the “fittest” in the dance of life and death that is survival?

In the forward to *Our Stolen Future*, Al Gore said: “Last year I wrote the forward to the thirtieth anniversary edition of Rachel Carson’s classic work *Silent Spring*. Little did I realize that I would soon be writing a forward to a book that is in many respects its sequel.”²⁰²

Dr. Theo Colborn, founder of the Endocrine Disruptor Exchange and a leading zoologist and researcher in the EDCs field since its conception, appeared on PBS’s *Frontline* in June 2, 1998 for a show called “Fooling with Nature,” along with several other university and governmental scientists. The show exposed the “fooling” reproductive effects of EDCs in Florida and the Great Lakes. Colborn explains the state of wildlife in the Great Lakes as:

The youngsters didn't hatch or, if they did, they didn't look good- birth defects. Behavioral studies began to come out. The birds weren't behaving right. Females and females pairing, the male birds not being territorial, and male fish with both female and male reproductive

²⁰² Al Gore, “Forward,” in Theo Colborn, Dianne Dumanoski and John Peterson Myers, *Our Stolen Future: Are We Threatening Our Fertility, Intelligence, and Survival? A Scientific Detective Story* (New York: Penguin Books, 1996).

organs.²⁰³

Linda Birnbaum, Associate Director at the Environmental Protection Agency (which at the time had 40 scientists studying EDCs), explained the reason EDCs were receiving a lot of attention. “I think endocrine disruption gets attention because it scares people. I think that's the basis for it. When you talk about teeny weenies in alligators, or you talk about increased breast cancer in people, that concerns people²⁰⁴.”

Jim Ludwig, an ecological researcher attested to the shift from cancer to hormones in research of industrial and synthetic pollutants. Ludwig explains the shift and the endocrine disruptor hypothesis as a really good thing because “it stopped us from spending all our money looking at cancer in adults, and it focused our attention on developing embryos in young because that's where these chemicals are really dangerous²⁰⁵.”

As estrogenic effects remain a prime focus in media, science, and public policy, new questions are emerging about the relationship of EDCs to low sperm counts, feminization of effected populations, and sex ratios with a shortage of males. A concern for what males will face due to EDCs dominates research. Colborn illustrates this blatant androcentricity in a lecture (that is now a documentary film) called *The Male Predicament*. Colborn introduces the film by saying: “Hello, what a

²⁰³ Doug Hamilton and Michael Chandler, “Fooling with Nature,” In *Frontline*, produced by Doug Hamilton, directed by Michael Chandler. PBS. June 2, 1998.

<https://www.pbs.org/wgbh/pages/frontline/shows/nature/etc/script.html>

²⁰⁴ Ibid.

²⁰⁵ “Fooling with Nature.”

crazy world we live in. I bet you all know what ED is....erectile dysfunction. But do you know what the other ED is? Endocrine disruption.”²⁰⁶

Colburn most recently framed EDCs as both a public health issue and a national/international security issue. In response to the Physicians for Social Responsibility’s Environmental Health Policy Institute’s inquiry of “what emerging environmental hazard should be next on the policy agenda,” Colborn asserted “endocrine disruption should be right at the top of our list of concerns” because “from a national and international security perspective” it “is the insidious trespass of man-made chemicals into every vital organ.” Colborn notes legislation lags behind science and that only:

crude reproductive and developmental effects detected in traditional toxicological assays are acknowledged by governments...It is time for governments to protect the global activity of all the endocrine subsystems as on...The wealth of 21st century peer-reviewed literature, combined with the latest public health statistics, demonstrates that a myopic strategy will lead only to greater dysfunction at the population level. Fewer and fewer people will be healthy and intelligent enough to provide the leadership society needs to work toward world peace. Fossil-fuel derived chemicals are depriving humanity of its integrity and the fate of the human race should no longer be put at risk because current toxicological testing has failed to detect damage from chemical exposure that does not fall under the current antiquated regulatory rubric. From an economic and national security perspective the costs are too high to delay any longer.

If feminization is the primary result of exposure to EDCs, and its prevalence not just a result of what scientists and media have focused on, then the feminizing effects must not merely be thought of as transsexual ecocatastrophe—precipitated by anthroheterocentric paradigms—but must also be considered in the larger scheme of

²⁰⁶ Theo Colborn, “The Male Predicament.” (video lecture), <https://www.youtube.com/watch?v=Dr8gSqvxvos>. Accessed May 6, 2018.

interdependent evolutionary ecology where attempts to feminize might indeed be an adaptive strategy. For example, what if the effects of feminization aren't thought of as the catastrophic result but an adaptive effect? What if a body is attempting feminization as a result of exposure to toxic chemicals because it is attempting to make more females in a toxic environment? If females can be made and they are reproductively viable, then this is an advantage for reproducing more of the same species.

DES was made from coal tar derivatives. It was defined as a synthetic estrogen, but we must remember that DES is not an estrogen at all. Its effects are merely estrogenic. It's not the substance I'm as interested in as much as the *effects* a substance has on what it comes into contact with. This distinction is key in order to think systemically about substances, exposure, and effects. Nowhere in my research have I come across the speculation that just maybe, an organism's (repeated?) exposure to toxic substance like DDT or coal tar might send a message to the body that it should allow cells that come in contact with the substance to let it mimic the effects of estrogen. From a reproductive standpoint this makes sense since estrogen induces the urge for females to mate.

People (including scientists) tend to think of estrogen as *a thing*—a chemical compound in the body and a primary sex hormone for female reproduction that under “normal” circumstances delivers a predictable outcome. But estrogen is not just one thing—there are several types of estrogens—and even one type of estrogen doesn't do just one thing; it's a substance that has a cascade of effects in living organisms. It might be more useful to think of estrogen and its effects as a multi-contextual

process, because science has already shown that sometimes the effects of sex hormones don't translate to the either/or of male/female.

In every media, governmental, and scientific case I've so far examined, it is assumed that sexual and reproductive effects deviating from anthropocentric ideas about normal, healthy, and heterosexual reproduction are framed as pathological intersex or transsexual results of pollution. While an androcentric fear of estrogenic ecocatastrophe saturates research and public policy, I want to suggest a different way to think about the dire predicament of ecocatastrophe that we currently face and the presence of transsexuality on the planet.

Although scholars argue that transsexuality, homosexuality and heterosexuality are largely inventions of the nineteenth and twentieth centuries, I want to suggest that transsexuality is a precondition of systemic relations that comes before and outside of, but certainly affect and are effected by humans. Transsexuality (like homosexuality, as Brett Beemyn, Joan Roughgarden and others have argued) can and has been an evolutionary adaptation. Transsexuality can have reproductive and evolutionary potential while it can possibly also be a reproductive end. But sometimes reproductive ends are also systemic adaptations which may make an ecosystem more diversely productive and balanced. Why can't we think of ecological transsexuality as a facet of the potential of the resilience and wonder of life?

It needs to be understood that the massive fish kills are what initiated the investigation of the "rise" of transgender fish which led to observations, discovery, and heightened attention of "wrongly" transsexed fish. Had the massive fish kills not occurred in the Nation's River, then it is entirely possible that the transsexed fish

might have not received as much attention and concern as they have been given. It is also necessary to consider all of the transsex fish that have lived through the fish kills and why they have lived and not died. The mainstream media hype simply correlates fish kills, EDCs, and transsexed fish, although upon investigating further, fish kills are better understood as a result of depleted oxygen levels resulting from colonization of algae due to increases in stagnation, water temperature, and other factors. I am trying to claim the survival of some fish is a result of their transsex, but to point out the fact that transsex fish still survive when other fish (some of which are most likely also transsex) perish in the fish kills.

And the Potomac Conservancy's "State of the Nation's River" report bears no improvement with a grade of D for 2011 and 2012.²⁰⁷ Potomac Conservancy notes past pollution consisted of the byproducts of factories and industry, many which are either now gone or have upgraded the way waste is discharged. But today what is of most concern for the Potomac Conservancy and the reason for the barely passing grade is runoff.

However, runoff as a major problem must be put into perspective historically, systemically, and ecologically to gain a broader and perhaps more accurate picture of the river's and the bay's environmental problems over time. In this contextualization I want to suggest it isn't merely the EDCs—the chemical byproducts of modern suburbanization *as runoff* or in other words the EDCs as the content of the runoff—but instead I want to situate runoff as an active ecological process that has undergone

²⁰⁷ The Potomac Conservancy, "One River, Two Worlds: State of the Nation's River 2011," Accessed June 17, 2013. http://www.potomac.org/site/wp-content/uploads/pdfs/sonr11_finalreport.pdf; The Potomac Conservancy, "Troubled Waters: The State of the Nation's River 2012," Accessed June 17, 2013. http://www.potomac.org/site/wp-content/uploads/pdfs/sonr12_finalreport.pdf.

significant changes with the development and mass suburbanization of the Washington, D.C. region. Looking into how the active processes of runoff have changed, its effects, and its future, are important and necessary questions to pose when addressing the state of the river and bay. Quite literally, the way rain and human byproducts are carried into the Potomac River and Chesapeake Bay is significantly different than it was just 50 years ago, not to mention as 300 years ago. The change in runoff processes cannot be attributed to any one single event such as the first sewers and paved streets of Washington D.C., or the development of (sub)urbanized hardscape water and waste management systems over the past 150 years, or the massive population explosion of the region since the 1960s. Multiple factors have contributed to this drastic hydrological transformation through history beginning with deforestation and construction of massive plantations in the 1700s and the cultivation of mono commodity cash crops, which eroded soil into the streams and rivers significantly impacting the navigability of the Potomac, Anacostia, and Northwest Branch. Bladensburg served as a port until 1840 when it was considered no longer navigable.²⁰⁸ Indeed, if you sit at the elbow where the Northeast and Northwest Branches meet in Bladensburg, most of the time there is so very little water that it's almost unimaginable that once cargo ships would come up the river to pick up loads of tobacco and drop off other goods. It's hard to imagine being able to float a rowboat coming up the river.

²⁰⁸ Anacostia Waterfront Trust. "The Anacostia in History." October 15, 2015. Accessed March 28, 2019. <https://www.anacostiustrust.org/anacostia-trust/2015/10/15/the-anacostia-in-history>

There is so much we don't know about the way the planet functions. What we do know is that most species on the planet do not pair, marry, and mate within the same sexual, social, familial, and economical structures that humans do. We know that animals and humans can change sex or gender and still produce offspring and that species can evolve different reproductive strategies based on environmental conditions. We know that clover and soy emit estrogens that can affect the birth rates of herbivores that feed on them. The more we look into what we do and don't know about ecological transsexuality, the more room there is to make new knowledges about nature.

Fear of "estrogenic effects" can be read as fear of feminization and the valuation of masculinity in our culture. While many EDCs do indeed have estrogenic effects throughout the environment, the way that chemicals bind to hormonal receptors does not have a uniform effect upon, within or across species. For instance, the discourse of this literature almost always associates the estrogenic qualities of EDCs as having a feminizing effect upon both men and women humans, i.e., girls are getting puberty earlier, or it must explain the rise of prostate cancer and lower sperm counts. However, what we do know is that hormonal "balance" is a very tricky thing. Too much estrogenic effect on a body that produces more estrogen than testosterone, may convert estrogen into testosterone.

Despite the anthropocentricity about EDCs and the fear of reproductive catastrophe that science and popular culture have evoked, one good thing has come of it. It has helped enhance public awareness, albeit through fear and spectacle, that planetary life is interconnected through environmental mediums such as water, air,

food chains and other modes of contact and connection. While there are many ecological factors and substances effecting evolutionary reproductive ecologies, EDCs warrant distinct attention not just because they pervade all regions of the world, but also because “EDC” as a knowledge category has an expansive breadth and diverse array of substances which will continue to grow and have a substantial impact, producing layered and interdependent configurations of accumulation, transformation, toxicity, permeability, extinction, and adaptation. EDCs permeate the entire planet, in part because of the massive scale on which humans have produced synthetic chemicals and also in part because the category of what constitutes an EDC is populated with hundreds of substances. There are also many substances found in “Nature” which are categorized as EDCs. While not the focus of this study, it’s also necessary to consider other factors, substances, and relations influencing hormonal and reproductive ecologies in order to determine what transformative effects are just from EDCs, what are from other factors, and what are from a combination of factors. As this chapter illustrates, EDCs present an opportunity to look at the complexities and issues of studying “one” thing in a systemic world with multiple variables.

Revealing Classificatory Infrastructures of Anthroheterocentricity: Scope, Scale, and Scapes

Considering co-histories and co-evolutions of “transgender” fish and re/productively managed human populations and resources requires situating them within the major organizing classificatory knowledge infrastructures of Western thought: sex/gender/sexuality, human/animal, and nature/culture. Our shared transsex,

emerging through natural/cultural assemblages of fish, hormones, EDCs, becomes more visible when situated within the politics of knowledge infrastructures. In order to think more critically about endocrine disruptors and ecological interdependence it is necessary to examine—at least partially—the classificatory infrastructures of knowledge about reproduction.

My purpose in working with knowledge infrastructures is to expose the work normative categories do to make certain ideas knowable while others remain invisible. I attempt to make some of the unfathomable imaginable by providing a working and flexible re/productive orientation, thereby partially interrogating the classificatory infrastructures of Western thought in order to expand notions of re/production in directions we're not so used to. Katie King's theories of scope and scale in her book *Networked Reenactments: Stories Transdisciplinary Knowledge's Tell* are central to imagining and making visible the unimaginable. The methodology of scope and scale I believe is necessary for unearthing the roots of anthroheterocentrism.

For King, complex ideas, information, and materialities in the digital multimedia age are now made by multiple communities, in collaboration, competition, and even conflict, and varying grains of detail make up knowledges. It is through this multifaceted development of ideas that transdisciplinary work produces knowledges about particular things—knowledges that are flexible because so many players are now part of the processes. Scoping and scaling is a theory that posits multiple points of view are simultaneously at work producing knowledge about something in “roughly the same area” that “creates connections within-each view”

and “emphasizes different features amid quite specific forms of relationality.”²⁰⁹ King uses this theory of scope and scale to look at three different domains in her work “in order to emphasize another variant set of relationalities among reenactments and communities of practice.”²¹⁰ I use scoping and scaling to look at the several domains I’ve named (media, government, science, and queer ecology) that have had an investment in investigating ecological transsexuality—aka “transgender fish” and the plethora of other supposedly toxically induced transsexual mutations that have cascaded into popular culture since “transgender” fish were first “discovered” in the Nation’s River. But I also add the concept of scape to scope and scale in an attempt to show how so much of the work that other things do—rivers, oceans, fish, storms, gravity, rocks, trees—produces not merely a materiality for humans to observe and produce knowledges about, but materialities that are continual factors of change in the material world for which often human knowledge has not caught up. Landscapes, waterscapes, aircapes, bodyscapes, and weatherscapes are just a few of the scapes that are major products and forces of interdependent ecological transsexual relations.

If we believe in Darwinian stories of evolution and that living things, including humans, have evolved through great periods of time and processes, connecting our genealogical lineages to multiple other beings – many which don’t re/produce in regards to strict heteronormative standards of human knowledge infrastructures of sex and re/production– then we must grapple with the fact that we humans are all, at least remotely, transsex – at least partially, historically,

²⁰⁹ Katie King, *Networked Reenactments: Stories Transdisciplinary Knowledges Tell* (Durham, NC: Duke University Press, 2012), 5-6.

²¹⁰ Katie King, *Networked Reenactments*, 6.

genealogically.²¹¹ This in some ways invokes J. Jack Halberstam's notion of queer time, but with a different scale and focus: the scale of evolutionary time, with a focus on how the non-human in human infrastructures of knowledge makes us "normally" sexed and gendered. Halberstam's focus is the way some queer subcultures defy heteronormative social and institutional structures of what constitutes a "successful" life trajectory in the span of one individual human life.²¹² Although it might seem odd to consider Halberstam's notion of queer time in studies of queer ecologies and ideas about evolution, Halberstam's idea lets us ask how we might begin to imagine how normative notions of time at the evolutionary scale might be queered in order to draw possible partial connections of the ecological structures at work that constitute "successful" life trajectories of interdependently connected, living and dead components of whole ecosystems. If we begin to deal with different time scales, which favor relation over individuation and evolutionary time versus generation, then the human becomes more and more remotely transsex. And if Joan Roughgarden and other scientists are right about the vast diversity of non-normative sex and re/production in non-human species across the planet, and if we share a history of interrelated coevolution and dependence, that involves such things as immunity, sustenance, disease vectors, with many types of animals (apes, cattle, dogs, bees, cats, horses, pigs, etc.) and plant life (cereal grains, corn, brassicas, etc.) as well as bacteria, fungus, and aquatic creatures, then this brings us even closer to

²¹¹ Joan Roughgarden and Bruce Bagemihl have both documented extensive "homosexual" behavior in non-human animals. Bruce Bagemihl, *Biological Exuberance: Animal Homosexuality and Natural Diversity* (New York: St. Martin's Press, 1999); Joan Roughgarden, *Evolution's Rainbow: Diversity, Gender, and Sexuality in Nature and People* (Berkeley: University of California Press, 2004).

²¹² Judith Halberstam, *In a Queer Time and Place: Transgender Bodies, Subcultural Lives* (New York: New York University Press, 2005)

acknowledging our shared ecological interdependent transsexual re/productions. In other words, individual intraspecies reproduction is not a possibility without interdependent interspecies reproductive ecologies. But this broad evolutionary claim of our interdependent transsex will most likely not be convincing to most people, especially since popular ideas about evolution emphasize taxonomies and classificatory processes, and progressive linear trajectories of individual species and human lives.

Both transgender and identity, as concepts in queer and feminist thought, are highly tied to classificatory knowledge infrastructures that favor cultural categories. Although the cultural is crucial, it is also human-centered and largely assumes the only way to understand the concepts of trans and identity is through the socio-cultural lens. These concepts don't need to be rethought exclusively within the fantasy of "Nature," nor does the concept of culture need to be forgotten, but more work is needed to think through the ways in which classificatory knowledge infrastructures inhibit our ability to grapple with the reality that both transsex and our identities do not culminate exclusively in individuated embodied wholes, with clear distinctions of inside and outside and where reality, meaning, and knowing exist exclusively in the human mind. Multiple processes (metabolisms, relations, interactions, and adaptations), substances (hormones, EDCs, communicative pheromones) and decisions (biopolitics at multiple levels of and beyond the human) compile the systemics of re/productive transsex. While culture certainly is one powerful component, multiple non-human components compose the foundation and possibility for culture in the first place. These components are based within local ecological

bioscapes that make economy, meaning, languages, and life not only possible for the human, but make human experience and identities different across diverse bioscapes. What we know as cultural difference (e.g., using the category of culture to explain human difference and identity) is a human-centered notion. The anthropocentrism of such a vast and broad category, which is used to explain enormous segments of human experience, histories, behavior, social structures, taboos, and survival, also renders many of the foundations of culture—local ecologies and their subsequent economies of re/production—invisible.

Culture is certainly an important human centered concept, but it is founded in local (and increasingly global) ecologies, in which many more components than just the human are at work in creating the re/productive relations necessary for unique human cultures. For example, Native cultures of the Pacific Northwest were dependent upon broadly diverse phenomena including salmon, cedar trees, sword ferns, the Pacific Ocean, tides, snow melt, and forest fires. Likewise, foreign oil, Appalachian coal, sheep and cattle, imported food, southern summers, and northern winters are some components that make cultures of metropolitan Washington, DC possible and unique. Interrogating the local re/productive relations that make human cultures unique and possible will be a necessary step in devising more ethical re/productive relations with populations, species, and things.

Thinking about how classificatory knowledge infrastructures of Western thought shape the knowable and unfathomable engages what Katie King has called

“the politics of thinking about thinking.”²¹³ King’s notion that thinking and knowledge are inherently political – in that decisions about what is knowable or impossible to know are made by multiple entities and processes, including but not limited to humans – forces us to acknowledge that the process of making new knowledge and social worlds cannot ever be thought to be in the hands of one person or thing. Claiming we are all interdependently transsex by de-centering the human into a more systems-based understanding of the world and its life forms and processes of death requires that we think about how it is that we come to know and think.

Geoffrey C. Bowker and Susan Leigh Star claim we must “ask historical questions about the deeply and heterogeneously structured space of classification systems and standards” in order to deal “with a four-dimensional archaeology” in which systems move and develop, not just in the mind but also relationally and simultaneously in time, space, and process. Classificatory infrastructures “literally saturate our environment,” forming “a complex web” in which no one “classification scheme or standard” can stand alone.²¹⁴

The major classificatory infrastructures – sex/gender/sexuality, the human/animal, and nature/culture –cannot stand alone. They are all implicated through, within, and among each other. Both “transgender” fish and re/productively

²¹³ The phrase “the politics of thinking about thinking” is Katie King’s phrase introduced to me the first week of her advanced feminist theory course. King’s teaching style urges students to think about the layers of knowledge and intellectual infrastructures as having boundaries which are controversial to cross. She urges her students to take risks crossing these boundaries in their thinking, research, and engagement in order to open up new possibilities for knowing and making social worlds. Katie King, 2005. “Feminist Theory Through and Beyond Critique: Rupturing Epistemologies and Transforming Relationships to Global Realities,” (Course syllabus, 2005) University of Maryland website, <http://www.womensstudies.umd.edu/wmstfac/kking/teaching/602syll.html>

²¹⁴ Geoffrey C. Bowker and Susan Leigh Star, *Sorting Things Out: Classification and Its Consequences* (Cambridge, MA: MIT Press, 1999) 37-42.

managed human populations weave in, out, and amongst all these categories.

“Transgender fish” are transgender only because we signify them as such culturally, and this signification disrupts clear distinctions and an imagined knowledge progression of the categories of sex, gender and sexuality. Their re/productive anomalies or adaptations within a vast global ecology are simplistically absorbed into the category of transgender when the categories of animal, “Nature,” human, and culture should logically also be at play.

The categories of sex, gender, and sexuality have their own teleological histories embedded within science, capitalism, and medicine. While feminisms and queer thought have intervened to complicate and resist what these categories have come to mean, contributing to transformations in meanings of the categories themselves, it must still be acknowledged that feminisms have relied upon the categories which create the conditions for feminism in the first place. I’m not sure there is a way around this paradox, but I want to use this opportunity to briefly question sex/gender/sexuality as an organizing infrastructure for queer and feminist thought.

Although queer and feminist studies have increasingly engaged issues of race, nation, class, etc., it is still largely assumed that sex/gender/sexuality is the foundation from which these much-needed intersectional interventions could emerge. And while these intersectional analyses were and are still much needed, they, like much of the rest of feminist and queer thought, rely upon a framework of identity and rights. The identity and rights framework assumes that one is oppressed in society because they are a woman or queer and that they have the right to “equal” treatment. But the equal

treatment and rights that are often sought are based on the white, Western, educated, consumer middle class male. The rights of equal pay, equal (state) protection, and equal opportunity dominate. However, our identities might begin to look a lot different if the desire from freedom of oppression wasn't based on the aspiration of equal rights to the power, dominance, violence, consumerism, and wealth of Western white men. This identity and rights framework is largely based upon the assumption that the classificatory infrastructure of sex/gender/sexuality is a socially constructed field of knowledge and thus the conditions that create social oppression can be changed. While social conditions can and should be changed, I'm not sure they can be ethically transformed when assumptions about identity and rights dominate our framework. Additionally, we must also be prepared that changing some socially and ecologically oppressive conditions might not constitute change "for the better" and that an identity and rights framework also might not be the most practical framework to deal with this dilemma. This is because both identity and rights require a precondition of assumed oppression, and identification in opposition to or in blind silence to the categorical infrastructures of governance that organize everything from space, segregation, labor, education, family, etc. That sex, gender, and sexuality represent socially constructed categories might seem old news to some, especially within postfeminist and queer scholarly critiques, but I believe this issue is still alive and well among us, and represents a major obstacle in devising theory and practice to deal with the vast social, ecological, and economic problems we face. Further, while knowledge infrastructures are certainly made possible through social relations and social constructions, the social construction paradigm is inherently anthropocentric.

Simply put, we are not what we are because we make it up in our minds. We are biological process of interrelated re/productions that happens to think of itself as an intellectual species. So much of what becomes of us is not because of human intellectualism and technology, but because our bodies and other bodies and things do things to our bodies without us thinking about it.

Jasbir Puar claims we need models that account for “an affective conglomeration that recognizes other contingencies of belonging,” and a “series of dispersed but mutually implicated and messy networks” drawing “together enunciation and dissolution, causality and effect” and “organic and nonorganic forces.”²¹⁵ It is through these “other contingencies of belonging” that I seek to push the anthropocentric, socially constructed, identity-rights-based categories of sex/gender/sexuality into a re/productive orientation that can account for multiple interrelations, interdependencies, and contingencies of belonging, with multiple beings, species, things, and entities, to make way for a re-imagination of identity.

According to Diana Fuss, questions surrounding what it means to be human – and animal – have never been so urgent, contested, or difficult, as we are evolving into an age of genetic engineering, reproductive technologies, virtual worlds, and artificial forms of intelligence. Fuss contends that we should not simply “rechart the topography of the human” by broadening it as a category to include those previously excluded, “but to engage in a more radical interrogation of the process by which the human comes to mean in the production of cultural difference.”²¹⁶ The interrogation

²¹⁵ Jasbir K. Puar, *Terrorist Assemblages: Homonationalism in Queer Times*, (Durham: Duke University Press, 2007), 211-212.

²¹⁶ Diana Fuss, “Introduction: Human, All Too Human,” in *Human, All Too Human*, ed. Diana Fuss, (New York: Routledge, 1996) 1-2.

of the process in which the human comes to mean is about recognizing that meaning is not just dependent upon the classificatory infrastructure of human/animal, but also sex/gender/sexuality, nature/culture and several other categories (race, species, ability, class, etc.) which are implicated amongst, within, and in contradiction to one another. The point in interrogating these classificatory infrastructures, in order to de-center the human, is not to put animals or other things on a pedestal or to include them, but to begin to map our interdependencies in larger systems of relational re/productions. To simply include or valorize non-humans would deny the obligations humans bear as complexly thinking animals capable of solving some of the major social and ecological problems we've created. On the other hand, our interrogations of the categories of human and animal must address how it is that both are implicated not just in human social problems, but also the problems we have created for animals, which include the obvious horrors such as factory farming, torture, and enslavement, and also the so-called progressive notion of animal "rights" as well.

Kelly Oliver has addressed the problematics of both human and animal rights frameworks. For Oliver, rights frameworks for equal protection do nothing to combat the structural and historical foundations of oppression, or "redress the material or cultural inequities in the distribution of resources" for either animals or humans, and in many ways "equal protection means increased surveillance and regulation" for both humans and animals.²¹⁷ For Oliver, ideas of human individuality, "seen as the hallmark of human freedom," are part of the problem. To address this problem, Oliver

²¹⁷ Oliver, *Animal Lessons: How They Teach Us to Be Human*, (New York: Columbia University Press 2009), 31-32.

argues for a new knowledge infrastructure of human and animal, based in the common experience of embodiment and the shared capacity for suffering. Histories of suffering for both humans and animals “at the hands of humans” are intimately tied, and an ethics of obligation to recognize and address this suffering is what is needed to reconstruct the category of human in a more ethical manner.²¹⁸ Oliver demands “a meta-ethics that goes beyond rights or recognition to the conditions of embodied life on a shared planet and the obligations those conditions entail.” This materializes as “an ethics of relationality and responsivity” that obligates us to share the “fruits of the earth” and imagine what it would mean to “go a step further and question what it means to belong – whether human or animal – not as property but as inhabitants of a shared planet.”²¹⁹

Discourses about EDCs (as well as most other environmental concerns) have arisen from the assumption that the environment and people need protection and regulation and are based on a human rights framework that Oliver names. While this has been beneficial and necessary for environmental and social politics, it also perpetuates many of the problems that Oliver names—especially in terms of regulation, surveillance, and the structural, historical and material inequities in the distribution of resources. For instance, protecting the environment from federal (and other governmental) level(s) has meant increased regulation and surveillance for property owners, corporations, and small businesses, from a governing body that usually does not live locally yet dictates the conditions of that locality. This isn’t

²¹⁸ Ibid., 45.

²¹⁹ Ibid., 48.

always necessarily a bad thing, but it has also had a ripple effect where local everyday people who live in the community have no power of oversight or authority. This is especially problematic for people living in impoverished areas, whose communities are often delegated as spaces for things like waste treatment, manufacturing, and refineries. So while the government can regulate the environmental effects to prevent public health and environmental hazards in one place to do good, the ill effects must then go somewhere else. It can be said over and over that “everybody” has the right for clean air, water, and a healthy environment but not everybody will.

What might it look like to imagine belonging in a world not with rights for each individual, but obligations everyone practices to maintain drinkable water, equitable social relations, etc. Simone Weil’s work is key to the distinction between rights and obligations. For Weil, rights “are always found to be related to certain conditions” – conditions embedded in the various interrelated mechanisms of social structures, the state, and hierarchical personhood.²²⁰ Obligations, on the other hand, are “not based upon any de facto situation, nor upon jurisprudence, customs, social structure, relative state of forces, historical heritage, or presumed historical orientation.”²²¹ Rather, all humans “are bound by identical obligations” which might be enacted diversely depending upon context, but which can be collectively encapsulated by the overall obligation of respect.²²² Obligations are “only performed if the respect is effectively expressed in a real, not a fictitious, way; and this can only

²²⁰ Simone Weil, *The Need for Roots: Prelude to a Declaration of Duties Towards Mankind*, (London: Routledge, 2002), 4.

²²¹ Ibid., 5.

²²² Ibid., 4, 6.

be done through the medium of Man's earthly needs."²²³ Thus, I seek a theoretical framework using the concept of belonging to encapsulate a systems thinking approach that simultaneously addresses ecological and social problems and attempts to theorize belonging, not in terms of rights based in socio-cultural categories of identity, but through the concept of obligations performed because humans have interdependent earthly needs shared with the ecologies of multiple species and things which are literally the backbone of human economies.

My use of the term transsex seeks to point to the interdependent earthly needs of multiple species and things, and attempts to queer human-centered notions of economy. Perhaps the emerging bioeconomy, information economy, and service economies are heavily saturated and centered upon the human, but these economies would not be possible without the raw materials, resources, tools, energy, and labor of multiple species and things. Transsex intentionally queers economy, in order to illustrate that economies extend far and wide beyond capital and the human. The classificatory infrastructure of nature/culture is perhaps the broadest, most universal knowledge infrastructure, engrossing several other major classificatory infrastructures such as sex(nature)/gender(culture), and human(culture)/animal(nature).²²⁴

²²³ Ibid., 6.

²²⁴ The sex (nature) / gender (culture) combination is a bit tricky because the word "sex" has many meanings. In my work I use sex to refer to the two main categories male and female which signify their division based on reproductive functions. And even trickier is popular culturally speaking sex defined in regard to reproductive capacity, is assumed to belong to the classificatory infrastructure of "Nature," while in the historical "progression" of queer and feminist thought, the concept of sex has transformed from being the natural category from which the social or cultural category of gender could develop. However, since at least the 1990s, the category of sex has been increasingly framed as socially constructed and thus been associated with the cultural realm. For an introduction to the social construction of sex, see: Anne Fausto-Sterling *Sexing the Body: Gender Politics and the Construction of Sexuality* (New York, NY: Basic Books, 2000); Joann J. Meyerowitz, *How Sex Changed: A History*

We must complicate the limits of solely socio-cultural paradigms by considering many other dynamics and processes, both human and non-human, that enable and uphold culture as a classificatory infrastructure guiding most scholarship in the humanities and much of the social sciences. Works by scholars such as Lisa Duggan and Aihwa Ong insist that cultural analyses are not enough, and a more accurate theoretical framework in the neoliberal era requires considering the intersections of culture, politics, and economics.²²⁵ But how can we continue talking about culture, politics and economy without considering interdependent relational re/productive ecological economies as the backbone of all three? Even the advent of the bioeconomy, which speculates value, requires ecological symbioses and divisions to make raw materials and energy, and labors to make the machines, computers, and various infrastructures of the bioeconomy possible.

By paying attention to nature outside the human urge to control it, one can see that “Nature” has a different system of valuation and profit than that of capitalism. There is not one “natural” economy called capitalism but multiple interactive and adaptive economies at work, in sync and in contestation with capitalism. Paying attention, observing, and documenting “Nature’s” systems of valuation and profit has further capacity to demystify capitalism as part of the natural order, illustrating our interrelated co-constituted situatedness in global ecological economies of people, resources, things, desires, and processes. Interdependent transsex, as illustrated

of Transsexuality in the United States (Cambridge, MA: Harvard University Press, 2002); Londa Schiebinger, *The Mind Has No Sex? Women in the Origins of Modern Science* (Cambridge, MA: Harvard University Press, 1989).

²²⁵ Lisa Duggan, *The Twilight of Equality? Neoliberalism, Cultural Politics, and the Attack on Democracy* (Boston: Beacon Press, 2003); Aihwa Ong, *Neoliberalism as Exception: Mutations in Citizenship and Sovereignty* (Durham, NC: Duke University Press, 2006).

through “transgender” fish and the fear EDCs invoke about human re/production, is just one example. Re/productively altered factory cattle are another example, pumped with synthetic hormones and antibiotics that humans consume directly as meat and milk and then indirectly through waterscapes of agricultural runoff (EDCs) and also through the fish we consume.

This re/productive model seeks to push the politics of thinking about thinking into the realm of conceiving our being, our knowing, and our practice as located simultaneously within the histories and knowledge infrastructures of capitalism, but also within multiple other “economic” processes of life, death, and matters that involve other species and resources. What would it mean for feminist and queer thought to radically rethink ideas of sex, gender, and sexuality in this re/productive light? I’m not suggesting doing away with categories like sex or gender altogether; too much history is caught up in these concepts merely to forget them. Queer and feminist critique could be greatly enhanced by an interrelated, interdependent worldview of re/production that understands that multiple processes, species and things – what we call resources, energy, and labor – all make the human and its various knowledge infrastructures possible. Feminism and queer thought will have to find some way to begin to address the reorganizations of re/production that are unfolding in the age of transgenic engineering and “artificial” intelligence. The current classificatory infrastructure of sex/gender/sexuality will not be adequate, nor will any other category, if it is dependent upon the idea of individual identity. Partial re/productive models will also not be enough, but they are a step in addressing

multiple levels of re/production in order to consider the transformations of re/production that are now unfolding.

Biotechnology and the bioeconomy emerging since about the 1970s now saturate everyday life: from the food chain of transgenic organisms we grow, buy, and eat, to the experimental medical therapies improving (or diminishing) quality of life for those who can afford them, to the cross pollination between GMO crops and “conventional” crops. There is no way to escape biotechnology’s impact. We cannot simply reject the advent of human-produced biotechnology and/or ignore its implications – implications that can be potentially horrifying, but also contain possibilities for transformations of knowledge infrastructures, with the potential to lead to more ethical earthly interrelations and social worlds.

Biotechnology, and its focus on life and matter at the molecular level, represents a reorganization in material re/productions, and also a crisis in human symbolic and taxonomic classificatory infrastructures which are central to Western thought. For instance, as Sarah Franklin points out in her brilliant examination of the reorganization of re/production illustrated by Dolly, the world’s first “cloned” sheep; the language describing this reorganization of re/production is imprecise and in crisis around questions of sameness and difference. Franklin writes that Dolly represents “both sameness and difference as a clone,” but this reorganization of sex and re/production is hard to grasp through Dolly “because she slips out of familiar kinds: her existence does not parse within familiar categories” and “is syntactically noncompliant within the normative arboreal grammars of reproduction and descent; her queer genealogy haunts the very basis of the formal biological categories that

once affirmed the stability of a known sexual and reproductive order.”²²⁶ If Dolly and other reorganizations of re/production do represent a queer genealogy that challenges normative categories, then we really need to begin asking questions about what exactly a queer critique of the normative entails in terms of re/ production. If the biotechnology industry emerged in tandem with the neoliberal restructuring of the US economy, as Melinda Cooper suggests, and transformations in both neoliberal global economics and techno science no longer serve or emulate what is popularly conceived as the heteronormative family, then what exactly does queer critique entail?²²⁷ Is genetic engineering and biotechnology the queer culprit, or is biotechnology merely inventing new norms that are not yet decipherable because we do not have the language to precisely describe these transformations?

One major assumption that drives a lot of scholarship considering biopolitical and bioeconomical reorganizations of re/production is that humans make biotechnology a possibility through our inventions, tools, computers, and a molecular view of the world. However, biotechnologies such as the manipulation of metabolism and possible capabilities of horizontal gene transfer exist in other life forms in ways that we may never be able to completely comprehend or mimic. For instance, Myra Hird suggests that by looking at the reproduction of bacteria, we can see that interspecies gene transfer is a technology much older than ourselves, which humans have just begun to engage through recent reproductive technologies. For Hird, bacteria have “invented all major forms of metabolism, multicellularity,

²²⁶ Sarah Franklin, *Dolly Mixtures: The Remaking of Genealogy* (Durham: Duke University Press, 2007), 28.

²²⁷ Melinda Cooper, *Life as Surplus: Biotechnology and Capitalism in the Neoliberal Era* (Seattle: University of Washington Press, 2008).

nanotechnology (controlling molecules in ways that continue to elude scientists) and metallurgy,” that we might “consider that particularly with regard to sex, humans and other primates should be considered inferior to some other organisms.”²²⁸ Might we follow Hird’s lead and possibly consider that “transgender” fish’s ability to change “sex” due to the toxic presence of EDCs represents a technology beyond our grasp? We are most certainly “endangering” wild native fish, but we also need to begin asking what technologies, processes, and relations fish are using to change sex. Is this changing of sex a response, an adaptation, or both? Is this change a sign of resilience or a degenerative “defect”?

Much media and scientific concern regarding the “rise” of “transgender” fish and their link to EDCs tends to focus on sexual transformation as a symptom and warning of reproductive, ecological and possible social catastrophe. In most mainstream representations, alarm of the transsexed is central and extrapolated onto humans and inundated with fear that a species might not be able to reproduce. From sensational media sources to the respected reporting of magazines like *National Geographic* and research in scientific journals such as *Nature*, “transgender” fish and other transsex creatures linked to environmental toxicities have become a spectacle. They have become a spectacle because of the assumption that they don’t always, but should always represent and resemble the normative sex and gendering of human classificatory infrastructures of reproduction and morphology—knowledge

²²⁸ Myra J. Hird, “Animal Trans,” In *Queering the NonHuman*, ed. Noreen Giffney and Myra J. Hird, (Burlington, VT: Ashgate, 2008): 239, 241.

infrastructures saturated with the histories of white heteronormative quests to tell an official story of evolutionary biology.

The Nation's River – And the Nation's Forgotten River

In this discussion of pollution-induced trans ecocatastrophe in the Nation's River there is a noticeable omission. The Anacostia River—what has been called America's *forgotten* river—is a major tributary of the lower tidewater Potomac. Originally known by white colonists as the Eastern branch of the Potomac River, the waterway was known as “the Annakastia” [Anacostia] by 1800.²²⁹ In the 1700s, the port of Bladensburg served ocean-going vessels, but by 1840 the river had been effectively changed forever.

During the Civil War, the capital city's population tripled, and it continued to grow rapidly after the war. Gutters and then enclosed sewers were built to move waste and street runoff away from residential and commercial areas directly to the streams and rivers. The waste, mixed with eroded sediment piling up in the former tidal wetlands, creating extensive breeding grounds for mosquitoes and flies. Malaria and other insect-borne disease became commonplace, and a serious public health concern.²³⁰

In contrast to the potential threats of EDCs in the Potomac, the Anacostia *in actuality* became both so polluted and so silted that it changed the nature of the river, including its borders, its inhabitants, and the flow of the water from the Potomac into the Chesapeake Bay. Active pollution, which still includes sewage pollution during heavy rains, continues to make the Anacostia one of the most polluted rivers in the

²²⁹ Anacostia Waterfront Trust. “The Anacostia in History.”

²³⁰ Ibid.

United States.²³¹ If the Anacostia is so polluted, why are there no scientific, media, and government reports of transgender fish lurking in its waters?

The Anacostia flows through Washington D.C. and Maryland in a place where the population is predominantly African American and very poor. According to the U.S. Census Bureau, 96.8% of the population of the Anacostia neighborhood is Black.²³² A significant Latino population also resides near the northwest branch in Langley Park and northeast branch in Edmonston and Riverdale. For a long time, the Anacostia River has been a functional marking line for segregation in the Washington D.C. area. It's common for white people (and probably other races as well) to say to newcomers or tourists: "never go on that side of the river" as a way of providing a simple rule for staying in "safe" neighborhoods. Never going to the east side—or anywhere near it all—is a good way to forget about the very existence of the river, much less care about its ecological health or the welfare of its residents. The unconscionable pollution of the Anacostia has likely gone unnoticed in the mainstream media because it has not visibly threatened white, middle class people.

But the Anacostia neighborhood wasn't always primarily African American. In the 1960s, Washington D.C. needed more public and private housing and the city cracked down on back alley housing, displacing a significant number of African Americans. The Anacostia neighborhood east of the river and its surrounding suburbs

²³¹ Potomac Conservancy. "Anacostia River receives an 'F' for overall health: Despite progress, pollution and trash plague the river." August 29, 2016. Accessed March 28, 2019. <https://potomac.org/blog/2016/8/23/anacostia-river-grade-f-overall-health>

²³² U.S. Census Bureau, "Race and Ethnicity in Anacostia, Washington, District of Columbia (Neighborhood)." Accessed March 15, 2019. <https://statisticalatlas.com/neighborhood/District-of-Columbia/Washington/Anacostia/Race-and-Ethnicity>

became the new home to many of these people.²³³ The Anacostia River acts as a barrier into Washington D.C., for many poor and working class people who might not own a vehicle and instead rely on public transportation or walking—one has to cross one of four bridges (there is a fifth that contains I-695, is unwalkable and is not a common route for public transportation) to enter the city. Additionally, neighborhoods east of the river have an additional barrier which limits foot access into the city—I-295, a freeway that is only crossable at certain places. The river and freeway have acted as physical barriers containing a primarily African American population. These barriers have helped white Washington D.C. forget about the river and forget about the people with whom they share the city.

Another reason why the Anacostia River has been forgotten is because much of it was used as a landfill and for sites of industrial production for a number of years. The Kenilworth north and south landfills were created in the 1940s by the National Park Service and Army Corps of Engineers on the banks of the Anacostia River. Garbage was burned daily in order to reduce the volume of trash. This created an environmental justice issue for many residents east of the river because it dramatically reduced air quality. African American residents protested by laying down in the road to block dump trucks from entering the dump, but it took a child being killed by fire to stop the burning.²³⁴ There are several former industrial remediation sites along the Anacostia as well, including the Navy Yard and former

²³³ Ibid.

²³⁴ Krista Schlyer. “River of Resilience: A Journey from Headwaters to Confluence on the Anacostia River.” <https://storymaps.esri.com/stories/2018/anacostia/> (Accessed April 28, 2019).

Washington Gas and Pepco sites.²³⁵ Today the landfills have been made into Kenilworth Park.

In the past decade, the forgotten river has been begun to be remembered, and several organizations have been attempting to clean up the river. This probably has to do with the mainstreaming of environmentalism in general, but also because of the gentrification and redevelopment of the Navy Yard neighborhood and opening of Nationals Stadium which is directly across the river from the Anacostia neighborhood. Baseball fans, tourists, and condo owners can no longer forget the Anacostia river—it's right there next to the ballpark and flowing past outside the windows of restaurants and condos. The river has only recently become “worthy” enough through gentrification to garner the attention needed to restore it.

²³⁵ Anacostia Waterfront Trust. “Cleanup Projects on the Anacostia River. Accessed March 28, 2019. https://www.anacostiatruster.org/remediation-projects_

Chapter 4: Queering Agriculture: Interventions in Mainstream Rhetorics of Food Security, the American Family, and Propagation and Reproductions of the U.S. Population

In the last ten years, issues of food security have become a national concern, both at the level of individual food choices and practices, and also at the level of various political, cultural, economic, and legislative endeavors. In many ways, mainstream rhetorics of food security rest upon specific assumptions and imagery of the American family—especially the child—and focus on what changes and interventions in contemporary agricultural, processing, regulatory, and national security practices will be necessary in order to secure an edible future for America's children and the subsequent propagation of the U.S. population. From Michelle Obama's school lunch activism and organic garden publicity at the White House, along with President Obama's appointments of bioterrorism specialist Margaret Hamburg to head the FDA with former Monsanto lobbyist Michael Taylor ("Food Czar") as her advisor, to the Food Safety Enhancement Act of 2009 (H.R. 2749), issues of food security are entangled in rhetorics of national security and terrorism, normative notions of reproduction and the family, and corporate economic orientations and politics such as Monsanto's "produce more, conserve more" motto.

In this chapter I argue that agriculture is useful for critiquing queer as a category and that the history of agriculture reveals that it is absolutely and entirely a subject that belongs in queer studies not only because of its systemic reproductive nature, but because it is a foundation for the way gender relations, domesticity,

family, private property, inheritance, and the state evolved. Further, I maintain that the history of agriculture is not just from the work of humans, but the result of interdependent ecological relations between humans, plants, and other factors in the environment. And finally, contemporary discourses of food security in the United States are entrenched in national security and safety culture that is often times damaging to people and the ecologies which agriculture depends upon.

Discourses of food security vary widely and don't make much sense in terms of traditional political assumptions and alignments. A survey of food security discourses on the internet conveys there are radical anti-corporate and government biodynamic beyond-organic food producers and activists with very traditional family, gender, and sexuality values. On the other hand, it's common to find queer bodies celebrating their consumer decisions to purchase organic mass-produced products. This chapter seeks to unveil some of these politics and critique "queer" as a category. While queer has always been a highly contested term, this interrogation remains necessary for a couple reasons. First, what I'm calling queer in relation to food production and security may not be understood as the same thing as queer culture, people, or identity. And secondly, while I am using the term queer to mean a contestation to the normative reproductive relations of capitalism—or the human production of space—it remains unclear and confusing what exactly normative reproduction means in an agricultural sense. For instance, what do queer agricultural practices mean in the context of reproductive relations with the land? Are mono-mechanical, petrochemical, mono-cultural, and genetically modified agricultures queer, or are they normative? It depends if one is talking about normative to

capitalism or normative to ecology—and in actuality, the concept of normative is quite un-normative. Is a queer-identified subsistence farmer utilizing the land in a biodiverse manner queer or normative in an ecological sense? I ask these questions because in the age of biotechnology and an expanding bioeconomy, ideas of normative reproduction are changing at this very moment.

This chapter asks what queer and transgender studies can offer to develop a more nuanced and complicated understanding of agriculture. Further, what do queer and trans studies and cultures have to gain from investigating the understudied, yet fundamental links between sexuality, gender, reproduction, and agriculture? This chapter delivers several responses through analyzing normative discourses of both sustainable and conventional agricultures.

To address these questions, this chapter first discusses the theory and experiences that led to my thinking about queering agriculture as a project that may be capable of imagining new ways to feed ourselves—ways I believe are less likely to lead to social and ecological catastrophe than most conventional and some sustainable agriculture practices.

Second, I give a very broad and necessarily simplified history of agriculture, because the history of agriculture itself illustrates how agriculture should be understood as *intrinsically* having been a queer and trans practice to the extent that plants have shaped human history at least as much as humans have shaped plants through agriculture. Further, this history argues that agriculture is a sexual, gendered, and reproductive paradigm at the origins of what is understood as

civilization and provides so much of the foundational structure for contemporary economic, social, political, and ecological life.

Third, fast-forwarding and narrowing the focus to the contemporary U.S., I examine the criminalization and securitization of agricultural and small farming movements since 9/11, as well as how both government and food activists have responded to rising concerns about food security, public health, climate change and environmental degradation. Through this analysis I show how many ideas about feeding the nation are laden with heterosexist and transphobic assumptions while at the same time the heart of the process—the production and consumption of food—could very well and more accurately be described as both a queer and trans practice and evolutionary and ecological transformation.” My goal is to show how discourses of food security are an immense sexual and gendered paradox of the human imagination. My quest to untangle this paradox is to illuminate the sexual, reproductive, gendered, systemic, and biological diversity that is necessary to not merely feed ourselves and other creatures better, but also more ethically.

The Power of Plants

As mentioned in previous chapters, I came to the theory of interdependent ecological transsex through my own embodiment and relationship to the ecologies of the Potomac River. At about the time endocrine disruptors gained media hype for transsexualizing fish, I had returned to graduate school after a leave of absence and taken a job as a live-in gardener for a wealthy family on the banks of the Potomac River in the Brookmont neighborhood of Bethesda, Maryland. I had grown up on a farm helping my dad and grandparents tend animals and grow vegetables and fruit—

even if, at times, it was a wild mess of feral children, chickens roosting in trees, grocery store potatoes thrown in a dirt heap and unpruned apple trees. Other projects were taken a lot more seriously, like producing the right taste in raw milk by managing fodder, carefully tending greenhouse crops, and honoring and enjoying the vegetables and fruits we claimed as our cultural heritage—green beans, tomatoes, cucumbers, raspberries, strawberries, corn, squash, and roses. But I had never managed my own growing projects, even the small ecosystem of a suburban yard.

Late that winter as I struggled with severe depression and health problems, I started seedlings from Territorial Seed Company—a reputable, organic, and sustainable seed producer known for their vigorous plants and heirloom varieties. The seeds were germinated in the basement where I lived. They were brought to life under the light and warmth of the Seasonal Affective Disorder full-spectrum lamp I shared with them. The shared light and warmth helped germinate nasturtiums, tomatoes, peppers, marigolds, herbs and greens. Slowly they grew into small plants. As winter transitioned into early spring some seedlings became leggy, others more stout and firm, while others were knocked over, half-eaten, and thoroughly terrorized by my cats. In early April, I began hardening off the plants—putting them outside during the day and bringing them in for the night.

After I was fairly certain the last frost date had passed, I began transplanting the seedlings into the soil. Surprisingly, each of the three groups—leggy, healthy, and cat-terrorized plants all began to either thrive or die at different rates. Further, seeds I sowed directly into the ground produced seedlings at radically different rates of germination, plant sizes, and shape—some proliferated and a few died. I didn't know

this at the time—I had so much to learn—but any experienced gardener will tell you similar things about Territorial’s seeds. Anyway, different seeds produced subtle yet noticeable differences in plants and their fruits. Insects favored some plants sizes and types while rabbits obviously liked plants similar in stature while squirrels seemed to have no preferences at all, leaving half-eaten tomatoes all over the garden. At first the squirrels enraged me. Why would it take two bites of a tomato, go back to the bush, pick another, then take two bites out of the second one only to leave several bitten tomatoes on top of logs and stumps for everyone to see? My rages at the squirrels subsided the following spring when I noticed tomatoes seedlings emerged next to the stumps and logs.

The following year I observed the same phenomena and although it took me another year to realize it, I was certain that “Nature” had taught me a lesson about the power of plants. The seeds I purchased from Territorial were good seeds, meaning that they had inherited vast biodiversity from previous generations (and species) of plants. Although I had no scientific method to prove that the seeds and plants were spreading their diversity through the desires and work of multiple species, I have noticed this year after year after year.

There was another experience from that first year of gardening that was equally powerful for me. That first year I would weed, prune, and water almost every day. The garden seemed to progress at a healthy, linear pace. But one evening in the third week of June, I went out to tend the plants like I had done every other evening for the past two months, and I looked at my chard and couldn’t quit staring. Then I started looking at the basil, marigolds, tomatoes, and squash. I thought to myself,

“Am I dreaming? How many days has it been since I was last out here?” I knew I’d been there the day before. Yet the plants seemed to have nearly doubled in size in a day or two. After a while of silent staring, I very enthusiastically and somewhat insanely yelled “Oh my God, you are all so beautiful!” several times. (Then I looked around me, and fortunately no neighbors were watching.) Slightly confused at the plants’ rapid growth, I thought it would be a good idea to try making and eating a “veggie wrap”—essentially a leaf of chard with basil, thyme, oregano and other herbs. At first it was very bitter and I fought the urge to spit it out. I kept on chewing and my mouth tingled. Slowly, as I continued working, I felt endorphins kick in.

As I weeded and pruned my senses slowly heightened in ways I’d never experienced before. (I swear I was not under the influence of any other substance except nicotine.) Flickers of light and color became more vivid and I could smell many different types of plants around me. The perpetual noise and smells of suburban and urban life faded and my attention focused sharply on the plants. All I heard and saw were plants dancing in the slight breeze—their varying shades of green bouncing golden light from their shimmering leaves. I believe that eating the raw plants—plants I had never eaten so fresh, raw, and at their peak—literally influenced and transformed my perception, although the exercise of working in the garden could have contributed to the overall experience as well. When it got dark I went in for the evening. I sat at my kitchen table and looked up at the clock and then the calendar. It was June twenty-first, the summer solstice, the longest day of the year. It dawned on me that the plants had grown so much because of the extended amount of sunlight

during the longest summer days. That year summer solstice immediately became my favorite holiday.

Agriculture as the Foundation of Economics, Civilization, and Politics

To understand what is meant by “queering” agriculture, it is first necessary to understand both the significance of agriculture to human history and what is actually occurring in the complex processes we call “agriculture.” I will provide context through a very broad discussion of the history of “Western” agriculture (which in fact isn’t entirely Western) and some of the assumptions about the history of domestication, the supremacy of humans and then the supremacy of some humans over others via imperialism and colonization.

While queer and transgender studies have offered the social sciences and humanities valuable insight, theories, and critiques of the family, patriarchy, hetero/gender normativity, race relations and political economy, queer studies has not yet engaged agriculture, unquestionably one of the most important variables in allowing these institutions and relations to have evolved in the specific ways that they have. Because agriculture is the foundation of civilization as most of us know it today (and thus its institutions, social structures and inequalities) it is an inherently necessary subject of queer critique as well as a queer subject in itself. Agriculture is foremost and quite literally a history of humans controlling reproduction in a quest to breed and domesticate the most productive and desirable plants and animals—including, sometimes, other humans. Histories of agriculture are very queer indeed and when we get past normative assumptions about the histories and myths of agriculture (e.g., the green revolution and GMOs will be the only thing capable of

feeding eight billion people), a very different story emerges. Queering agriculture decenters many of these myths and is capable of redefining and enabling new ways of imagining the human, the iconic individuality and self-sufficiency of the white western male civilization, and sexual and reproductive relations.

To begin this queer analysis of agriculture it is first necessary to recognize that agriculture is not simply a system of humanity using its tools and intellect to farm highly productive crops for a surplus food supply that can feed the many people in a capitalist economy who are not involved directly in food production. Agriculture is not just one of many facets that created the sedentary villages that grew into cities and later states and empires—it is *the* condition that made states, empires, and colonization possible.²³⁶

The conventional metanarrative of agriculture is the triumphant story of the rise of human civilizations, that man discovered germination and began planting seeds into rows of crops.²³⁷ This allowed him to produce more and more offspring, leading to more permanent settlements, increases in population, and eventually the development of economies, armies and empires. And to a very large extent, this metanarrative is true—agriculture holds together life as we know it, both its triumphs and horrors. Without its original development 13,000 years ago, and without continuing developments in agriculture (including technological developments such as the plow, socioeconomic systems such as chattel slavery, discoveries in genetics,

²³⁶ Marcel Mazoyer and Laurence Roudart, *A History of World Agriculture: From the Neolithic Age to the Current Crisis* (New York, NY: Monthly Review Press, 2006.)

²³⁷ For example, note the discussion of the development of agriculture in Peter Stearns' established world history textbook. Peter N. Stearns, *World History in Brief: Major Patterns of Change and Continuity*, 8th ed. (Upper Saddle River, NJ: Pearson Education publishing as Prentice Hall, 2006.)

the development of the petrochemical industry and the green revolution of the 20th century), I most likely would not be typing up this research in a climate-controlled, state-funded university building with its prison-produced furniture on an American-engineered laptop computer that was assembled in China. Life as we currently know it wouldn't be possible—simply because a surplus food supply is needed to feed all of these working humans who aren't directly producing their own food.

In contemporary understanding, agriculture is defined as the science, art, or practice of cultivating the soil, producing crops, and raising livestock, and in varying degrees the preparation and marketing of the resulting products. The term “agriculture” comes from the Latin prefix “*agri-*,” meaning “field,” and “*cultura*,” meaning “culture.” The etymology of agriculture as the culture of the field is broad enough to invite further inquiry, and the root “*agri*” also contains an element of wildness, a literal reference to the “savage,” which both indexes the untamable nature of that which we believe we have cultivated into predictability, and the human concept of racialized and hierarchical categories, which began to emerge alongside agriculture. To read “the culture of the field” through an American Studies-style understanding of the term “culture” is, while anachronistic, also useful and valid. Although it's easier to imagine “the culture of the field” in the context of American slave plantations or Western cowboys driving cattle from Kansas to Chicago, those field and country cultures also encapsulate multiple flora and fauna, and land-/water-/soil-/air-scapes.

There are many theories of when, how and why agriculture progressed in different parts of the world, but it is generally accepted that the development of

agriculture in the Middle East produced surpluses in food supplies, enabling major changes in technology and governance —something I will refer to later as “the conventional metanarrative of agriculture.” Because agriculture caused people to stay in the same place to tend to crops and livestock, permanent settlements emerged. Permanent settlements and extra food allowed for a series of modifications that eventually led to the social, economic, sexual, reproductive and political structures that are visible in the contemporary moment. As more food became available, larger populations of livestock and humans could be supported. Populations of livestock and humans slowly increased (although there were variations in the progression of populations from events such as disease, famine, and wars). With increasing human populations and surplus food, not everyone had to work in food production to contribute to their own sustenance as most mobile hunting and gathering societies once had. With a surplus in food and humans, the development of trades emerged with increasing specialization. Economies slowly grew as some villages grew and become major sites of trade. Additionally, governing bureaucracies became more complex. These changes in many agricultural societies allowed more time for invention and education, which led to advances in technology, the accumulation of military force, and for some societies, eventually the capacity for governments and militaries to engage in conquest across vast distances and colonization.

The impact of human society on the planet must not be underestimated and I support the proposed addition of the term “Anthropocene” to denote the modern geological era.²³⁸ But humans have not been solely responsible for driving

²³⁸ Richard Monastersky, “Anthropocene: The Human Age,” *Nature* 519 (March 12, 2015): 144-147.

agricultural revolutions—other creatures and phenomena have also been players in the systemic reproduction and relationships that allowed surplus sustenance for increasing populations of certain humans, animals, and plants at the demise of others. This project is primarily concerned with complicating the conventional metanarrative to allow a more nuanced understanding of these interrelationships and to create new kinds of viewpoints about them.

In the conventional metanarrative about the development of agriculture, it is almost always assumed that humans were the primary and sole participants in making this happen. The thinking goes somewhat like this: humans, especially humans in Eurasia, figured out what seeds were. These humans then had the intentional and brilliant idea to take the seeds from the most useful and palatable plants—which existed in recognizable and consistently appetizing forms in a kind of pre-agrarian Garden of Eden—and put them in the ground and boom! Monocrops of their favorite plants emerged, fueling the development of great civilizations. But within this fantasy are anthropocentric beliefs of human and Western cultural supremacy, assuming first that humans made all of this possible, and more specifically that particular (Western) human cultures inherently had the intellect and knowledge base to domesticate the wild “Nature” of plants, livestock animals, and even the landscape itself.

But nonhuman entities and variables played a role too, and better understanding their roles helps to debunk the common misunderstanding of the supremacy of the human species (and within that, the supremacy of Western cultures). The most compelling case for retiring outdated notions of human and

cultural supremacy is Jared Diamond's argument in *Guns, Germs, and Steel: The Fates of Human Societies* about the existence of specific climatological conditions in areas in which agriculture first arose.²³⁹ The actual environmental conditions are, of course, dependent upon the relative position of the Earth in the galaxy, and the relationships between landmass locations, meteorology, and hydrology. These interrelationships produce climate and seasons not only hospitable for growing but also for creating large enough areas of similar environment that multiple human settlements could share information about growing. Diamond argues that agriculture (surplus food production) spread at a much more rapid pace across Eurasia than it did in other parts of the world because Eurasia's concentration of landmass lays upon an east-west latitude axis in which locations suitable for agriculture shared similar hours of daylight, seasonal variations, and to a lesser extent, comparable diseases, variations in rainfall and temperature.²⁴⁰ In contrast, the concentration of landmass in North and South America, and Africa lie on a longitudinal north-south axis²⁴¹. Diamond points out:

As in Africa, in the Americas the spread of native crops and domestic animals was slowed by constricted skies and environmental barriers. No waves of grain ever stretched from the Atlantic to the Pacific coast of North America, from Canada to Patagonia or from Egypt to South Africa, while amber waves of wheat and barley came to stretch from the Atlantic to the Pacific across the spacious skies of Eurasia. That faster spread of Eurasian agriculture, compared with that of Native American and sub-Saharan African agriculture, played a role...in the more rapid diffusion of Eurasian writing, metallurgy, technology, and empires.²⁴²

²³⁹ Jared M. Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: W.W. Norton, 1997).

²⁴⁰ Ibid., 183.

²⁴¹ Ibid., 187-191.

²⁴² Ibid., 190-191.

Diamond's argument refutes not only the implicit self-congratulatory nature of the conventional metanarrative of human development of agriculture, it also argues against the assumption of Western cultural supremacy by highlighting the differential plausibility of agriculture developing in areas such as the Americas.

But geography isn't the only major non-human component in the development of agriculture as a foundation for contemporary political economies, institutions, and social structures. Virginia DeJohn Anderson's book *Creatures of Empire: How Domestic Animals Transformed Early America* shows how hogs, cattle, and sheep not only significantly shaped the early American landscape, but were major factors in processes of colonization, westward expansion, early law, notions of private property, and distinctions between "wild" and "domestic" animals.²⁴³ Fences and crops to feed livestock were not a top priority for colonizers, who let the animals run free but still understood them as property. (Clearing land, building houses, digging wells, raising barns, and planting food crops were top concerns for survival.) While Anderson's research focuses on the 17th and 18th centuries, the effects of free-ranging European livestock, and the resulting conflicts with Native people, who did not consider animals as property, later influenced a growing farming and cultural investment in controlling reproduction, movement, and the inherited characteristics of plants, people, and animals. The deep and ongoing cultural investment in controlling reproduction reveals itself quite obviously from the height of plantation slavery in the 19th century to the 20th century's reproductive de-diversification of livestock, plants

²⁴³ Virginia DeJohn Anderson, *Creatures of Empire: How Domestic Animals Transformed Early America* (New York and Oxford: Oxford University Press, 2004).

and (through multiple eugenic ideologies) people, to today's attempts to contain diseases and invasive species across national borders as well as the introduction of genome sequencing and genetic engineering.

While the sheer force of scale requires this project to artificially limit its focus to the *queering* of agricultural reproduction for reasons of practicality, a brief mention of the relationship between slavery, agriculture, and empire is necessary here. The cultivation of many plantation crops—cotton and sugar, for example—required extensive, labor-intensive processing in order to be profitable, and this processing depended on the free labor provided by enslaved people. For instance, Eric Williams's 1944 publication of *Capitalism and Slavery* explained how the British slave trade as well as plantation slavery in the Caribbean were major factors of the commodity revolution, providing the wealth necessary for the industrial revolution and subsequently the rise of British capitalism and global dominance.²⁴⁴ Many scholars have convincingly argued that American slavery and agriculture in both the North and the South provided an abundance of capital for the United States not only to become a major global political power, and also help fuel its colonial expansion.²⁴⁵ There is also much to be said about the pervasive control of human reproduction within the institution of slavery, but that is beyond the feasible scope of a project focused on

²⁴⁴ Eric Williams, *Capitalism and Slavery* (Chapel Hill and London: University of North Carolina Press, 1944).

²⁴⁵ Gavin Wright, *Slavery and American Economic Development* (Baton Rouge: Louisiana State University Press, 2006); Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Massachusetts: Belk Press of Harvard University Press, 2013); Calvin Schermerhorn, *The Business of Slavery and the Rise of American Capitalism, 1815-1860* (New Haven: Yale University Press, 2015).

queering agriculture, and is more appropriate in the context of contemporary discussions of eugenics.

One of the most well-known arguments about how plants have significantly shaped human civilizations comes from famous food activist Michael Pollan's book-turned-PBS documentary film, *The Botany of Desire: A Plant's-Eye View of the World*.²⁴⁶ Pollan argues that apples, marijuana, tulips, and potatoes—all which have been cultivated and improved to fulfill some of humans' most fundamental desires for sweetness, intoxication, beauty, and control—represent four major ways that plants have functionally domesticated humans just as much as humans have domesticated them. Because of the book's and film's extensive coverage (and appeal) within popular culture, *The Botany of Desire* required millions of readers and viewers to question domestication as a one-way, human-controlled process.

To a large extent, however, all of the examples given so far as other variables influencing agriculture (and scholarship shaping our concepts) have still retained a very significant human center—for instance, the desire for the tulip was important to Pollan because its influence on the 17th century Dutch economy was so important, and “economy” is nothing if not a human concept.

It's much more difficult for humans to conceptualize plants' agency in the historical relations between humans and agriculture. Peter Thompson's book *Seeds, Sex, and Civilization: How the Hidden Life of Plants has Shaped our World* illustrates the centrality of plants' agency in agriculture's origination as well as major

²⁴⁶ Michael Pollan, *The Botany of Desire: A Plant's Eye View of the World* (New York: Random House, 2001).

developments in its history, including the human discovery of genetics and the advance of petrochemical mechanized monocrop farming.²⁴⁷ Thompson's work disbands human centrality in the history of agriculture. He writes:

Farming in the Middle East originated as an inadvertent consequence of the collection, storage and use of cereal grains for food: it owed little or nothing to deliberate [human] intention. Nobody long, long ago picked a stalk of goat grass or looked at an ear of wild wheat and thought, 'What a useful kind of plant this could be if only we could make it bigger, better and more palatable.' We did not choose which plants to grow. Nature presented us with a list of what could be grown and said, 'Take it, and become farmers; or leave it, and continue to live off what you can hunt and gather.' This decisive point in human development occurred because the plants showed us what we could grow, which actions produced a crop and which failed to do so—not because early farmers mastered mysteries for themselves. They did not turn wild grasses of little promise into cereals capable of supporting civilizations. That was done for them by spontaneous hybridization, a process they could not understand and of which they were probably unaware.²⁴⁸

Plants that have become agricultural staples did so not because early farmers manipulated them, but as Thompson argues, because plants possessed the capacities to make anatomical, physiological, and metabolic changes, as well as spontaneous hybridization and chromosomal changes resulting in mixing genes from various plant species.²⁴⁹ The spontaneous hybridization and other changes plants engaged:

...was all done so effectively that when deliberate attempts to breed improved plants started around two hundred years ago, we found we already had almost all the basic forms we needed to hand—not just wheat but of hundreds of other plants grown on farms and in gardens. They had been domesticated inadvertently because once upon a time their ancestors had been part of the daily haul gathered from the wild.²⁵⁰

²⁴⁷ Peter Thompson and Stephen Harris, *Seeds, Sex and Civilization: How the Hidden Life of Plants Has Shaped Our World* (New York: Thames & Hudson, 2010).

²⁴⁸ Ibid., 23-24.

²⁴⁹ Ibid., 24-25.

²⁵⁰ Ibid., 25.

Cereal grains, and specifically wheat and barley, likely played the most significant role in influencing hierarchal human social structures and heterocentric patriarchal notions of domesticity, family, private property, inheritance, and the state. Anna Tsing, in her essay “Unruly Edges: Mushrooms as Companion Species” illustrates an interrelationship of domination, love, and domestication between fungi, humans and cereal grains. (Fungi are a wild enemy to agriculture and processes of domestication.) Tsing writes:

The biological transformation of people and plants that accompanied intensive cereal agriculture is best understood, then, through the rising tide of hierarchical social arrangements—and the entanglement of the state. States encouraged sedentary, stable farms. States encouraged family-based households and guaranteed the forms of family property and inheritance that drew lines within and between families. The *pater familias* was the state’s representative at the level of the working household; it is he who ensured that taxes and tithes would be drawn off the harvest for the subsistence of elites. It is within this political configuration that both women and grain were confined and managed to maximise fertility.

The grains selected through domestication had big, high-carbohydrate seeds; high carbohydrate diets allowed women to have more children. Instead of working to limit fertility, as most foragers do, people suddenly wanted as many children as possible—not only because of the fetish of fertility but also because the family needed more labour for the cereals. The cereals did not care whether family or non-family labour raised them, and there was no dearth of *people*; but state-supported *property* encouraged labour inside the family, i.e., children. Having lots of children was not just nature at work; not all animals work to maximise reproduction. Out-of-control and non-sustainable human reproduction is a feature of a particular human domestication: the love affair between people and cereal grains. This obsession with reproduction in turn limited women’s mobility and opportunities outside of childcare. For all its matriarchal possibilities, it seems fair to call this interspecies love affair, echoing Frederick Engels, “the world historical defeat of the female sex.”²⁵¹

²⁵¹ Anna Tsing, “Unruly Edges: Mushrooms as Companion Species,” *Environmental Humanities* 1 (November 2012): 146.

Peter Thompson also contends that wheat, specifically, produced the conditions for hierarchical complex social arrangements. For Thompson, wheat is a sociable crop for four main reasons. First, it needed extensive land areas to be cultivated. Second, it demands cooperation and social organization to meet challenges in sowing, harvesting and processing. Third, because of the need for a large land base and social organization, wheat effectively requires governance. Lastly, all of this created the conditions for social hierarchy. In essence, wheat helped create urban civilizations because of the “hierarchical forms of administration” needed to maximize wheat’s potential as a commodity.

While the sheer force of scale requires this project to artificially limit its focus to the *queering* of agricultural reproduction for reasons of practicality, a brief history of agriculture in the United States is necessary. I cannot begin to cover the multitude of ways agriculture has shaped and produced the wealth, the landscape, and social relations of the United States, but I briefly focus on a few components that are necessary to understand how it has shaped contemporary social and ecological life in the U.S. To start with, chattel slavery and later sharecropping were central to the development of agriculture in the United States and that is the foundation of historical and contemporary wealth and global dominance of the United States. The cultivation of many plantation crops—cotton and sugar, for example—required extensive, labor-intensive processing in order to be profitable and produce wealth for some, and this processing depended on the free labor provided by enslaved people. For instance, Eric William’s 1944 publication of *Capitalism and Slavery* explained how the British

slave trade as well as plantation slavery in the Caribbean were major factors of the commodity revolution, providing the wealth necessary for the industrial revolution and subsequently the rise of British capitalism and global dominance.²⁵² Many scholars have convincingly argued that American slavery and agriculture in both the North and the South provided an abundance of capital for the United States not only to become a major global political power, and also help fuel its colonial expansion.²⁵³

Secondly, much of the American landscape including its farms, cities, forests, prairies, waters, deserts, mountains, valleys, and plateaus, were significantly transformed into what we know them to be today because of agriculture.²⁵⁴

Additionally, the expansion of ranching and agriculture across the U.S. and the almost perpetual checkerboard of farms through the Midwest to the Rocky Mountains and later the river valleys of Washington state, the Willamette Valley, and California's Central Valley, were fueled by the consumer demand of agricultural products to U.S. cities. William Cronon has shown through an extensive environmental history of Chicago and The Great West (from Lake Michigan to the Pacific Ocean), how the city and expanding West, co-evolved through an

²⁵² Eric Williams, *Capitalism and Slavery* (Chapel Hill and London: University of North Carolina Press, 1944).

²⁵³ Gavin Wright, *Slavery and American Economic Development* (Baton Rouge: Louisiana State University Press, 2006); Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Massachusetts: BelkPress of Harvard University Press, 2013); Calvin Schermerhorn, *The Business of Slavery and the Rise of American Capitalism, 1815-1860* (New Haven: Yale University Press, 2015).

²⁵⁴ I have tried to think of aspects of the U.S. landscape that have not been severely altered because of agriculture. The ones that come to mind are glaciers, mountains above the tree line, and deserts. However, many deserts have been severely altered by agriculture through 1930s and 40s government water reclamation projects that brought irrigation to areas with little rain. The acceleration of melting glaciers at least in part is connected greenhouse gas emissions of petrochemical based agriculture and the increase of cattle farming and its resulting deforestation. Mountains above the tree line have probably had the least impact.

interdependent relationship of commodity flows of credit, grain, lumber, and meat that the natural world and human labor supplied.²⁵⁵ Like the early colonial farms of the Potomac region, “the natural feature that first defined Chicago’s location was the river.”²⁵⁶ However, while the river initially distinguished the place, Chicago and “our modern landscape” of continuous rows of soybeans and corn from Ohio to Nebraska and the grazing grasses of the West “is a creation of” nineteenth century changes in the U.S. economy “that bound city and country into a powerful national and international market.”²⁵⁷

Railroad corridors were one of these major economic and temporal changes that allowed a “new capitalist geography” to make “Chicago the most important meeting place between East and West,” linking the city and entire country together initiating tremendous transformations upon nature and the Western landscape.²⁵⁸ For Cronon, this “new capitalist geography” of the co-development of Chicago, nature, and countryside were in many ways devastating, leaving the clear-cut and plowed up countryside and congested city riddled with issues of disease, the depletion of resources, environmental degradation, and corruption. The “nature” that supplies resources is not “a non-urban quality of aesthetic or sacred beauty to be looked at and “appreciated,” but “the gritty web of material connections that feed, clothe, shelter, and cleanse” communities.²⁵⁹ To see urban and rural spaces separately ignores “the nearly infinite ways they affect one another” and enables humans

²⁵⁵ William Cronon. *Nature's Metropolis: Chicago and the Great West*. 1st ed. New York: W.W. Norton, 1991.

²⁵⁶ Ibid. 23.

²⁵⁷ Ibid. xvi.

²⁵⁸ Ibid. 90-93.

²⁵⁹ Ibid. 384.

to miss our moral responsibility for the ways they shape each other's landscapes and alter the lives of people and organisms within their bounds... We fool ourselves if we think we can choose between them... We all live in the city. We all live in the country.²⁶⁰

Like Cronon, Carole L. Crumley through her method of historical ecology shows how the country and the city is not an independent more or less complex place, but become places defined by their relations. Historical ecology is a useful way to explore how “humans have altered the environment” and “how environmental changed revised human activity.”²⁶¹ Cromley explains in order to address “rapid global environmental change at the hands of the human species,” anthropology (and other knowledge fields) must transcend the fundamental assumptive contradiction in evolutionary theory that the environment shaped early humans and only after humans began to use tools, develop culture, and create societies, do humans shape the environment. This thinking has created the dichotomy between nature and culture.²⁶² Instead, a “multiscalar temporal and spatial frame” is presented that “traces the ongoing dialectical relations between human acts and acts of nature, made manifest in the landscape.”²⁶³ Using this historical ecology as a method, and comparing urban Rome to Celtic agropastoral states, Crumley shows that nonurban areas are not ecologically socially more simplistic or less complex than urban areas, and that complexity of human societies cannot be understood in terms of spatial and social

²⁶⁰ Ibid. 384-385.

²⁶¹ Carole L. Crumley. *Historical Ecology: Cultural Knowledge and Changing Landscapes*. 1st ed. School of American Research Advanced Seminar Series. Santa Fe, N.M.: School of American Research Press, 1994. 1.

²⁶² Ibid. 2-3.

²⁶³ Ibid. 9.

hierarchies.²⁶⁴ Instead, these complex environmental, human, and mechanical systems “are characterized by their relations as much as by their structure.”²⁶⁵

Building off Cronon’s analysis, the history of agriculture and transformation of North America has not only given us the landscapes and false distinctions of city, country, and wilderness that we have today, but also the contemporary crises of food security, hunger, placed-raced-classed-based hostile identity politics, species extinction, and environmental degradation. All of these problems impede solutions to transforming agricultural practices into more ethical and ecologically sound endeavors to feed and sustain humans, systems, and creatures of this planet.

For instance, because of the false distinctions between cities, suburbs, and rural America, an enormous social and identity divide has evolved and been enormously amplified since the presidencies of Barack Obama and Donald Trump. For instance, liberal, mostly white middle/upper class (though the tech and information economies) dwellers of hip cities (parts of Brooklyn, Seattle, DC, Denver, Minneapolis, Portland) pride themselves on the cultural, artistic, and social outlets in those cities and often despise or are afraid of what might happen to them or our country (politics both white and black) in other places deemed not so hip (St. Louis, Nebraska, Houston, Idaho, Salt Lake City, Iowa, Oklahoma City, North Dakota, Memphis). However, city dwellers in DC and Denver enjoy the low cost of subsidized food, oil, and natural gas produced by workers in North Dakota and Iowa. Rural-dwelling white folks, such as my extended family, often resent and are afraid to

²⁶⁴ Ibid. 183.

²⁶⁵ Ibid.

go to Seattle because it displays vast injustices of wealth and poverty. The homeless are to be avoided just as much as the liberal “yuppies.” Yet all of my family—even those with very low income—purchase and depend on the internet, their phones, software, and computers (produced by wealthy Seattle tech workers and poorly paid international assembly lines) to navigate the tasks of daily life such as driving, doing paid and school homework, grocery shopping, cooking, eating, and even sleeping.

The false distinctions between city and country that Cronon highlights have fostered and amplified the racism and other social distinctions and divisions that define the United States. Making visible the interdependence of agricultural and resources among differently identifying groups of people is one step needed to create more equitable and ethical food and ecological systems. Urban dwellers who want more organic and locally sourced food might not be aware of the potential extinction of dwindling numbers of pollinator species that make that kind of food possible, because they refuse to engage or associate with some of the farming communities producing those products. They may be entirely unaware of the environmental and social destruction caused by open pit mining in the mountains of Kentucky and West Virginia, the oil fracking in North Dakota, or community health and ecological problems associated with the use of massive amounts of pesticides used in monocrop agriculture, because they refuse to go, engage, or be associated with the people of these places. But as Cronon shows, these people are intimately associated with each other through commodity flows. And while I do not advocate that people toss their distinct identities and sometimes even the hostilities that are tied to place, it must be a goal of environmental and food politics to illustrate that the one thing all humans

have in common is inalienable rights to adequate, culturally appropriate, and nutritional food that is cultivated with an ethics of awareness and care for the interdependent ecologies that make that food possible.

The artificial division of cities and rural areas continues to foster the idea that food (and the waste and pollution associated with it) is grown and raised in the countryside and sophisticated culture, art, entertainment, intellect, and knowledge is produced in cities. Destroying this deceptive distinction is also necessary to produce more ethical and ecologically interdependent food systems. It is not distinctions of identity and place that should guide environmental and social politics, but those *relations* of identity, ecology, place, and resources that illustrate not only why we have class, racial, gender, and sexual animosities and ideological and spatial divisions, but how those relations bind us together. As I highlight in the conclusion, it is possible to grow a lot of food in cities and suburbs and doing so could potentially tackle many of the environmental problems we face.

Cromley's historical ecology will also be an important tool for environmental and social politics. Researchers, environmental and agricultural activists are fairly aware of how humans have transformed the ecologies and landscapes of the planet, but less aware of how the resulting environmental changes have and continue to revise human activity"²⁶⁶ Humans must become more cognizant of how environmental change influences our behavior, decisions, and consumption patterns in order to strategically map out ways and plan for a future of more ethical social and ecological relations.

²⁶⁶ Carole L. Cromley. *Historical Ecology: Cultural Knowledge and Changing Landscapes*. 1.

Overall, this history of agriculture serves to illustrate both that agriculture could easily be described as an intrinsically queer and trans process and, paradoxically, that it created the conditions for a progressively more comprehensive denial of this fact. In other words, systemic reproduction such as producing food produces and reproduces bodies and is an interdependent ecological transsexed process. As shown here, the process of “domestication” of plants and animals is as much a story of how they shaped human life as it is a story of how humans shaped them. The establishment of cereal grains as staple crops and the concurrent development of the governmental, cultural and economic structures to manage them has ironically, at least for the contemporary U.S., developed into a monstrous bureaucracy with discourses that more accurately reflect its own anxieties than effectively engage the realities of agricultural food production.

Food Security in the Nation’s Capitol: Securing Food and Family?

In the documentary film *Farmageddon*, Joel Salatin, a well-known farmer and food activist who describes his growing practices as “beyond organic,” states, “If I could ask one question to the FDA and the USDA it would be ‘Why do you hate freedom so much?’”²⁶⁷

Joel Salatin farms hundreds of acres of “beyond organic” beef, poultry, rabbits, and pigs in Virginia’s Shenandoah Valley. Much of it reaches the mouths of financially well-off meat eaters in the nation’s capital through the upscale specialty

²⁶⁷ *Farmageddon: The Unseen War on American Family Farms*, DVD, directed by Kristin Canty (Warren, NJ: Passion River Films, 2011).

markets in Washington D.C. and northern Virginia, as well through food-buying clubs in suburban D.C.- area neighborhoods.²⁶⁸

Salatin's comment is prompted not only by a series of raids conducted by the FDA against raw milk producers, sheep farmers, and food-buying clubs that *Farmageddon* investigates, but also Salatin's own struggle in figuring out how to process and market his organic and raw agricultural products under USDA regulations and federal law while still making a profit—a daunting task for the small farmer in the age of agribusiness. Salatin's comments are fairly ironic, both because freedom in the United States is in fact demarcated by violent exclusion, and because of Salatin's own heteronormative policing, which introduces the broader transphobic and heterosexist assumptions with which farming and food activism is laden.

Salatin, a hero of the “beyond organic” biodynamic and “sustainable” farming movement, is self-described as being “very, very, very discriminatory.”²⁶⁹ While Salatin argues for “honoring the pigness of the pig,” the many requirements for his apprentices include “clean-cut boy-girl appearance characters.” Additionally, many of Salatin's writings argue that to rebuild the environment and rural cultures and family life through biodynamic farming, adherence to traditional gender roles (in the context of a traditional Christian family life) is essential.²⁷⁰

²⁶⁸ Joel Salatin, “Food Sales,” Polyface Farms web site, <http://www.polyfacefarms.com/food-sales/> Accessed January 7, 2016.

²⁶⁹ Salatin probably meant “discriminating,” rather than “discriminatory,” but the error is ironic. Joel Salatin, “Apprenticeship,” Polyface Farms web site, <http://www.polyfacefarms.com/apprenticeship/>. Accessed January 7, 2016.

²⁷⁰ Joel Salatin, *Family Friendly Farming: A Multi-Generational Home-Based Business Testament* (Swoope, Va.: Polyface, 2001); Joel Salatin, *You Can Farm: The Entrepreneur's Guide to Start and Succeed in a Farm Enterprise*, 1st ed. (Swoope, VA: Polyface, 2001).

While I only index these contradictions here, movements for organics, small family farms, slow food etc., are often tied to a pastoral heteropatriarchal framework. Michael Pollan has also received intense criticism for seeming to suggest that U.S. food-related health crises have been brought on by women failing to cook dinner for their families.²⁷¹ At the same time, those marginalized by heteronormativity are at the center of contemporary food innovation in rural and urban spaces. The paradoxical relationship between heteronormativity and the mythology of the pastoral family farm, in contrast to increasingly normative industrial and bioengineered crop production, is ripe for deeper analysis.

I highlight the quotation from Salatin's *Farmageddon* here in context with his requirements and desires for gender normativity on his farm because it exemplifies in a very simple way many of the popular concerns in contemporary food and farm activism in the United States. I will show how much of the sustainable food movement has imagined and used threats to gender normativity, freedom, future, and family to propel a particular type of food activism bundled in the catch phrase and buzzword "food security"—which will illustrate that it's not just food that is a concern, but also gender, reproduction, populations, species and other resources. My focus in these debates is not only the criminalization and security culture of both sustainable and conventional food systems, but also how food security culture exhibits a diverse array of politics, strategies, and consequences for the edible and reproductive future of U.S. society.

²⁷¹ Emily Matchar, "Is Michael Pollan a Sexist Pig?" *Salon*, Saturday April 27, 2013, Accessed January 7, 2016. http://www.salon.com/2013/04/28/is_michael_pollan_a_sexist_pig/; Tom Philpott, "How Michael Pollan Romanticizes Dinner," *Mother Jones*, May 14, 2013. Accessed January 7, 2016. <http://www.motherjones.com/tom-philpott/2013/05/michael-pollan-cooking-gender-and-nostalgia>

I also want to question and challenge the catchphrase “food security,” which is often used to bolster the claims that genetic modification and monoculture agribusiness will “feed the world,” or that “sustainable” and more biodynamic forms of farming will “save the environment.” Both “feeding the world” and its foundation in fears of overpopulation as well as “saving the environment” for future generations of humans contain many unexamined assumptions and anxieties about the future reproductive capacities of humans, and in many cases particular types of humans. Additionally, much of the critique of genetic modification and monoculture agriculture is also laden with assumptions that certain species should or should not mingle—reproductively or otherwise in particular kinds of ways. And those assumptions of special interrelations or isolation—whether it be genetic engineering or keeping a particular sort of insect or microbe away from crops or cows are largely based on what humans assume about sex, reproduction, and propose food sovereignty might be a more useful approach. I also examine public and governmental concerns about endocrine disruptors and the subsequent fear of the transsexualization of desirable populations.

Milk—the Raw and the Industrially Produced

The sale of raw milk in Washington D.C. and Maryland is illegal; the Maryland Code of Health, section 21-434 reads that “a person may not sell raw milk for human consumption.” However, raw milk is desired by increasing numbers of consumers for its microbial health benefits, preferred taste, and because it is often organic, sourced from a smaller, localized pool of grass-fed animals. Homogenized and pasteurized milk, on the other hand, is often called “dead milk” by raw advocates,

containing few of the probiotic benefits natural to milk. The pasteurizing process is paradoxically a solution to the problems introduced by industrial agriculture—the mixing of milk from hundreds of sources, contamination by pus, and other public health concerns produced by the factory farm. But the pasteurization process was not implemented in the United States because of factory farming, but rather in response to bovine tuberculosis, as well as typhoid and scarlet fever. In *Pure and Modern Milk*, Kendra Smith-Howard explains that because the early 20th century testing and eradication process for bovine tuberculosis was lengthy (involving waiting to verify the health of all animals in a herd), that pasteurization was the more practical and economically expedient route to providing safe milk.²⁷²

Smith-Howard points out that contemporary food activists tend to think of the food system of having distinct paths—industrial farming and small-scale farming that is closer to nature. A common theme on social media with food activists is to post pictures and stories that demonize industrial agriculture and celebrate and promote small-scale “sustainable” agriculture. But positing that industrial agriculture poisons and exploits immigrant labor, is cruel to animals and workers, and is destroying the planet, while smaller-scale “sustainable” agriculture is “natural” and will save the planet is far too simplistic a set of choices, and in fact can be misleading to the goals of eating better, ethical food systems, and protecting the environment. Smith-Howard explains:

The history of milk, though, reveals that the values and practices guiding industrial agribusiness and small-scale farming have not always been separate and distinct. Whether they fertilize fields with manure or

²⁷² Kendra Smith-Howard, *Pure and Modern Milk: An Environmental History since 1900* (New York: Oxford University Press, 2014), 32-34.

synthetic fertilizers, farm families feel the forces of nature acutely when droughts or insect pests threatened to wipe out a hay crop. When raw milk devotees travel hundreds of miles seeking unpasteurized product, their quest is just as embedded in the technological system and complex calculus of consumer demand that brings pasteurized milk to the supermarket.”²⁷³

In fact, labeling, marketing, and producing better food products that fall under categorizations such as “organic,” “humanely raised,” “sustainable,” or “natural” is often misleading for a number of reasons for the consumer who may be spending a few extra dollars for whatever their reason might be—to be healthier or because they care about the environment or animal and/or human working conditions. First, many products on the shelf at your local co-op or upscale organic market labeled organic or “no hormones” are still produced on an industrial scale but are often presented to the consumer in more comforting packaging idealizing the imaginary idyllic family farm.

Most likely, a carton of Organic Valley milk with added Omega-3s EPA, ALA, and DHA is a better consumer choice (if one can afford it) than a generic carton of milk from Wal-Mart if one cares about any of the following—healthier humans, cows, and environment. Indeed, research has found that organic pasteurized milk has higher levels nutrients, including Omega 3s. But this is still organic milk production at an industrial scale, which includes many more factors and processes than just cows, milk machines, and the family farm. The infrastructure and its multitude of effects which has made Organic Valley the number one organic milk producer in the United States should remain invisible if Organic Valley wants to continue to both grow while also leaving customers satisfied with their healthier choices. For example, the

²⁷³ Ibid., 11.

advertising of Omega-3 amino acids may leave customers feeling as though those naturally occurring amino acids are a result of the cows happily grazing fields of white clover and annual ryegrass—two forage foods which increase phytonutrients and omega 3s.²⁷⁴ However, sardine and anchovy oil containing omega 3s is harvested wild from the cold Antarctic waters of Peruvian fisheries and is added to the milk. Organic Valley says its milk doesn't taste "fishy" because their fish oil "is made using a proprietary and innovative micro-encapsulation process" where the fish oil "is preserved in micro-sized particles" providing "an oxygen barrier resulting in an extended shelf life," better taste, no order, and high-density nutrition.

Food Security: Raids

Until 2010, hundreds of D.C. and Maryland residents who drank raw milk (despite its being illegal for sale) relied on milk from Amish farmer Dan Allgyer and Rainbow Acres Farm in Lancaster County, Pennsylvania²⁷⁵. The milk was brought to the nation's capital through the activism of a local food-buying club called Grassfed on the Hill. But in April 2010, this access to raw milk was significantly disrupted when federal agents and state troopers showed up at Rainbow Acres Farm at 4:30

²⁷⁴ While a lot of online health and agriculture sites claim the Omega 3 benefits of clover and ryegrass as a forage food for milk and meat production over other grasses such as timothy and alfalfa, it must be noted that Dewhurst, Shingfield, Lee, and Scollan found that plant species, time of cultivation (cutting/eating of grass vs. flowering grass), conservation and storage methods, and the fat content of the milk product significantly affect the amounts of specific Omega 3s amino acids in milk. R.J. Dewhurst et al., "Increasing the Concentrations of Beneficial Polyunsaturated Fatty Acids in Milk Produced by Dairy Cows in High-Forage Systems," *Animal Feed Science and Technology* 131 no. 3-4 (2006): 168-206.; H. Boufaïed, et al., "Fatty Acids in Forages. I. Factors Affecting Concentrations" *Canadian Journal of Animal Science* 83 no. 3 (2003): 501-511.

²⁷⁵ Farm-to-Consumer Legal Defense Fund website, "PA-ACTION ALERT: FDA Raids Amish Farmer Dan Allgyer," Accessed August 21, 2014, <http://www.farmtoconsumer.org/aa/aa-22april2010.htm>; Carolyn Lochhead, "Dan Allgyer Latest Target in FDA War on Raw Milk," *SF Gate*, May 22, 2011. Accessed August 22, 2014. <http://www.sfgate.com/news/article/Dan-Allgyer-latest-target-in-FDA-war-on-raw-milk-2371056.php>

a.m. to serve Allgyer a search warrant on suspicion of interstate commerce of raw milk. As agents searched his farm, Allgyer refused to answer questions and continued milking his cows. Agents claimed they found evidence consisting of two coolers marked with Bethesda and Bowie—cities in Maryland. (It is legal to sell raw milk in Pennsylvania.) The next day Allgyer received an urgent overnight warning letter from the Food and Drug Administration reminding Allgyer it was against federal law to sell unpasteurized and unlabeled milk over state lines.²⁷⁶ The letter warned that “failure to make prompt corrections could result in regulatory action” including “seizure and/or injunction” and notified Allgyer he had 15 business days to reply in writing regarding what steps he had taken to make the necessary corrections.

Allgyer’s milk operation was targeted after a larger federal crackdown on raw milk began in the 2000s and when an FDA “spy” based in Baltimore infiltrated the Yahoo group membership of Grassfed On the Hill. The FDA began buying raw milk and milk products from Allgyer in October of 2009 and is alleged to have written 23 checks to Allgyer for raw milk and raw milk products.²⁷⁷ Instead of responding to the FDA’s cease and desist letter, Allgyer changed his business model and began selling shares of cows to members who paid him to board and milk the cows—under Maryland state law, cow owners are legally allowed to drink the raw milk of their own cows.

²⁷⁶ Kirk Sooter, “Warning Letter to Dan Allgyer.” Philadelphia District Food and Drug Administration. April 20, 2010. Accessed January 7, 2016.

<http://www.fda.gov/ICECI/EnforcementActions/WarningLetters/2010/ucm209276.htm>

²⁷⁷ National Independent Consumers and Farmers Association, “FDA Seeks Permanent Injunction Against Amish Farmer Dan Allgyer,” *Farm-to-Consumer Legal Defense Fund*. April 29, 2011. Accessed August 21, 2014. <http://www.farmtoconsumer.org/news/news-FDA-Seeks-Permanent-Injunction-Against-Algyer.htm>.

However, nearly a year after serving Allgyer the warrant, the FDA filed a permanent injunction against Allgyer's operation, after federal judge Lawrence F. Stengel of The United States District Court of the Eastern District of Pennsylvania ruled that Allgyer's "so-called "private buying club" does not shield him from federal oversight," and "Allgyer's 'cow share' agreements are a subterfuge for sales of raw milk."²⁷⁸ Allgyer was further accused of "contributing to the introduction, transmission, or spread of communicable diseases."²⁷⁹ Shortly after the injunction Allgyer told customers he was shutting down the farm.

Supporters of raw milk have entered a number of arguments, including that the federal government was interfering with their parental rights to feed their children²⁸⁰ and that the FDA interference was unconstitutional because of Allgyer's inalienable rights to contract. Allgyer's customers also argued that food sovereignty is an inalienable right given by God and "no state has the right to proscribe the food choice of an individual."²⁸¹

The raid on Allgyer's farm was not an isolated incident. I have collected documentation of at least 21 raids on small farms, consumers, and food-buying clubs since 9/11, often performed without notice and at odd hours, several of which appear to have involved multi-agency stings and SWAT teams with drawn weapons. While a

²⁷⁸ Food and Drug Administration, "News Release: Federal Government Gains Permanent Injunction Against Raw Milk Producer," February 22, 2012. Accessed August 22, 2014. <http://www.fda.gov/newsevents/newsroom/pressannouncements/ucm292924.htm>.

²⁷⁹ Lochhead, "Dan Allgyer Latest Target."

²⁸⁰ Steven Dinan, "Feds Shut Down Amish Farm for Selling Fresh Milk." *The Washington Times*. February 13, 2012. Accessed August 22, 2014.

<http://www.washingtontimes.com/news/2012/feb/13/feds-shut-down-amish-farm-selling-fresh-milk/>

²⁸¹ National Independent Consumers and Farmers Association. "FDA Seeks Permanent Injunction."

majority of these have involved raw milk, others have involved heritage breeds of animals such as hogs and sheep.

In light of raids such as these, Joel Salatin's seemingly humorous accusation of the FDA and USDA's hatred of freedom in fact indexes an increasing criminalization of small and sustainable farmers in the past decade. New federal legislation addressing food policy paired with the increasing popularity of local, organic, ethical, and sustainable food in U.S. consumer markets has created intense debates about what constitutes healthy food, healthy bodies, and a healthy body politic. While these explicitly address ideas of freedom, public and individual health, and economic and geographical access to healthy food, I contend that these debates are just as much about ideals and critiques of the American family, sexuality, gender, race, nation, and a reproductive future.

Interestingly, 9/11 and the intensified security culture that emerged after in the United States has had a profound effect on food policy and activism. "Food safety" is a term the government and public used throughout most of the 20th century; however, it wasn't until after 9/11 that "food security" coheres as a buzzword that connects food systems to and emulates other discourses of security, e.g., national, homeland, family, and financial security. Charlotte Biltekoff's examination of the intersections of the "war on terror" and the "war on obesity" considers both the history of the relationships between war and the food supply during World Wars I and II and the discursive project through which these activities were connected. Biltekoff explains the role of food in times of war:

During war, food rules play an especially ideological and yet equally unexamined role. Rather than reinforcing life as it is, however, wartime

food rules adjust people to the unique demands of life during war. Each of the major American wars of the twentieth century has given rise to a national dietary crisis and major campaigns aimed at managing food supplies and improving dietary health of the population. Each of these campaigns has played an instrumental social role on the homefront beyond its material aims by providing rules about food consumption that are infused with ideological purpose.

Following Biltekoff, these raids on small sustainable farmers, distributors, and consumers need to be contextualized as adjusting people to life in a country permanently at war. This, however, is a war with many unknown enemies, enemies that can be hazily undefined and then redefined based on the newest threat or fear, often residing within the borders of the U.S.—the enemy within.

Food safety has been a government regulatory concern in the United States since the late 19th century. The rapid urbanization and industrialization of U.S. cities in the 19th and 20th centuries meant increasing amounts of food left the communities that produced it and traveled long distances to urban consumers. By 1900, very few urban Americans kept their own cows as they once did.²⁸² Slaughterhouses and dairies began to appear on the edges of ports and cities, replacing the centrality of milking and slaughtering in American life. These early food factories became known as cesspools of filth and disease, as documented in Upton Sinclair's muckraking novel, *The Jungle*.²⁸³ During this time of transition from local food economies to an increasingly global and industrial food economy, the United States began to experience its first massive food contamination scares. Food sickened and killed consumers who had no choice but to continue to consume the products that were

²⁸² Smith-Howard, *Pure and Modern Milk*, 15.

²⁸³ Paula Young Lee, *Meat, Modernity, and the Rise of the Slaughterhouse*. (Durham, NH: University Press of New England, 2008).

killing them—adulterants and bacteria were rampant, turning eating into a kind of Russian roulette. By the early 20th century, many Americans—especially Progressives—saw consumer protection and food regulation as a responsibility of the state.²⁸⁴ As a result, laws were implemented to protect the nation’s population, the food supply, and the corporations that produced industrial food. All of this culminated in the creation of the 1906 Pure Food and Drug Act and the creation of the Food and Drug Administration by President Theodore Roosevelt, which was later revised into the 1938 Federal Food, Drug, and Cosmetic Act to address new technologies in food additives, cosmetics, and medical devices.

For nearly a century, not much changed in federal regulation of food through the FDA as many of the amendments that occurred during this time were focused on cosmetics, pharmaceutical drugs, and medical technologies. Even when the 1997 FDA Modernization Act was passed, food was a minimal issue and the act merely eliminated the FDA’s preapproval of packaging and substances that come in contact with food. All this changed after 9/11, however, when the FDA passed a series of acts (paralleling the surveillance-heavy Patriot Act) including the Farm Security and Rural Investment Act of 2002, the Bioterrorism Act of 2002, and the FDA Food Safety Modernization Act of 2010. The FDA brought the militarized language of “defense” into food policy, and now distinguishes between “food defense,” “food safety,” and “food security.” According to the FDA, “food defense” involves efforts for preventing intentional contamination that is not likely to occur in food without humans initiating

²⁸⁴ Lawrence B. Glickman, *Buying Power: A History of Consumer Activism in America* (Chicago: University of Chicago Press, 2009).

contamination. “Food safety” involves efforts at preventing unintentional contamination by contaminants probable of occurring in food such as E. Coli or listeria. “Food security” is a having a reliably sufficient quantity of quality nutritious food available for the population.²⁸⁵

Both agriculture and food security were central subjects in the 2002 Bioterrorism Act, appearing as major components in Subtitle B of Title II, known as Agricultural Bioterrorism Protection Act.²⁸⁶ This part of the act mandated processes of planning, preparedness, authority, regulation, reporting, and criminalization in the event of bioterrorism. The Secretary of Agriculture was to “establish and maintain a list” of toxins and biological agents that “pose a severe threat to animal or plant health” or products.²⁸⁷ Decisions about how to determine if a substance should be on the list include: 1) effects of exposure on animals and plants “and on the production and marketability of animal or plant products; 2) the potential harm as well as methods of transferability or exposure; 3) “the availability and effectiveness [of] pharmacotherapies” and prevention measures to prevent and treat illness; and 4) “any other criteria that the Secretary considers appropriate to protect animal or plant health, or animal or plant products” which should be determined by consulting “with appropriate Federal departments and agencies and scientific experts.”²⁸⁸

²⁸⁵ Jason Bashura, “Food Defense Interactive Workshop,” National Association of County & City Health Officials Conference, Los Angeles, CA. July 11, 2012. Accessed May 1, 2014. <http://www.fda.gov/Food/NewsEvents/WorkshopsMeetingsConferences/ucm321721.htm>.

²⁸⁶ 107th Congress, *Public Health Security and Bioterrorism Preparedness and Response Act of 2002*, 672.

²⁸⁷ Ibid.

²⁸⁸ Ibid., 647-648.

It is the fourth criterion—the general unnamed vagueness of “any other criteria” to be determined by consulting with “appropriate” agencies or departments—that has been one of several factors leading to the increasing number of militarized counter-terror raids targeting small farmers since 9/11. What could possibly constitute “any other criteria” and what might be the appropriate agencies or departments? The ambiguity of these defining factors makes *any criterion* a possible target for *any type* of intervention, which might include SWAT teams and guns, as determined by the interested agency or department. At this point, food regulation moved from being a largely transparent discourse of safety (as in the early 20th century establishment of pasteurization regulations) to largely secretive discourse of national security, which can be read in conjunction with both post-9/11 anti-terrorist surveillance and the increasing targeting of so-called ecoterrorists.

For example, the transition from food safety to food security can be seen in the evolution of the President’s Council on Food Safety, created in 1998 by President Bill Clinton. The Council was originally mandated with the development of a strategic plan for food safety by leaders from the USDA, the Department of Commerce, the Department of Health and Human Services (DHHS), the Office of Management and the Budget, the Environmental Protection Agency, the Office of Science and Technology Policy, the Domestic Policy Council, and the National Partnership for Reinventing Government. The council was to improve the effectiveness of the current food safety system” and to “to advance Federal efforts to implement a comprehensive science-based strategy to improve the safety of the food supply and to enhance coordination among Federal agencies.” The principal goal was

“the establishment of a seamless, science-based food safety system” identifying the “key public health, resources, and management questions regarding food safety.”²⁸⁹

But in 2003 the Department of Homeland Security (DHS) was added to the Council on Food Safety by President George W. Bush via Executive Order 13286, section 16.²⁹⁰ The move to add the DHS to the council was not surprising, since DHS replaced or was added to many other government constituencies in the early years of the War on Terror. However, this meant that the Council’s goal of utilizing science and cooperative coordination to enhance the food safety systems now had the added mandates of preventing terrorism, enhancing security, securing and managing borders, enforcing and administering immigration laws, safeguarding and securing cyberspace, and ensuring resilience in the face of disaster.²⁹¹

Title III amends several sections of the Federal Food, Drug, and Cosmetic Act of 1938 (21 U.S.C. 381) to ensure food, agriculture, and drug security in the new War on Terror. It calls for increased inspections of imported food at ports of entry, improved information management systems at ports of entry, details for detention of imported food, debarment, registration for food facilities, and guidelines for refusal of entry. If food is refused admission into the U.S. and is not ordered destroyed, then it must be “clearly and conspicuously” labeled “UNITED STATES: REFUSED

²⁸⁹ U.S. President, “Executive Order 13100 of August 25, 1998, Establishing the President’s Council on Food Safety,” *Federal Register* 63, no. 166 (August 25, 1998): 45661. <https://www.govinfo.gov/content/pkg/FR-1998-08-27/pdf/98-23258.pdf>

²⁹⁰ U.S. President, “Executive Order 13286 of February 28, 2003, Amendment of Executive Orders, and Other Actions, in Connection with the Transfer of Certain Functions to the Secretary of Homeland Security,” *Federal Register* 68, no. 43 (March 5, 2003): 10619. <http://www.gpo.gov/fdsys/pkg/FR-2003-03-05/pdf/03-5343.pdf>. (Accessed April 19, 2014).

²⁹¹ Department of Homeland Security, “The Core Missions.” Accessed April 20, 2014. <http://www.dhs.gov/our-mission>.

ENTRY.”²⁹² Food production has increasingly been marked by immigration policy and the language of contamination that indexes both human bodies and food products—the fear of salmonella and e. coli imported from Mexico parallels and is intertwined with concerns about securing borders against unwanted surplus labor.

In contrast to the racialized and disciplining language of food security, “food sovereignty” is a movement “growing from the bottom up, from the farmers, fishers, indigenous peoples and landless workers most impacted by global hunger and poverty” according to the U.S. Food Sovereignty Alliance.²⁹³ This movement is reimagining agriculture in ways that focus on community access to food, against criminalizing government surveillance that protects the interests of agribusiness over the needs of interdependent ecologies of humans and non-humans. Further, these movements are reimagining, in ways that evoke Hayward’s concept of trans—how to cultivate and be cultivated by toxic landscapes.

Finally, I turn to another piece of legislation that was closely related to the securitization of the U.S. food system. The Endocrine-Disrupting Chemicals Exposure Elimination Act of 2011 ultimately was not passed, but indexes a cultural moment in which the presence of endocrine disruptors in the food system and everyday consumer products led to a kind of widespread panic. As discussed in detail in Chapter 3, EDCs in meat, milk, pesticides on produce, additives in processed food, agricultural runoff and drinking water have been blamed for “transsexualizing” several animal species including fish, frogs, polar bears, and alligators, as well as

²⁹² 107th Congress, *Public Health Security and Bioterrorism Preparedness and Response Act of 2002*, 672.

²⁹³ U.S. Food Sovereignty Alliance, “Member Organizations,” Accessed December 23, 2015. <http://usfoodsovereigntyalliance.org/?s=growing+from+the+bottom+up>

causing reproductive anomalies in humans. In certain ways, it is unfortunate this legislation *didn't* pass, because it would have likely advanced a research agenda that would make discoveries about how EDCs affect entire endocrine systems, beyond the current obsession with gendering hormones. The bill was proposed twice but turned away both times. The bill likely died because it would have allowed for a ranking system of risk, discovered new EDCs, as well as initiated a ban on certain synthetics.²⁹⁴

While humans have bred livestock, kept bees, intentionally cross-pollinated crops, and invented vast agricultural technologies, we need to seriously consider the ways plants and animals have influenced the sex, gender, domesticity, laws, and reproduction of humans. Wandering semi-feral cattle, hogs, and swine in early America influenced demarcations of private property likely further impacting ideas about resources available for self-contained family units and the imaginary of self-sufficient masculinity. But even in a contemporary context, the multiple forces in systemic agricultural relations are contributing to new rearrangements in sex, gender, sexuality, and reproduction, family and nation.

Yet normative assumption paints the history of agriculture too simply. Agriculture's physical impact has been so pervasive it has dramatically reshaped the social, ecological, energetic, hydrological, and landscape relations of the planet. More specifically, and more specifically relevant to this dissertation, agriculture has been so pervasive in the development of the discourse or metanarrative of an

²⁹⁴ U.S. Congress, Senate. *Endocrine-Disrupting Chemicals Exposure Elimination Act of 2011*, S 1361, 112th Cong., 1st sess. Introduced in Senate July 13, 2011. Accessed October 1, 2013. <http://www.gpo.gov/fdsys/pkg/BILLS-112s1361is/pdf/BILLS-112s1361is.pdf>.

interdependent, multi-species global history that it has been made to seem natural and inevitable.

Chapter 5: Conclusion: Trans Ecologies and Queer Ethics

I have presented a framework and analysis of several mainstream discourses of environmentalism and conservation in the United States, and in some instances questioned them using queer and trans ecological perspectives. The purpose of this was to make visible various discourses and ecologies, and processes that would otherwise remain invisible in contrast to official stories about conservation and environmentalism that science, the media, and the state perpetuate. This project has not just been a cultural one, but a transdisciplinary one, using the Potomac River basin as an anchoring factor to explore a queer ecological geography of the region and its relationship to ecology, media, science, public policy, and the state.

Mainstream discourses of conservation and environmentalism should be thought of as a governing technology of-and-through consumerism, corporations and the state. For instance, Theodore Roosevelt Island and Memorial memorializes the first conservationist president in an idealized place of nature, available for those who have access to the place to visit, recreate, and remember a president as a grandfather of the mainstream environmental movement. Most of the people visiting the island have no idea that his environmental conservationist policies to protect the nation's resources (for future economic development) and create pristine national parks mirrored his philosophy, writing, and activism for conserving and reproducing the white race and its proper gendered notions of character for the future of the nation. The discovery of transgender fish by scientists assumed the altered hormonal ecologies of fish were a transsexual ecocatastrophic result of exposure to pollution

which media used to perpetuate fear about the potential feminizing effects on men and children, thus creating new discourses of trans-pathologies instead of questioning if the fish they found alive were evolutionary adaptations to changing and toxic environments. Additionally, a consumer might decide they want to eat better either for themselves or the planet, and go to the grocery store and spend a lot more money picking foods labeled “organic,” “no added hormones,” and “natural” with no knowledge of the fact that USDA organic certification allows certain pesticides and antibiotics and that while their chicken is labeled as having no hormones, hormones are not allowed in chicken anyway. The consumer ends up spending more money for a “healthier” family and planet but also might not realize the cumulative environmental effects of the oil, energy, labor, refrigeration, regulation, packaging, shipping, and storage needed to buy organic goods from a grocery chain.

In terms of solving massive ecological and economic problems, I propose it might be more useful to look at mainstream environmental discourses in terms of the management of populations, resources, and species, rather than a benevolent effort to “be green” or “saving the environment.” This is because “being green” is typically a tactic to get consumers to buy more things that further deplete natural resources and use exploited labor. While I believe buying a new Prius is a better choice than buying a new Camaro in terms of conserving the world’s oil supply, the Prius still has raw materials and newer technologies that must be converted through energy into plastics, copper, aluminum, batteries, and steel. If a cumulative comparison of energy and resources were calculated including the effects of getting rid of your old car, the Prius may or may not be the best environmental choice. If we are to solve the massive

environmental and social problems of this century, being an “environmentally friendly” is not wrong. However, exposing discourses of “being green” as the management of populations, resources, and species rather than purely an altruistic, benevolent action is far more critical for meaningful change. The management of populations, resources, and species needs to be unraveled so that we can come up with ways to measure the cumulative ecological debt and the effects of producing and consuming particular things, which can then inform our choices.

I have shown how the media, activists, and many researchers rely on anthropocentric assumptions of sex, gender and reproduction to study, describe, and understand the world around them. EDCs and the fear of ecological transsexualization have facilitated a national stage for new trans discourses to emerge in science, politics, reproduction, and the media. For the public, transsexuality is no longer just about humans, social norms, choice, and advances in science. Instead, most humans have little choice in exposure to EDCs and their effects exposing the transsexual potential of everyone. The nonhuman becomes transsexual as well, inciting public alarm and captivation in regards to pollution induced reproductive transformations within conglomerations of agriculture, river basins, and food systems.

Science and media fixate on the feminization of men and children and why fewer males are being reproduced. Is that necessarily a bad thing? It might be, but it also might *not* be. It’s more important to figure out the evolutionary reasons why this might be happening and if it’s some sort of adaptation instead of assuming it’s a transsexual ecocatastrophe because of human induced pollution. For example, one could see the increasing proportion of females being born as a question of ecological

reproductive adaptivity. If a population or species is being compromised because something in the environment is threatening it, having more females makes sense as a reproductive strategy because one male can impregnate multiple females to increase the population more quickly and therefore increase the odds of the species' long-term survival. What media, researchers, and governments might want to consider is *why* more females are being born instead of being fixated on a lack of males, with all of the traditional sexist baggage that entails.

New Opportunities for Trans Discourses: A Queer Eco Ethic

So, what are the alternatives to these ways of thinking? What might a queer eco ethic entail? In *Cruising Utopia: The Then and There of Queer Futurity*, José Muñoz examines how art and performance open up opportunities for queer futures. For Muñoz, queerness is not an identity or current reality—"Queerness is not here yet...we are not yet queer."²⁹⁵ Queerness is instead an ideality, a longing for something better, a potentiality, and a "rejection of a here and now and an insistence on potentiality or concrete possibility for another world."²⁹⁶ For Muñoz, the value of queerness is that it is on the horizon and can only be seen as being on the horizon.²⁹⁷ A queer future is where individuality is insufficient and "collective temporal distortion" allows the future to become "a spatial and temporal destination."²⁹⁸

Building off Muñoz, a queer eco ethic is for a queer ecological future and is a rejection of the "here and now" of the consumer culture mainstream

²⁹⁵ José Esteban Muñoz, *Cruising Utopia: The Then and There of Queer Futurity*. (New York: NYU Press, 2009), 1.

²⁹⁶ Muñoz, *Cruising Utopia*. 1.

²⁹⁷ Ibid., 7.

²⁹⁸ Ibid., 185.

environmentalism that continues to destroy the planet. A queer eco ethic is the desire, planning, action, and creativity needed and practiced for a queer ecologic future enveloped within the reproductive possibilities of interdependent ecological transsex. A queer eco ethic cannot be accomplished by any one person (or to stay with the theory, creature, landscape, or water system) individually; it embraces interdependent relationality even when conditions may be hostile, racist, dangerous, or transphobic. While acknowledging our trans interdependence can initiate empathy, care, curiosity or understanding in something different than oneself, my notion of interdependent ecological transsex is not utopic or ideal—that is relationality and relationships cannot be utopic—but a queer eco ethic can be.

In other words, animals will inevitably kill and eat other animals and humans will do awful things to themselves, other animals, and the environment—hardly utopic. But interdependent ecological transsex and the exposing of the relationalities opens up possibilities for illustrating histories, ecologies, and current realities of trans narratives that might otherwise remain invisible. Such trans narratives may not always be universally desired or convenient, as they may expose mainstream or dominant narratives for having specific investments in particular arrangements in the understanding of sex or race. To this end, I have shown that Theodore Roosevelt Island illustrates how environmentalism and conservation are embedded in normative notions of race, nation, gender, and nature. Similarly, the examination of media and governmental depictions of transgender fish illustrate that the so-called transsexuality of the fish isn't a problem to be feared, but a possibility to explore new knowledge about ecology, pollution, adaptation, and resilience. And again, the history and

contemporary ideas about agriculture in the United States convey that feeding a nation is not purely about the science of producing enough food, but is also entrenched in the discourses and practices of a national security and safety culture that is not harmless to people and the ecologies upon which agriculture depends.

A queer eco ethic is a “temporal distortion” allowing the future to become “a spatial and temporal destination.”²⁹⁹ It rejects the life-long consumerist trajectory of being a successful person toiling away for the American Dream by creatively imagining and planning for a future that is worth living. Instead of a childhood spent being driven around to expensive competitive sports, it imagines children challenging and helping each other to build the best chicken coop, or to become a good swimmer in their community’s (clean, swimmable) waters. It rejects education as a prerequisite to make a middle- or upper-class wage, and reimagines and transforms education to teach children that they are interdependent to everything on this planet, and that the primary value of specialized knowledge is not as a skill to make the most money possible, but rather is necessary for an obligation to do everything possible to save the water ways, creatures and biodiversity of this planet. It rejects the value of being married or devoted to another person solely for social, economic, and personal value, and conveys that one can be devoted to and care for something else with just as much love as to another human. It rejects the current culture of home ownership that perpetuates debt (with wealth for a few), a renting class, and homelessness, for a local economy where it’s possible for everyone to have a modest home. It rejects the idea that one must have children to have happiness or influence on the world, or to provide

²⁹⁹ Ibid.

love and care in old age, and instead imagines communities where neighbors raise and let children roam free and also values those who choose not to reproduce to reduce the world population.

Being idealistic is often equated to or reduced to being naïve and unrealistic, and it is surely true that reorganizing society in order to address human induced social and environmental damage would be an immense project. That kind of thinking, however, is inherently goal-oriented that sees a future plan, but one that is rigid and tied to only those things that can be fully imagined in the present moment. Indeed, any ideal or utopic plan will probably not pan out as planned. Rather, it is better to think about the utopic as a process, and the work needed to strive for a better world. As interdependent ecological transsex conveys, anything is possible, and it will inevitably change along its way.

Trans as Precondition and Potential

As this project began, I assumed EDCs induced systemic hormonal rearrangements that would force us to seriously consider how multiple creatures (including humans) might now be considered “transgender.” However, as my research has progressed, I have come to discard that idea because humans are the only species that we know for certain has a concept of gender.

Instead, it might be useful to conceptualize transsexuality as precondition and potential of systemic relations and that human knowledge infrastructures of anthroheterocentric sex, reproduction, and gender have the potential to be *undone* through combinations of transgender studies, queer ecologies, studies of EDCs, and evolutionary ecology. While Judith Butler’s notion of undoing gender seems confined

to the world of humans, situating human knowledge in wider systemic ecologies has not only the potential to undo gender, but to undo the other components of classificatory infrastructures that hold together anthroheterocentric frameworks on which science and public policy depend.³⁰⁰ Taking transsexual evolutionary ecology seriously and building a field of study will illuminate the world and produce knowledge in ways we never imagined.

Mainstream media and science have shown and induced public panic that EDCs are catastrophic because they feminize creatures into so called transgender environmental catastrophes, having induced a multitude of transgender creatures. However, when the anthroheterocentric human knowledge infrastructure of sex, reproduction, and gender are *undone* through combinations of transgender studies, studies of EDCs, and evolutionary ecology, different stories of pollution, transformation, adaptation, catastrophe, ecology, sustainability and belonging emerge, and new possibilities for trans ecologies and queer ecological ethics are possible.

When I first began this project I assumed transsexuality was a *result* that came *after* exposure to a substance. However, I now understand that interdependent ecological transsex is not just an *effect*—though it can be—but also a possibility, potential and *precondition* of systemic relations. Its potential holds multiple potential outcomes including anything from evolutionary reproductive adaptation, potential

³⁰⁰ Judith Butler uses the notion of “undoing gender” to describe and expose the multiple constituents of social norms—conscious, subconscious, imaginary, and shared—that hold normative ideas of gender together and designate viable personhood. Butler writes that gender “is a practice of improvisation within a scene of constraint. Moreover, one does not “do” one’s gender alone. One is always “doing” with or for another, even if the other is only imaginary. While Butler is talking about human social norms as a foundation—when that knowledge infrastructure is undone—different and rearranged hormonal ecologies become possible to imagine. I use Butler’s concept of being undone processes of interdependent ecological transsex as opposed to everyone experiencing social transgenering. Judith Butler, *Undoing Gender* (New York: Routledge, 2004).

splits in “speciation,” new social structures, as well as disease and potential reproductive dead ends (I want to point out here that disease and reproductive dead ends might not always be a bad thing, especially when entire systems are at stake).³⁰¹ We all have transsexual potential.

I want to end with a short note on how we might begin to not only imagine interdependent transsexual potential, but how that potential might help foster more equitable and sovereign food systems by asking a controversial but interesting question. Most of the U.S. rural, urban, and suburban landscape and economy is spatially organized as a result of oil and other nonrenewable energy. This organization involves things such as cars, interstates, mono agricultural crops, suburban tract homes, long commutes, downtown office buildings, to name a few. My question is this: What if the landscape were reorganized around local economies of wandering goats and cows in suburbia, and lawns were fenced off for plant crops? Elk herds might take bedding in school soccer fields at night and graze it early in the morning before retreating into reforested buffers that were once strip malls full of grocery stores, dry cleaners, and pharmacies. What might it mean for it to be a welcomed and enjoyable obligation for a car’s driver (for those who might have to commute out of local economies) to yield to a cow or chicken crossing the road and new transformations in the landscape, made this constitute rush hour traffic instead of the clogged roads and interstates of current metropolitan areas? That cow crossing the

³⁰¹ While “disease” or “abnormal” form is often imagined as a reason to see an individual or a species less “fit” and thus less desirable for a reproductive future, disease and what I’ll call queer forms need to be re-thought in particular contexts. For instance, we know that some kinds of viral disease (the thriving of one or more forms of life) can bring immunity to the host and sometimes the offspring as well. Additionally, sometimes reproductive dead ends are not only a benefit to a species, but to other species that might sustain the initial species as well.

road might not be your cow, but several people in the community might own shares in that cow—one being your neighbor—so you might know that cow by name and wave and call out to it as it's your turn to move.

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