

## ARTICLE

### The Watershed Body: Transgressing Frontiers in Riverine Sciences, Planning Stochastic Multispecies Worlds

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#### Abstract

In conversation with Eva Hayward’s writing on transgender embodiment, this paper explores how beaver modify landscapes differently than human engineers, and how human engineering might be transformed through riverine collaborations with beavers. Considering the body variously as a body of water — a river, which draws together all of the above and underground water in a watershed — as like our own trans bodies, and as a slippery double for the psyche of an Anthropocene engineer, July Cole and I argued that thinking with beaver as stochastic transgressors against Manifest Destiny engineering projects could transfigure engineers approaches to their work and river restoration more broadly. What if, rather than trapping beavers into service as “ecosystem engineers,” we assert that humans should engineer as beavers do, in ways that create porous boundaries between land and water and up- and downstream, by way of stick-and-mud, leaky, temporary dams? Here, I theorize a transfigured watershed body through human-beaver-salmon encounters at

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three salmon recovery sites in the Pacific west: a Karuk-led project on the Klamath river, agency-led beaver relocation projects in the Methow and Yakima watershed, and a citizen science-agency collaborative project in the beaverless Salmon Creek and Russian River watersheds. All three stories concern river and salmon recovery in the Pacific West, where either humans or beavers have initiated collaborative projects to raise water tables, keep rivers from going dry, and improve salmon habitat. These scientists and local knowledge holders' encounters with beavers and their ponds thick with salmon are inspiring them to change how they undertake habitat restoration projects and also spurring some to reconsider the proper task of human ecologists and engineers, into a mode inspired by beavers themselves.

“The plan [in the undercommons] is to invent the means in a common experiment launched from any kitchen, any back porch, any basement, any hall, any park bench, any improvised party, every night. This ongoing experiment with the informal, carried out by and on the means of social reproduction, as the to come of the forms of life, is what we mean by planning; planning in the undercommons is not an activity, not fishing or dancing or teaching or loving, but the ceaseless experiment with the futural presence of the forms of life that make such activities possible.”

—Harney and Moten, *The Undercommons: Fugitive Planning and Black Study*

## Introduction

The first time I touched a living beaver was during the summer of 2014, on a Columbia River tributary, during an era of extinctions, loss, shock, reassessment, and disorientation that is coming to be called the Anthropocene. I traveled there with July Cole, continuing years of scientific, artistic, and political engagement with beaver-salmon-human worlds. But only now did we engage physically with the immediate lively heft and squirm and odor of *Castor canadensis* in the flesh. We helped relocate “nuisance” beavers to territories where people welcomed them, with all their unpredictable land and water interventions. We were honored to pitch in and facilitate the beavers' never-ending projects.

Beaver works—dams, lodges, canals, and tree-felling projects—inevitably transgress private property lines, interrupt human irrigation and orchard schemes, and shift landscapes from fence-able pastures and tame drained fields to dynamic mosaics of thicket, meadow, water, bog, and woods. We liked thinking about how the beavers we met could be decolonizing the controlled territories of Manifest Destiny, and how we might be helping them do it.

Manifest Destiny began as a rationale for westward expansion by white settlers in the 1850s; it was tied up in claims of white intellectual and technological superiority and professed a God-given mandate for white people to wipe out or subjugate Indigenous people (Lepner, 1837), and later to exclude black people and nonwhite immigrants and *arrivants* from land acquisition and resource-extraction benefits. Manifest Destiny thinking, as I use the term, is the notion of human separation from and dominion over other species and elementals. Indigenous sciences and other epistemologies have always been central to salmon, river, and watershed governance in the Pacific West, though settler science has often erased contributions of that knowledge.<sup>1</sup> Any project to reconfigure watershed governance in a mode that resists Manifest Destiny's ongoing domination requires that I and other non-Indigenous scholars take seriously Indigenous epistemologies and the sovereignties in which they are rooted. I characterize large dams and levee projects of the twentieth century as Manifest Destiny projects—among other extractive industries. In this article, in conversation with Indigenous, decolonial, and feminist scholars, I trace several ways that Manifest Destiny and its infrastructural legacies disrupt relations among humans and other species, imposing disproportionate burdens on Indigenous, nonwhite, and poor communities. Finally, I explore how queer and trans disruptions of Manifest Destiny thinking and legacies might contribute to decolonial projects.

The beavers' forests were burning all around July and me that summer; we wondered what effects their future interventions might have on fire regimes. At the same time, water-scarcity debates in our home

state of California zeroed in on technological salvation in the form of immense and static waterworks, including new large dams that would foreclose the possibilities of millions of beaver, salmon, humans, and what Donna Haraway would call their “messmates” (Haraway, 2008). In a move that contradicts and rejects the logics of these massive waterworks, the biologists we met in Washington relocate beavers to high mountain streams where they have been absent for nearly two centuries, hoping that they will build small, leaky dams not subject to human control. With time, these dams create pools in floodplain meadows that shelter juvenile salmon (*Oncorhynchus spp.*) and release cool water downstream in the late summer. Methods developed by US Forest Service biologists for live-trapping and relocating families of beaver on the Methow River have traveled to the nearby Yakima River, where state biologists are collaborating with the Yakama Nation on a wide range of salmon recovery projects, and to six other rivers in Washington. In trying to reverse the damage of twentieth-century river engineering projects, human actors are entering into improvisatory riparian relations with this animal that they often call an ecosystem engineer.

In an earlier article, Cole and I (2015) thought with these beavers about how regenerative cuts can open possibilities of transformation for a human engineer who yearns against the totalizing assumptions of the Anthropocene. The conception of the Anthropocene as a global phenomenon arose together with global climate models and was accompanied, among the geophysicists who coined the term, by the figure of a single *anthropos*. This assumption of universal humanity erases differences of race, class, culture, and different legacies of colonialism and capitalism (Foster, Clark, & York, 2011; Moore, 2000). People in different places bear unequal responsibility for changing the planet’s surface and climate, and those who have contributed least to greenhouse gas pollution bear the heaviest burden of changing climates, oceans, and ecological conditions (Moore, 2015). Indigenous, feminist, and anticapitalist critics have responded with other understandings of the epoch and with terms like *Capitalocene* and *Chthulucene* that

problematize a singular *anthropos*, draw attention to capitalism as a driving force behind climate change, and pay attention to the ways changing climates affect Indigenous and postcolonial territories (Haraway, 2016; Moore, 2015; Todd, 2016; Tsing, 2012).

In this article, I bring Cole's and my theory of a transfigured watershed body to bear on human-beaver-salmon encounters at two salmon-recovery sites in the Pacific West: a Karuk-led project on the Klamath River and a citizen science/agency collaborative project along the beaverless Salmon Creek and Russian River. These sites have different legacies of Indigenous dispossession, resource extraction, hydrologic alteration, and salmon decline, resulting in different approaches to resource policy and tribal co-management. Both stories concern salmon recovery in the Pacific West, where humans or beavers have initiated collaborative projects to raise water tables, keep rivers from going dry, and improve salmon habitat. People's encounters with beavers and their ponds thick with salmon are inspiring them to change how they undertake habitat restoration and also spurring some to reconsider the proper task of human ecologists and engineers, into a mode inspired by beavers themselves. However, these improvisatory, perhaps unconscious gestures have a long way to go before they actually decolonize riverine relations. And how to effect that transformation?

Let me recapitulate that 2015 article briefly. Drawing on our own queer-trans experience on various front lines, and thinking with Eva Hayward (2008) about transgender embodiment and becoming, Cole and I consider a body of water—for example, a river, which draws together all of the above and underground water in a watershed—as like our own trans bodies and also as a slippery double for the psyche of an Anthropocene engineer. Hayward's theory helps Cole and me think about how beaver modify landscapes differently from human engineers and how human engineering might be transformed. We argue that thinking with beaver as stochastic<sup>2</sup> transgressors against Manifest Destiny engineering projects could transfigure engineers' approaches and river restoration. What if, rather than trapping beavers into service as

“ecosystem engineers,” humans emulated beavers’ reshaping of water and land by creating porous boundaries between land and water and up- and downstream by way of stick-and-mud, leaky, temporary dams?

Such an approach would undermine the thinking behind twentieth-century water-engineering projects that diverted water from streams and wetlands to irrigation ditches and pipelines, benefiting settler agriculture and expanding cities at the expense of flowing rivers. Now, as settler descendants increasingly collaborate with tribes on beaver projects, do these collaborations make decolonizing moves? I think they do if non-Indigenous scientists and residents recognize that these rivers remain integral to Indigenous economies and cultures and that tribes in salmon country have always been the most stalwart defenders of flowing rivers and opponents of practices that degrade riverine habitats. To quote Eve Tuck and K. Wayne Yang (2012), “Decolonization brings about the repatriation of Indigenous land and life.” As my cases will show, settler-descendant collaborators work for decolonization in some, but not all, beaver collaborations.

Cole and my argument’s first main thrust is a trans theory of watershed embodiment: that changing engineered landscapes into beavered ones could realize the watershed’s many bodily potentials. Our other thrust into trans theory argues against naturalizing arguments that trans (and queer) are not transgressive. Where “queer is a not yet here” (Muñoz, 2009), trans, as we theorize it, is a collective move to negotiate gendered movement through society that can accommodate many evolving expressions and categories of being. These negotiations take place within trans theory, over the definition of trans, over its unmarked whiteness and debt to women- and queer-of-color theories, and over its decolonial potentials (Aizura, Cotten, Ochoa, & Vidal-Ortiz, 2014; Stryker, 2006). In activist and feminist spaces, debates over whether masculine or nonbinary-identified people can claim *trans* and *feminist*, discussions of hierarchies of oppressions along gender and race lines, and generational differences over pronouns and categories abound. These debates are crucial and inform my evolving understanding of trans political potentials

within and beyond identitarian concerns; however, I will not delve further into these conversations here. Instead, I focus on the transgressiveness of trans as embodied by those who, because of political identities or gender expressions at odds with established queer-trans categories, will never assimilate.

In articulating this particular embodied trans politics, this spirit of always-crossing that can animate riverine politics through reciprocal engagements with beavers, I aim to sketch out a trans potential for scientists and others who work for watershed recovery but do not necessarily identify as queer or trans. I want to explore what such people's taking up of trans moves or trans politics might do for watershed science and for trans theory. I bring Cole and my concept of the watershed body back to specific encounters between salmon advocates and beavers to further explore whether and how river activists might

translate physical transsexual survival techniques into psychological trans-species survival invitations, finding some way to follow the practice of Hayward's trans figures who "create embodiment by not jumping *out* of our bodies, but by taking up a fold in our bodies, by folding (or cutting) ourselves, and creating a transformative scar of ourselves (Hayward 2008, 256)" (Woelfle-Erskine and Cole 2015, 308).

As far as I have been able to discover, few of these beaver advocates identify with trans theory or ally themselves with (or are) trans people. Nonetheless, it seems useful to ask whether their actions and discourses may be read as transformations of the watershed body, how deeply the watershed body may be transformed, and when this transformation might undermine Manifest Destiny thinking and support decolonial projects. The idea of a watershed body—which comes into being through relations among its multispecies inhabitants and the landscapes and weather systems that shape them—is also in conversation with Haraway's (2008) notion of becomings with more-than-human others and Barad's (2007) notion of phenomena as agential intra-actions among these constituents.

I draw out these and other resonances with feminist, queer, and Indigenous theory below and in a forthcoming companion article.

First, I consider what decolonizing ethics may emerge in the contact zone where queer, trans, and Indigenous theory meet. Beavers are not necessarily resistant to co-optation into Manifest Destiny projects. Rather, they are good to think with about how or whether a project might enact a decolonizing ethic. I then travel with the beavers to the Klamath River and Salmon Creek, tracing how their presence and absence have reshaped my own engagements with trans and queer theory and ecological science.

### **Decolonizing Ethics**

Decolonizing ethics, as Zoe Todd, Audra Simpson, and Kim TallBear have argued, are not just worked out in human forums (Simpson, 2011; TallBear, 2014; Todd, 2014); some develop along ditches and sloughs behind dams, by humans working not alone but in collaboration with other beings. These ethics fundamentally threaten Manifest Destiny thinking, which assumes that only (white, male, settler) humans have ethics, which they then impose on other groups of people and on other species and the Earth itself. Although beavers' ethics, if they exist, are not known to us, their physical undertakings on the continent transgress the territorial insistences and totalizing practices of Manifest Destiny. Their activity thus brings about a physical decolonization; it also ties river systems and species back together in ways that increase resilience in the face of devastation. Beavers do not recognize Manifest Destiny boundaries of human and natural, and many people who collaborate with them on flow or salmon rehabilitation projects also reject binaries between human and natural landscapes when they encourage beavers to build dams in city parks or reinforce beaver dams with posts to help them withstand high flows. When people recognize beavers' actions and responses as the source for new ethics, their performance of this ethic *is* an act of decolonization to the extent that it dismantles the notion that

only humans have ethics, which they impose on others.

Anna Tsing writes of local knowledge practices' potential to disrupt colonial practices of "plantation science" in Oregon forests and other places where matsutake mushrooms grow wild:

In plantation science, experts and objects are separated by the will to power; love does not flow between expert and object....For those who love wild mushrooms, such control is not an object; indeterminacy is part of the point. Wherever volunteers gather to promote disturbance forests, or pickers stop to ponder why the mushrooms come up, plantation science loses a little authority.

(Tsing, 2011, p. 19)

In the beavery watershed body, these local knowledge practices are the intimate interactions among trappers, hatchery visitors who feed beavers their daily willows, and landowners who come to love beavers' furry antics and appreciate their water-storage methods, even as they are exasperated by their taste for orchard trees. Only some of these people say they love beavers, but they all have come to feel a sense of liveliness and luckiness in a watershed that holds them and to feel lack and grief when they find lodges burned and ponds drained after fires.

This feeling of recognition, liveness, and rightness is a trans affect, akin to the feeling of coming into the right body that trans people feel when they see their inner sense of self reflected in how other people respond to their gender. While some trans people may articulate this "rightness" as the realization of a single, overarching conscious self, my own experience of trans becoming was of coming into a trans collective, through a sense of mutual recognition that my "self" was never singular. This notion of "right" is never predetermined but always constituted relationally with other people, with ancestors, and, for some, with nonhumans and landscapes. For example, Wesley (2014) theorizes about such trans becoming in a Coast Salish two-spirit context, where her trans becoming is effected through her grandmother's naming of her as a twin-spirited woman, an invitation to dance at the funeral of another two-spirit tribal member, and her dance in a cedar dress she weaves.

As with the project of coming into one's own trans body, the trans move of coming into a transfigured watershed body happens with others, never finished, always relationally, and always challenging the fixity of categories. Thus the notion of what a "right" watershed body may be for a given place will always be negotiated in public forums (or in the bar after the science conference), and will change in response to climatic, social, and ecological dynamics or changing understandings of historical and future conditions. This understanding is sometimes tacit or latent.

### **Decolonizing Moves along the Klamath**

Trans theory is only one optic for understanding interspecies relations. Indigenous theory is another, sometimes resonant with trans and queer theorizing of the land-human-water relation and sometimes incommensurate. Indigenous practices of watershed management in the Pacific West have persistently fostered stochasticity on the landscape through relational practices of forest burning, fish and shellfish harvest, and recognition of beavers' and other species' world-making practices. When the Yakama, the Karuk, and other tribal watershed managers began to collaborate with beavers, they did not need to transfigure the degraded watershed body but recognized the beavers' gesture within a different framework and responded to it. In this next story, Harling, a non-Karuk biologist who works closely with the Karuk Tribe, describes a decolonial river transfiguration project that is undertaken collaboratively with and under the guidance of Karuk tribal land managers and that centers Yurok and Karuk salmon science.

This story is foundational to the self-appointed "beaver believer" movement—a loose network of biologists, geomorphologists, and watershed advocates who want to reintroduce beavers as a way to increase streamflow, create juvenile salmon habitat, and recharge groundwater. As such, the story has circulated through salmon-restoration networks across the Pacific West and in beaver advocacy networks that span the Atlantic. I first heard one version of it from Brock

Dolman, a beaver advocate who visited this dam later with Will Harling and had his own moment of reckoning with settler legacies of beaver removal while overlooking this beaver pond. I heard another version from my collaborator Dan Sarna on a long drive back from the Klamath River, where our plans to install posts to support a beaver dam on Seiad Creek were thwarted by a forest fire.

Harling (n.d.) begins his story in the domestic sphere, tiptoeing out of the house with the baby on his back and his fishing pole over his shoulder, careful not to wake his wife and sleeping guests, out into the familiar body of the watershed to a good fishing spot. There he encounters geology, water, fish, a beaver, and willows all responding to one another and enters into a responsive intra-action with them.

The relatively wide Orleans Valley gives the river a chance to meander a little here, reclaiming its sinuosity stolen over the past six million years as the Klamath Mountains began to rise from underneath, forcing it into steep sided canyons tracing fault lines in the uplifted bedrock just upstream and downstream of the valley. Fall chinook salmon moving upstream to spawn left wakes in the glassy water as they navigated up through the shallows, and the Klamath's famed half-pounder steelhead run was coming in with them. Across the river, I noticed a furry head moving slowly upstream. The light brown tuft of hair visible above the water looked like what I thought a beaver would look like, but couldn't be sure.

Just then I heard a rustle of grass and a swish of a tail on the near shore and backed into the willows to watch. Sure enough, a beaver was swimming up towards us along the edge of the river just twenty feet away. As it cleared the riffle, it moved out into the river and I slowly followed it upstream. Big whiskers and a large black snout, those dark beady eyes and two cute little ears quickly disappeared when it spotted me, and a loud thwack of its tail as it dove alerted its kin that danger was near. Walking home, giddy with excitement from this rare close encounter, I noticed all the

stripped willow sticks along the shore, even a clump of uneaten willow shoved under an algal mat, possibly left for a mid-day snack.

Beaver are slowly coming back to the Klamath, recovering from intense trapping that began in the mid-1800s and continuing for nearly a century after until they were almost extinct. In 1850 alone, famed frontiersman and trapper Stephen Meek and his party reportedly trapped 1,800 beaver out of Scott Valley, which at the time was called Beaver Valley. The last beavers in Scott Valley were trapped out by Frank C. Jordan in the winter of 1929–1930 on Marlahan Slough. Beaver throughout much of the Klamath basin suffered the same fate, and even today as they return to less inhabited areas along the mainstem river and its tributaries, they are still shot and trapped in streams where their dams pose a perceived risk to residential and agricultural property.

Harling then sees something—is it a beaver? A fleeting sighting, but the biologist's eye for a combination of characteristics clinches it. He responds by backing away *into the willows*. The beaver's response to Harling, a *loud thwack of its tail*, brings him into relation with the beaver's kin, *alerted...that danger was near*. The beaver is startled. Harling is giddy. That affective relation persists as he walks home to breakfast. Now he notices the stripped willow sticks and willow snacks under an algal mat.

In this passage, Harling's descriptions of the geologic features ascribe a certain animacy to the river that *reclaims its sinuosity*, the mountains that have *stolen* that sinuosity, *forcing it into steep sided canyons*, and the salmon that *navigate up through the shallows*. Queer theorist Mel Chen describes such inversions of animacy hierarchies—ascribing humanlike agency to rocks, landforms, and animals—as a queer move of undoing normal categories and boundaries (Chen, 2012). In noting these animacies and in speaking for and with the various riverine creatures and elementals in a multivocal chorus, Harling is taking up a new position within and of the watershed body, refusing the position of

the disinterested, unaffected engineer who sees rivers as drainage channels and water as an inert and lifeless fluid. To borrow from Moten and Harney (2013), he is taking up the fugitive art of social life, which is practiced “in animative and improvisatory decomposition of [politics’] inert body...[and] emerges as an ensemblic stand, a kinetic position.”

In discussing this ensemble, Moten later riffs on multiplicity and multivocality as key strategies in opposition to the single authoritative voice that characterizes state planning and also Manifest Destiny logics, which miss the signal in the stochastic noise. Here Harling is seeing the signal—what ecologists gloss as emergent properties, like biodiversity—as of, and emerging through, the noise of the predawn watershed body: its gurgles and thwacks and tweet-tweet-tweets, its multiplicities of relations and responses unfolding backward and forward and in circles through time. (As the next story will show, many engineers and biologists could not tune in to this chorus.) To continue Harney and Moten’s riff, “Its encoded noise is hidden in plain sight from the ones who refuse to see and hear—even while placing under constant surveillance—the thing whose repressive imitation they call for and are.”

As he engages with the beaver, Harling is noticing multispecies entanglements along the shore and drawing himself into affective relations with the shoreline world. He extends this affect of care to beavers that were trapped and shot relentlessly long before his time. In imagining beavers’ experience of trapping (a Manifest Destiny project), he emphasizes the beavers’ own agency (the quick disappearance at the sight of the dangerous human, their foresight in stashing some willows to eat later) in their return to the Klamath as a sign or possibility of subversive human-beaver relations. This agency is key to the later part of the story, in which humans recognize beavers’ improvisatory dam-building gestures as collaborations for watershed renewal.

Like Muñoz’s queer gestures on the dance floor, these interspecies gestures can allow people to reimagine the past as a different set of not-yet-here potentials. I think that by holding these stochastic potentials and sense of the beaver’s beaveriness and bodily habits in their minds

together with the methods of trapping and tools of trapping, scientists, tribal members, and settler volunteers who collaborate with beavers are undermining and overturning Manifest Destiny thinking. To use July Cole's (2010) term, they enact a manifest reversal. The tools used in beaver reintroduction—the traps, the snare pole, the bait, the snare—are the same tools and technologies used to kill millions of beavers and nearly erase their engineering approach from these landscapes. In “Callout to Nanotechnologists,” Cole articulates a method for participating in or enacting a manifest reversal: “Your tools, bought and employed by the heirs of Manifest Destiny, must now effect the manifest reversal.” Here I see just such a reworking of tools.

### **Beavers Make Improvisatory Noise within a Multivocal Chorus**

Dan Sarna and I retold part of Will's story a presentation at a queer animal-studies conference called Funny Kinds of Love (““Dam 'Em All,” 2013). Inspired by the possibility of bringing queer and transgender practice into my ecological work, I suggested to Dan that we develop our own performative account of beaver-human interactions. In revisiting this script several years later, I see that beavers chewed their way into our collaborative research project, inspiring our transgressions of standard academic forms and our multidisciplinary conversations.

*Dan Sarna:* In Spring of 2010, the watershed council and the Karuk Tribe were in the process of collaborating on a stream restoration project in northern California. They were putting brush bundles into Seiad Creek to enhance habitat for endangered coho salmon by increasing channel complexity, deepening pools and improving stream cover. When they returned to monitor the results of their restoration efforts, they discovered that the brush bundles had all gone missing! Biologists staked out their sites, and after some investigation discovered that a beaver family had been stealing their brush bundles, eating them and adding them to their own

dam upstream. Their initial reaction to the incident was:

*Cleo Woelfle-Erskine:* Dam you beavers!!!

*DS:* That same spring, the Tribe and the Council had planned a “engineered log jam” project downriver near the mouth of Boise Creek. However, before they could bring out the ’dozers, beaver moved in and constructed a five-foot tall dam across the creek at the exact location of the proposed log jam! The watershed council and the Tribe’s biologists observed thousands of juvenile Chinook and coho utilizing the ponds. According to Will Harling,

*CWE:* “The Beaver were doing everything we had been trying to do. Except the beaver were doing it better, faster, and at no cost to us.” They took it as a sign and surmised that the beavers “had received the proposal, but had decided to implement it in-house.”

This story of beaver restoration on Boise Creek is a founding myth of the self-titled “beaver believer movement.” Based on their encounters that summer, the Mid-Klamath Watershed Council and the Tribe realized:

*DS:* “The restoration of threatened coho salmon in the Klamath River system may be intricately tied to enhanced beaver populations and restoration projects that mimic the positive benefits of beaver dams.”

*CWE:* Take note: here a group of humans are looking to beaver for advice on riparian repair.

Our version of the story recirculated: beaver advocates found a video of our presentation on the conference site and sent it out on their mailing lists.

A year later, Dan and I expanded on this story with our own probes into beaver histories, finding photographs of colonial “fur desert” policies

to control territory by eliminating beaver as a source of wealth (Figure 1). We also found occasional latent destinies of human recognition of beavers' ecological role, as when biologists dropped them from airplanes during the Dust Bowl in hopes that they would combat erosion (Figure 2).



Figure 1: Beaver pelts in warehouse, mid-1850s. Source: Smithsonian.



Figure 2: Sketch of Geronimo, a beaver dropped via parachute 100 times to test a special case that opened on release. Source: California Department of Fish and Game.

Our second multivocal beaver performance took place at the Dimensions of Political Ecology conference, on a panel July Cole and I organized called “Latent Destinies, Manifest Reversals” (Cole & Woelfle-Erskine, 2014). This time, we explicitly theorized beavers as agents working to overturn Manifest Destiny:

*Dan Sarna:* Part of the project of Manifest Reversal entails viewing

the actual process of manifest conquest as incomplete, fragmentary, and subject to multiple forms of resistance. Even as fur brigades snagged millions of pelts and wiped out beaver colonies across the US, there were instances of micro-resistance by both humans and beaver themselves.

### Seeking Ghosts of Lost Beavers

Through Dan Sarna's and my collaborative work along in the Klamath basin, I came to think with beavers about my Salmon Creek field site, just over the hill from the Russian River, where beaver have long been absent and coho salmon are now on life support in a conservation hatchery. Local agencies working with private contractors are recreating the log jams, deep pools, and side channels that coho favor. Members of the Salmon Creek Watershed Council are teaching their neighbors that residential water use (mostly groundwater wells) causes more of the stream to dry up each summer.

Looking back on my five seasons of collaborative salmon studies there, I realize I was caught up in what Hustak and Myers (2012) called an involutory momentum, a gestural call and response with other species. I saw traces of lost beavers in the deeply incised channels, dry streams, and dry floodplain wells. Like Darwin when he described bees' pollination of *Catasetum* orchids in performative language suggestive of an interpretive dance, I waded through ponds not yet backed up, under overgrown alders not yet chewed down, imagining fat darting salmon smolts in the black anoxic pools left at the end of the summer, which held only dead young fish.

Curious if local scientists and residents saw the stream this way, I started asking people whether they thought beaver should be reintroduced to improve salmon habitats. The ones who did were a self-described "misfit geomorphologist," several ex-scientists, and local residents who had worked to reintroduce elk or bear or other vanished species.

Dan and I went to see local nongovernmental organization (NGO) beaver advocate Kate Lundquist talk at a local sustainability center, where she lives and heads up a beaver reintroduction campaign. Kate wore a baseball cap showing a beaver in place of the extinct grizzly bear on California's state flag (Figure 6). She showed Will Harling's pictures of beaver-made ponds and pictures of her and colleague Brock Dolman thigh-deep in beaver ponds. Kate wanted the local residents in attendance to catch the "beaver fever" (she and Brock are famous for their unremitting wordplay and terrible puns) and to think seriously about how human inhabitation practices would have to change in order for beavers to return. Kate worked to convince the California Department of Fish and Wildlife that beavers were native to coastal California and should be introduced. She excavated evidence from the Russian fur-trapping era and Spanish settlement records to show that beaver pelts traded were from local streams and that translocating beavers here would be a reintroduction of a native species. The agency's policy is shifting. Now regulators acknowledge that beavers did occupy the coast range before the fur-trapping era and thus would qualify as a native species for reintroduction. But they propose that landowners wanting beavers would have to get permission from every landowner within eight river miles of their property. Most of the audience was skeptical that this would fly. One person said that her old-timer neighbor "is pretty hardcore 'don't come on my land.' He'd probably shoot the beavers."



Figure 6: The WATER Institute's beaver flag, available on a ball cap. Source: Occidental Arts and Ecology Center's WATER Institute.

Some audience members seemed to catch Kate's "beaver fever" by watching her performance of love for beavers and their unpredictable ways. They suggested that beavers might reappear clandestinely on their properties or on public land. Many residents are salmon lovers: local citizen-scientists working to make space for fish and native grasses and elk and bears in their rural residential landscapes. Most talked of their work as nearly hopeless in the face of apathy, drought, greed, climate change, and private-property regimes. In witnessing Kate's performance of beaver love, her and Brock's joy at engagement and response across species lines, it seemed that some residents responded affectively with glimmerings of a "biocultural hope" (Kirksey, Shapiro, & Brodine, 2013). But without face-to-face engagement with beavers—or with whichever of the multispecies kin with which one could step into the transfigured watershed body—few felt that they can engage directly with watershed processes and inhabitants to reshape the watershed's wounds. Instead, they delegate the daily work of reworking the watershed body to agency

scientists and NGOs. But these scientists' limitations, perceptually and institutionally, inform what they can accomplish.

One early summer day, I climbed up Fay Creek's narrow upper canyon with Jay, a creek-walker born on a local commune who keeps track of steelhead and coho spawning on two nearby creeks. His two boys roamed ahead and startled a family of mergansers feeding in a deep pool below a high cascade. The ten-year-old climbed up a basalt outcrop and found a goose egg on top, hatched and fledged; he carried down the fragment of translucent shell. The pool was full of coho and steelhead fry; the ducks hunted them.

Jay was dismayed that only a thin trickle was flowing between the pools, with three more hot months to go until the fall rains. He had been talking to Kate Lundquist about beavers and was imagining them everywhere. Fay Creek could be a sanctuary for them, Jay said, because no one ventures down the steep canyon to the stream, and the rancher who owns the adjacent land would welcome the extra water for his failing well. The rancher had fished for steelhead here as a boy and always asked me how many fish I had counted.

Then, in fall, I walked and crawled up the Salmon Creek mainstem with Sierra Cantor, a local agency biologist, snorkeling to count coho and steelhead parr. She told me that the rancher who owned this property wanted to restore floodplain connectivity and thought his property had once been home to beavers. Overall, Sierra thought that the landscape was too fragmented into residential lots for regulators to permit beaver reintroduction. Since beavers can travel for miles when looking for a new lodge site, the chance of a complaint from a landowner was too high.

In spring, I walked up lower Fay Creek with Brian Cluer and Lauren Hammack, geomorphologists checking up on a restoration project that anchored logs to large boulders in the stream, in some places creating pools, in other places buried under gravel. For years the county paid a local rancher to drive a bulldozer down the stream, scraping up logs that might back up floodwaters. Now, the task of putting all that wood back is impossible—agencies are strapped for funds, and anyway all the large

redwoods that could actually make a pool in these flashy streams have been dragged out and milled. Brian says, “It’s going to take more than just landscaping existing channels—we need to be in the real estate business and restore floodplains and wetlands.” Lauren thought there were wetlands, probably beaver maintained, on the mainstem, and agreed with Sierra that the rancher might be willing to come to the table.

How, then, can this grief at extinction and other Anthropocene destruction be overcome in landscapes where beavers and salmon are absent and which therefore lack their exuberant and profligate gestures of multispecies generosity? Beavers dam prolifically and then move on. They give water away with no thought for its scarcity. They make abundant and dynamic habitats for mink and birds and fish willows and otters just by being beavers, chewing and building and living their lives. Salmon swim all over the sea, storing up nitrogen and trace elements in their bodies, which they then hurl upstream as far as possible. They leave thousands of eggs and their very bodies to feed people, bears, raccoons, skunks, and eventually trees. Perhaps, in settled and resolutely settler-minded landscapes like Salmon Creek, beavers can swim with people into this transfigured watershed.

But in Salmon Creek, many settler descendants dismiss local Pomo and Miwok people as inauthentically Indigenous because they have intermarried with white and Mexican settlers. Almost all residents and local scientists are white, and most recognize neither sovereignty nor Pomo and Miwok worldviews as central to watershed recovery. I asked local watershed activists and scientists why they did not reach out to Graton Rancheria biologists or tribal members on science and outreach projects. They asserted, in different ways, that Graton members had lost their culture and needed to relearn traditional practices from anthropologists. They cited no conversations with actual living Pomo or Miwok people in making these claims. Instead, in a move like that Audra Simpson (2014) describes in relation to settler perceptions of Iroquois culture, they cited anthropologist Kat Anderson as their source of knowledge of Pomo and Miwok culture. These settler descendants did

not see that Indigenous knowledge persisted alongside “modern” livelihoods, despite federal Termination Act policies and centuries of settler violence. Nor did they mention sovereignty or know of treaty rights that would guarantee Pomo and Miwok people the right to harvest and manage local lands. The settler-descendant activists considered the watershed to be private property, with no valid Indigenous claim. Perhaps, in such places, transgressive potentials of watershed inhabitation will remain only partly realized.

### **Conclusion: Beaver Dreams**

In bringing trans theories of embodiment back to beaver-salmon worlds, I want to ask, “Where or in whose imagination might this watershed body be emerging?” in order to more fully theorize the watershed body as an imaginary that is shaping science and watershed politics. Following Eva Hayward’s “towards myself through myself” (2008), the transformation of watershed body into multispecies commons is not a change from one state or body into another. Rather, it is the recognition of an already existing multispecies relation into which humans can enter. In the Klamath River story, I see this move already partly enacted in how Will Harling talks about the beaver he meets, as call and response, with beavers and humans recognizing one another as reshapers of their shared worlds. The projects he describes are also enacting decolonial practices of science: collaborations between the Karuk Tribe and the Mid-Klamath Watershed Council (MKWC); studies funded by the Forest Service and carried out by the Yurok and Karuk natural resources departments; and engineering works funded by a hydroelectric company and the US Fish and Wildlife Service and constructed by MKWC and the Karuk Tribe, on private land owned by settler descendants, then amended and reworked by beavers.

In the Methow and Yakima stories I find a similar decolonizing approach, with the Yakama Tribe contributing land and personnel, the Forest Service lending equipment and expertise, and the state

Department of Fish and Wildlife actually trapping and relocating the beavers on private lands. Here, too, beavers provided a way for trappers, ranchers, and hydrological scientists to reimagine and reenact key strategies of Manifest Destiny (trapping, diverting water, logging, forest management) in a transfigured and relational way. In Salmon Creek and the Russian River, which have been beaverless for at least 150 years, I see this watershed body imagined through people's interactions with coho salmon, which went extinct in the late 1990s and have been reintroduced through a hatchery captive broodstock program. However, because state wildlife codes prohibit moving beavers from place to place, beaver advocates' work is mostly historical and policy oriented; only NGO advocates like Kate and Brock, who travel to other rivers, meet beavers face to face. As a result, most Salmon Creek residents' watershed imaginaries do not include beavers' stochastic engineering of flows and riverine habitats.

In this article I have drawn out two examples from my own research where using Indigenous, queer, transgender, and feminist approaches, alone or in combination, can accomplish this reversal of Manifest Destiny modes of domination and killing. Thinking with beavers and rivers and mountains and salmon, out in the watershed commons, I have sketched a way to transfigure what anthropologist Anna Tsing (2015) calls "capitalist ruins" into substrates for new modes of life. Practices of world-making with beavers and salmon unveil the multispecies commons that is always-already there, in the land, ready for human acknowledgement and recognition. This joyful response to the leaps and thwacks and dives that are beavers' or salmon's modes of communication mixes with affects of loss and grief at their wanton killing and extinction.

Scientists and others who enter into this common watershed body describe feelings of recognition and joy and sensuous pleasure in fur and musk and slippery fins that is akin to queer recognition in Muñoz's punk clubs and queer dance floors: that touch and wink of recognition, a falling into relation that is felt on a visceral level as kin-making. Once that kin-

making happens, it triggers all the other emotions that go along with it—protectiveness, grief at death and loss, joy at birth and growth and promiscuity, empathy for past depredations: a shift in ethics. Maria Puig de la Bellacasa, thinking with Haraway about caring across species lines, could be speaking of beavers and salmon in their stochastic world-making when she writes,

Because “nothing comes without its world” we do not encounter single individuals, a meeting produces a world, changes the color of things, it diffracts more than it reflects, distorts the “sacred image of the same” (Haraway, 1994: 70). Knowing is not about prediction and control but about remaining “*attentive* to the unknown knocking at our door” (Deleuze, 1989: 193). But though we do not know in advance what world is knocking, inquiring into *how* we can care will be required in how we will relate to the new. (de la Bellacasa, 2012)

In developing practices of caring for beavers and salmon, I find people transgressing boundaries around institutions, at the streambed, and between wildlife and water management. These boundary crossings reveal these boundaries and binaries as Manifest Destiny fantasies of dominion and control, which can be flipped over as spawning female salmon flip over gravels with their beating tails. The undersides of those fantasies reveal anew more relational material entanglements. They inspire new modes of watery engagement, a call and response, and improvisatory learning from an interspecies other via hatchery reconfigurations, starter lodges, beaver deceivers, and pond levelers. In new studies by Pollock, Woodruff, the Karuk Tribe, and ranchers in the Scott Valley, beavers have insinuated their world-making practices and flipped old Manifest Destiny questions. In these studies and field experiments, they are asking new kinds of questions. Rather than studying how to drain water away, how can we preserve hyporheic flows? Rather than trapping out a (generic) nuisance tree predator, how can we entice this particular beaver family to live here by matchmaking and enacting practices of interspecies care? Like wildlife undercrossings that

reconfigure material and affective relations between humans driving along roads and animals moving across them, material accommodations like beaver-pond levelers and starter lodges evidence a new practice of world-making with the more-than-human other.

How these incipient collaborations will play out—for beavers and humans—is not settled. These different people who love beavers do not talk of the present, past, or future in the same way. But there are points of convergence. Maybe this holding another's perspective in mind—this reckoning and grappling with different lifeways that has been so crucial to environmental justice and feminist politics—can now also extend to other watershed inhabitants. As one queer gesture towards that utopian future, I close with another excerpt from Sarna's and my script. This section closed out our second performance with a wish and a prophecy inspired by the ones Clovis and Larch unearthed in Cole's (2010) *Unmoored Frontier*.

*Dan Sarna:* In entering into this multi-species collaboration, humans can join in transgressive ecologies that re-engender symbiotic relations of becoming-with. The ensuing improvisations can break through political impasses and undo the cataloging impulses that underlie antagonistic human-nature constructs. These changing relationships between people and beavers, and accompanying legal and policy changes, may be signs that a Manifest Reversal is underway.

*Cleo Woelfle-Erskine:* We found the following prophecies scratched in mud banks by beaver claws and scribbled in the interstices of our interview transcripts:

Signs of latent destinies:

Settlers acknowledge indigenous sovereignty through co-management and repatriation of ancestral lands, return stolen artifacts, and protect access to ceremonial sites.

Humans and beavers develop collaborative practices, installing pond levelers, and beaver deceivers. For every beaver deceiver, there is some trade in territory to beaver's advantage.

Evidence of ontological shifts, such that humans no longer think they must dominate natural processes at the expense of nonhuman others.

In recognition that human and nonhuman fates are bound up together, beavers are no longer seen as furbearers to be killed frivolously, but as collaborators in ensuring the world's continuing liveliness.

*DS:* When Manifest reversal is at hand,

Rivers will retake many of their floodplains. Rivers will no longer be fixed by riprap so that property lines may also remain fixed.

Beavers will chew their way up all of their former streams, and where they encounter humans, will be aided with support structures and accommodated with pond levelers, but everywhere be permitted to grow enough willows that they can chew in peace.

Salmon will return in silver hordes. Their dead bodies will turn into giant trees, which will be permitted to grow to a great size. Where some are cut for human uses or put back into streams, they will be cut selectively and dragged out over the snow, one by one.

Such a reversal would be as large in scope as Manifest Destiny was, rolling out across the continent and transforming every river, aquifer and floodplain.

*Both: and the beaver slaps* resound!

## Notes

<sup>1</sup> In a project in process, I trace the unacknowledged debt that US fisheries science owes to Indigenous knowledge through visual and textual analysis of archival materials on the first Pacific salmon hatchery (Woelfle-Erskine, 2017). At the Baird hatchery on the McCloud River in Winnemem Wintu traditional territory, Winnemem men and women taught settler biologists everything about salmon—where and when they spawned, how to harvest them, their life histories, and sustainable harvest practices. Other tribes and First Nations throughout Pacific salmon territories likely played foundational roles in fisheries and hatchery science elsewhere, though these encounters are less well documented in the archive. Current tribal and intertribal fish and wildlife science programs emphasize that “new” ecological science paradigms of diversity and dynamism are in fact reworkings of Indigenous knowledge, particularly in relation to fire and riverine processes. See Woelfle-Erskine, in preparation, *Underflow: Salmon, Beavers, and Science in a Queer-Trans Mode*.

<sup>2</sup> *Stochastic*, literally meaning “randomly determined,” is used by information scientists, hydrologists, geomorphologists, and ecologists to describe phenomena that cannot be predicted precisely, although the probability that they will occur can be analyzed using statistics. Beavers’ dam-building actions, combined with other stochastic phenomena like storms and floods, contribute to the stochasticity—randomness, unpredictability—of the riverine landscapes they inhabit.

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## Bio

**Cleo Woelfle-Erskine** is an Assistant Professor at the University of Washington. His research focuses on ecological and social dimensions of human relations to rivers and their multi-species inhabitants. Trained in ecology, hydrology, geomorphology, critical social science, and feminist science and technology studies, he facilitates collaborative research in partnership with tribes, agencies, citizen scientists, and local community members. His PhD work in the Energy and Resources Group at UC Berkeley involved a collaborative of scientists and local residents who are experimenting with storing winter rain to increase summer streamflow. He is developing research projects on hydro-ecological and social effects of beaver relocation in eastern Washington, and environmental justice dimensions of fishing and shellfishing in urban Puget Sound. As a UC President's Postdoctoral Fellow in Feminist Studies at UC Santa Cruz, he explored queer, transgender, and decolonial possibilities for ecological science. His manuscript in progress, *Underflow: Transfiguring riverine relations, imagining queer-trans ecologies* considers the lingering presences of Manifest Destiny (ecological, socio-scientific, and psychological) and the ways that this injurious "destiny" can be transfigured and overturned to renew human-water-fish relations .