MAKING NATURE'S VALUE VISIBLE: VIDEO ARTISTS AS CITIZEN SCIENTISTS

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Abstract

Rewilding vancouver community projects was a community mapping, storytelling & visioning project designed to reconnect residents in the Metro Vancouver region of British Columbia, Canada with the city's "wild side" (the historical natural environment) and to help "make visible" the different forms that nature takes in Vancouver as ways to inspire the valuing, protection and potential "rewilding" of nature.. The project was developed through a two-semester cross-disciplinary studio-based community projects course in the Faculty of Culture + Community at one of Canada's leading post-secondary art institutions, the Emily Carr University of Art + Design (Vancouver), in partnership with one of Canada's leading environmental organizations, the David Suzuki Foundation (DSF), and the bold, contemporary Museum of Vancouver (MOV).

Postsecondary art students across a variety of levels and disciplines were facilitated in producing a media arts-based "virtual urban safari" as part of the MOV's *Rewilding Vancouver* exhibit running February 27-September 1, 2014. This exhibit is believed to be the first of its kind in Canada to feature the historical ecology of a major city. Many of the students, by their own self-description, came into the course feeling disconnected from the natural world themselves. The course was structured in a way that encouraged students to reconnect with nature in the city through their creative process. The course culminated in a public screening and dialogue, offering the students the opportunity to see the effects of their work on a public audience and feel like their input could have an impact.

Keywords: rewilding, education, civil society, historical ecology, museum

Introduction

How should we *see* nature? How does what we are shown about nature, whether it be something we witness directly in the wild or through the mediation of some sort of documentation, affect our perceptions, understandings, and values of nature? How does this visual evidence (or lack thereof) influence our behaviours and our ability to imagine what the natural world should and could be like in the future?

In 2010, a grey whale visited False Creek, thrilling the people of Vancouver. Most had no idea that it was memory come back to life. Just 150 years ago, grey and even humpback whales-the species known for its haunting underwater songs-were common in Vancouver waters. By 1908, the local whales had been wiped out by whaling (Rewilding Vancouver exhibit, Museum of Vancouver).

I had been living and working in Vancouver at the historic moment that the grey whale visited False Creek. I live and work right on the False Creek flats, so technically the grey whale swam into my neighbourhood that day. Unfortunately, I did not see it with my own eyes. I definitely heard about it, though. In fact, it seemed to become a comedic way for characterizing a typical Vancouverite: "one whale swims into the creek and the whole city shuts down for the day to go see it." I was definitely someone who, surely like many others, took this to be a once-in-a-lifetime occurrence. That was before discovering that this used to be a common occurrence in the area. When I learned how important this story was to inspiring

the *Rewilding Vancouver* exhibit at the Museum of Vancouver, I decided to search for some videos of the whale to show my *Rewilding Vancouver Community Projects* class at ECUAD. Finding a plethora of youtube videos filmed by citizens on smartphones and other portable devices from curious vantage points including office windows, the sea bus, an inner city bridge, and a kayak, certainly helped to paint a picture of the general atmosphere of awe that day. What stood out for me the most in these videos were the reactions of the eye witnesses, most often available through the sounds of shrieks and comments of disbelief in the background of mostly point-of-view shots. One of the most memorable for me (and perhaps the 48,000+ views it's had at the time of writing this) was Chris Brown's *Science World Whale Vancouver May 5th, 2010*, [http://www.youtube.com/watch?v=iGVj3D1LqG0] where Chris rides his skateboard down the causeway alongside Vancouver's science-based museum to document the grey whale, Chris's opening commentary setting the tone, "Wow, wow! Holy crap! Insane!"

What if no one had noticed the grey whale's swim into False Creek in 2010? What if some people had seen it but no one had video documented it? Would it have been easy to convince others who had not seen it for themselves that it actually happened? As J.B. MacKinnon, MOV's guest curator of the *Rewilding Vancouver* exhibit and author of the book *The Once and Future World: Nature As It Was, As It Is, As It Could Be (2013)* reminds us, our first task is to go outside while our second task is to see the nature in our urban locale:

The crisis in the natural world is one of awareness as much as any other cause. As a global majority has moved into cities, a feedback loop is increasingly clear. In the city, we tend not to pay much attention to nature; for most of us, familiarity with corporate logos and celebrity news really is of more practical day-to-day use than a knowledge of local birds and edible wild plants. With nature out of focus, it becomes easier to overlook its decline. Then, as the richness and abundance of other species fade from land and sea, nature as a whole becomes less interesting – making it even less likely we will pay attention to it (77).

When the whale spouts in his video, Chris continues to express his wonderment with an exuberant, "Ohhhhhhh." After someone in the background confirms his documentation of the historic moment with an "I got it!" Chris shrieks in delight, "I got it too!" Where Chris's enthusiasm speaks to me of the wonder that the wild world can inspire (and therefore reinforces one of its values), Chris's confirmation of documenting the historic moment offers a glimpse into the potential of video artists (be they amateur video-making citizens or visual artists armed with video cameras) to be citizen scientists - suggesting new ways of seeing nature and our relationship with it.

The history of nature is critically important to the way we see the world around us. When we forget that whales used to live here, the absence of whales seems normal. When we remember, it becomes possible to imagine Vancouver with whales once again (MOV).

To better understand what I mean by video artists being citizen scientists, let me first define what I refer to when I say "scientist." While there is a seemingly infinite range of areas of specialization and methodologies, in this case I am referring specifically to the role of scientists in general in terms of how they, through a general process of hypothesizing, inquiring, investigating, observing, documenting and concluding, suggest new ways of seeing the natural world and humans' relationship to it. This can have profound effects in terms of influencing our perceptions, understandings and values of nature, which in turn can influence our behaviours in response to the natural world. An example of this would be the "wilderness myth" - the belief that when European explorers first arrived in the Americas, what they found was mainly empty wilderness. Thanks largely to the work of the indigenous peoples of the Americas, as well as anthropologists, archaeologists, biologists and ecologists, today the "myth" aspect of this has been proven, and consequently our understanding of what is meant by "wilderness" is evolving.

The myth of the wilderness as "virgin," uninhabited land had always been especially cruel when seen from the perspective of the Indians who had once called that land home…they were forced to move elsewhere, with the result that tourists could safely enjoy the illusion that they were seeing their nation in its pristine, original state… (Cronon, 79)

When video artists, creative makers who by practice offer a unique way of seeing the world in general, equipped with audio and visual documentation tools (i.e. video cameras, sound recorders, and audio and video editing software), undertake a similar process of hypothesizing, inquiring, investigating, observing, documenting and concluding, they in turn create new ways of seeing the natural world and humans' relationship to it.

…documentary is not shot in studios but on location, and thrives on the ability of the camera, from the very beginning, to freely roam the world. In the process, documentary creates its own cognitive map of the world it goes out to meet. Like all cognitive maps, the places are real but the angles from which they're seen and the ways of moving around between them derive from the map-maker's own criteria-cultural, social, imaginary and symbolic (Chanan, 78).

One way to explain this concept is through a brief examination of the history of nature films. Scott MacDonald, in his book *Adventures in Perception: Cinema As Exploration (2009),* offers a concise overview of some diverse approaches to producing nature films in the past and the kinds of influences these may have had on humans' relationship to nature. MacDonald explains how Disney's *True-Life Adventures (*approx. 1948-1960) came about at a time when animation proved too expensive, so the dramatization of nature became a more cost-effective format of producing films for entertainment. These films anthropomorphized animals and often created stories that promoted conventional ideas about domestic life. These films were constructed narratives compiled out of footage gathered over fragmented times and locations, essentially fictionalizing nature for human consumption. Perhaps these films have contributed to people thinking about the environment as material for human consumption, and in an anthropocentric way-mostly as it relates to the well-being of humans without as much consideration for how our actions and choices affect the non-human world. National Geographic's ongoing series *World's Deadliest Animals* boasts "a violent eden" with sequences condensing time and scenes of animals attacking, fighting, killing, and seeming overall dangerous and threatening. These videos and others like them may encourage people to fear nature which might inspire us to urbanize more as a way to protect ourselves from these wild threats.

Jean Painlevé, a French filmmaker, tried to prove that cinema can be a tool for science, documenting scenes to suggest they were fairly objective observations but often making parallels with human behaviour in subversive ways to challenge stereotypes. An example of this is when he showed how male seahorses carry eggs and birth baby seahorses in his film *L'Hippocampe (1934).* Painlevé's films presented a shift from commercializing nature to understanding the educational value of nature including how the human imagination can be inspired by phenomena that exist in the natural world. *Microcosmos* (1996, Nuridsany & Pérennou) suggested we pay attention to the fine details of nature in our own backyards by magnifying the actions of everyday insects (i.e. the Dung beetle struggling to push a ball of dung up a hill). These last two examples are perhaps ones we can point to as closer examples to the approaches we have encouraged students consider as they endeavour to inspire the public to pay attention to nearby nature.

Why do we need video artists to show us new ways of seeing the natural world? I consider there to be three main problems currently preventing the general human population from seeing the natural world in ways that can support the wholistic health of the planet: 1) Nature Deficit Disorder, 2) Shifting baselines and 3) Change Blindness.

Nature Deficit Disorder is a term coined by Richard Louv in his book *Last Child in the Woods (2005)* to suggest that *"human beings, especially children, are spending less time outdoors resulting in a wide range of behavioural problems."* Louv outlines some of the problems to include, *"diminished use of the senses, attention difficulties, and higher rates of physical and emotional illnesses" (Godbey, 9).* Over 80% of Canadians now live in cities and are spending more time indoors and than outdoors. The average Canadian child now spends approximately 6 minutes per day outdoors in contrast to approximately 6 hours per day indoors in front of a computer screen (Charles and Louv). Since 2008, more than half the world's population has lived in urban areas (United Nations Population Fund). We simply are not outside to see what is happening there.

Shifting Baselines is a term created by the University of British Columbia's Fisheries scientist Daniel Pauly in 1995. It refers to the incremental lowering of standards, with respect to nature, in which each new generation lacks knowledge of past environmental states and consequently redefines what is 'natural' according to his/her personal experience. This sets the stage for the next generations (shifting) baselines. We might go outside but the problem is that we see what is happening there today. We do not see what was happening there sometime in the past and this influences what we might believe we can hope to see there in the future.

Some 120km of fish streams once flowed through Vancouver, producing 100,000 or more salmon and trout every year. The decline of these streams is an example of 'shifting baseline syndrome'... Each generation sees the natural world around them as normal, and measures degradation of the environment against that baseline. The next generation then takes the degraded state of nature as normal, and so on. Over time, we collectively forget what nature used to be... (MOV)

Change Blindness is "a phenomenon in visual perception in which very large changes occurring in full view in a visual scene are not noticed" (O'Regan). This condition, which Dan Simon and Christopher Chabris proved is part of our hardwiring as humans with their famous Selective Attention Test involving a gorilla suit (1999; http://www.youtube.com/watch?v=vJG698U2Mvo), prevents us from seeing major changes in the natural world around us like the depletion of fresh water, healthy food and clean air. As MacKinnon points out, this is further exacerbated by our preoccupation with urban living:

The adapt-and-forget pattern is amplified by modern life. If you, like me, are a city dweller, then you're unlikely to suffer change blindness to shifts in the natural world because you're not there to witness those shifts… For you, the baselines that shift will be mainly urban and technological ones…

Given these three main problems, Nature Deficit Disorder, Shifting Baselines and Change Blindness, what then is the responsibility of the modern nature filmmaker? If the nature film historically has contributed to humans' sense of being disconnected from and/or fearful of nature, I suggest that the modern nature filmmaker's role is to encourage humans to reconnect with nature – "nature as it was, as it is, as it could be" (MacKinnon) and not just nature outside the city but the urban wilderness, not just as something "out there" but as something integral to who we are. This is precisely what we endeavoured to do through the *Rewilding Vancouver Community Projects* course.

Main Text

Rewilding is a term coined in the early 1990s by Dave Foreman, founder of the direct-action *Earth First! Environmental network* (MacKinnon). In the most general sense, MacKinnon points out, it means "To make a place wild again." A question arose concerning restoring to what/when. The definition was expanded by Michael Soulé and Reed Noss in the 1990s. The term has since evolved to acknowledge that it may not be possible to achieve some specific natural condition from the past, but rather "to bring back species and ecological processes that have been [lost]" (MacKinnon). Rewilding has been implemented in a variety

of ways around the globe, including in Seoul, Korea in 2005 where Cheonggyecheon, a sacred stream that ran through the heart of the city, was daylighted, in the US's Yellowstone National Park where "wolves were re-introduced after a 70-year absence" and in "Dundreggan, a 10,000-acre estate in the Scottish Highlands, overgrazed by deer and sheep [that is undergoing an] ongoing, decades-long process [of reforestation by] the organization Trees for Life (Monbiot).

Green infrastructure is "the name given to natural systems which provide services to human populations that might otherwise require the creation and use of the manufactured, or grey, infrastructure. Green infrastructure can assist, and in some cases, replace conventional engineered solutions or grey infrastructure" (David Suzuki Foundation). The simplest way I have explained this concept to my students involves thinking of a healthy ecosystem as an ebb and flow of life: migrating animals, flowing water and air, travelling seeds, etc. The normal course of urban development leads to a fragmented natural landscape where this ebb and flow is intercepted by the built environment of concrete, steel, dams, walls, etc. Green infrastructure acts to reconnect severed pathways along this ebb and flow, whether that be designing a green roof that can be a landing pad for migratory birds, restoring a wetland or leaving a first-growth forest intact.

Materials and methods

In the 2012/13 academic year, the Emily Carr University of Art + Design and the David Suzuki Foundation partnered to pilot a studio-based community projects course that would engage postsecondary art students in media arts based public education projects supporting sustainability initiatives. The pilot course, called *Natural Capital,* was designed to promote the non-market value of natural's ecosystem services in the Lower Mainland region of British Columbia, Canada, and shed new light on the importance of fragile coastal ecosystems in people's lives. Students in the course created a series of short documentaries for an app developed by DSF to bring to life their report on aquatic ecosystems in British Columbia's Lower Mainland. The course was part of a minor in Social Practice and Community Engagement (SPACE) in ECUAD's Faculty of Culture and Community. My article about the course can be found here: http://online.liebertpub.com/doi/abs/10.1089/SUS.2013.9838 After a successful pilot year, the course was proposed to continue into a second year.

In the Summer of 2013, J.B. MacKinnon, author and guest curator of the MOV's *Rewilding Vancouver* exhibit, approached DSF to collaborate on some aspects of the exhibit. DSF suggested we all meet to discuss the potential involvement of ECUAD students. From those early brainstorming meetings, with each stakeholder identifying and aligning his objectives with the others, emerged the *Rewilding Vancouver Community Projects* course offered in the Fall of 2013 and the Spring of 2014.

In Fall of 2013, 16 students created a series of short documentaries as part of a "virtual urban safari" or video eco-tour of the different forms that nature can take in Metro Vancouver's urban environment. Building relationships with unique expressions of nature, students had outdoor adventures, used technological innovation and harnessed the wisdom of local community experts (outside the University) to produce site-specific media projects as part of a public education strategy around the natural history of Vancouver's wild sites. The underlying goals of the overall project were to: inspire near-by nature explorations, highlight personal connections between natural areas and individual/community well-being, identify how wild sites contribute to our city's urban environment and "make visible" the natural world in the city, where it tends to be overlooked.

Site selection

Part of our goal in mapping out specific wild sites in Metro Vancouver was to expand the public understanding of green infrastructure to include examples of sites we considered 1) engineered, 2) restored and 3) intact. In other words, we wanted the public to comprehend that green infrastructure could include everything from first-growth forests to urban farms to daylighted streams. Stream "daylighting" is a term used to explain the process of intentionally removing the grey infrastructure, like asphalt, covering over a stream and returning that stream to "the light of the day" to be flowing above ground once again. We were also aiming to include a variety of land cover types (i.e. forest, beach, wetland, streams, rivers, etc). We also wanted to be sure our sites were no further than one hour of travel time on public transit from the ECUAD campus so that the task of site visits would be feasible for students. Project partners at DSF, MacKinnon and myself brainstormed a variety of sites across Metro Vancouver that included examples in each of these categories. We then cut down our list to 18 sites (the maximum number of students that can register in the course at one time).

Local expert recruitment

Students' documentaries from the Fall 2013 semester centered around interviews filmed with local experts affiliated with each of the wild sites. These were people from the broader community who had wisdom and often first-hand experience with a site's natural history and biodiversity. Project partners at DSF, MacKinnon and myself did research and outreach for nearly two months in advance of the start of the semester to confirm the participation of local experts. These experts, ranging from biologists, authors, lighthouse residents, park interpreters and more, also provided background information to students and in some cases offered one-on-one walking tours of sites to students.

In Spring of 2014, building on the work of the first semester, a new group of 15 students created short documentaries that presented their views of reconnecting with wild nature at one of 15 distinct wild places in the Metro Vancouver region through an artistic lens. To encourage more conceptual approaches to the work, myself, MacKinnon and our project partners at DSF decided to give the students themes to use as lenses through which to produce the work. Together we brainstormed and arrived at 18 themes, 9 of which we categorized as benefits of time spent in nature (well-being, memory, balance, creativity, healing, focus, energy, mood and responsibility), and 9 of which we considered larger concepts related to rewilding (life, resilience, shifting baselines, nature deficit disorder, change blindness, ecosystem services, zoopolis, biophony and biophilia). The terms categorized as benefits from time spent in nature stem were provided by project partners at the David Suzuki Foundation. As David Suzuki himself writes in the article, "*Prescription for health and happiness: daily dose of nature"* on the foundation's website, "researchers from fields as diverse as biology, psychiatry, engineering, horticulture, neuroscience, and medicine have realized what most of us know intuitively: nature is good for our health and well-being. These experts have discovered countless links between time spent outdoors and cognitive, physical, and emotional development."

Site visits

In the process of creating videos aimed at inspiring the public to see nature in a particular way, students began to see nature differently themselves. This translated to the public through the videos they made. In both Fall and Spring semesters, an essential aspect of the curriculum required students to build relationship with their sites through a minimum of 3 sites visits (although students often end up doing many more than this, sometimes 3 in just one week!) Students began by being tasked with exploring their site through the lens of a camera. They started paying attention and noticing details about their site that they may not have otherwise, like the presence or absence of specific plant or animal species, or evidence of

human impact. Student April Piluso created her video in the Fall of 2013 after multiple visits to Vancouver's popular Stanley Park to observe first-hand one of the park's lesser known features: "one of the largest urban great blue heron colonies in North America" (Stanley Park Ecology Society). The process enabled her to interrupt her routine of urban living and reflect on how important nature is, particularly in the city:

We are defined in part by the patterns we drive ourselves towards. I am grateful to say that my participation here allowed me to break the eat-work-sleep pattern that so many of us get drawn into. We need to remind ourselves to stop and observe. We need to have moments of true connection with nature, to simply enjoy the beauty of the world around us. If we do not remember to stop and just appreciate it, it becomes so easy for us to ignore all that nature does for us.

After examining their sites through the lens of a camera, students were then tasked with exploring their sites through sound. Equipped with a sound recorder and microphone, students repeatedly reported that they often heard things they did not see, and then saw them only after hearing them. Student Faber Neifer created his video in the Spring of 2014 through a series of site visits to False Creek Habitat Island, a restoration project created to make up for shoreline lost to development. Faber visited his site with sound recording equipment in hand at different times of the day and noted:

Hearing birds on False Creek Habitat Island before sunrise, you wouldn't think we were in the middle of the city. They're singing before most of us are awake.

Even in the deepest and largest green spaces, students have reported their challenges in recording isolated animal-generated or earth-generated sounds without the infiltration of human-made sounds in the background. In the words of Bernie Krause, soundscape ecologist, "Our ears tell us a very different story" (Krause).

Just as looking through a camera lens you see the world differently, when you begin to record you hear the world differently. -Hildegard Westerkamp, sound ecologist

Unlike some indoor or studio-based art practices, outdoor site-specific media projects require that students consider elements of nature as part of both their creative palette of materials and the challenges they need to creatively problem-solve around. This in turn contributes to shifting the way students see nature. Watching the tide tables was important to prevent students from getting trapped at or losing access to Vancouver's last wild beach, the Point Grey Foreshore. An unexpected winter snowfall inspired students' ideas about the role of seasons in food production and consumption at UBC Farm. The diverse paths that water takes and surfaces it flows over provided a rich library of aquatic sound effects at the Lower Seymour Watershed.

Screening & exhibit

Students' media arts-based projects resulted in the creation of a "virtual urban safari" that were featured as part of the Museum of Vancouver's *Rewilding Vancouver* exhibit running February 27-September 1, 2014. This exhibit is believed to be the first of its kind in Canada to feature the historical ecology of a major city.

To expand the public outreach of our project objectives, the course culminated in a public screening of students' work and community dialogue, the first at one of the featured "engineered" wild sites, the VanDusen Botanical Gardens Visitor Centre (in December 2013, so prior to MOV's exhibit launch) and the second at the MOV on April 7, 2014. Both events welcomed a diverse public audience in hopes of spreading the public education aspect widely amongst the broader community. The artistic video works produced through the project were displayed in the MOV, posted to DSF's YouTube channel and continue to have an impact through various means of distribution. The first screening presented new community connections and distribution opportunities for the videos, for example, when a school teacher

asked if a student could visit her school and show her work since the teacher's class was studying the featured wild site.

Activating student sustainability leaders

One of the most significant outcomes of this project was the way it activated students. Rena Harker, an ECUAD student who participated in the course in Fall 2013, shared in the public screening and dialogue event in December that a real "aha" moment for her was when she ventured beyond the highly industrialized area of her site, the Fraser River, to visit a different region of the river where she discovered it was relatively pristine and, contrary to her previous impression, "beautiful." This is when the site, for her, went from something not worth mentioning to something worth protecting. Through her film featuring an interview with Riverkeeper Tyee Bridge, Rena has herself made visible nature's value and, as she says, discovered the value in applying her artistic skills to environmental issues. Rena has since founded ECUAD's Environmental Collective, a student-driven club on campus dedicated to raising awareness about and participating in art activism related to environmental issues. Rena is also undertaking an individual project about rewilding the planned new ECUAD campus for her course in public art.

The history of nature is not always and only a lament: it is also an invitation to envision another world" (MacKinnon quoted in MOV exhibit)

Conclusion

I grew up spending my summers along the rural and relatively wild west coast of Vancouver Island, left to my imagination and nature for entertainment. I would spend hours drawing and so many of them spent drawing orcas, which I would frequently see swim past my father's house across from a beach leading into the Strait of Juan de Fuca, that still some 20+ years later I can practically draw orcas with my eyes closed.

Vancouver's False Creek is "false" because it was filled in as part of city developments. It used to be that the ocean flowed straight through this part of the city to what is now Clarke drive. That means that where I currently look out from my patio onto a busy street that will soon be host to ECUAD's new campus, I would have once been looking at the sea and would have maybe enjoyed the passing of grey whales in the same way I grew up watching orcas. But alas, what has disappeared in nature is now left to my imagination. At least now, when I need a burst of hope, I can pull up Chris Brown's video of the grey whale's visit to False Creek on YouTube and glimpse simultaneously the way things were and the way they might be once again.

As Rena Harker's video reveals that the Fraser River is not just an industrial river but a remarkably beautiful one, Jaymie Johnson's video reveals that the daylighting of the urban stream previously buried under asphalt, Still Creek, has witnessed the successful return of salmon two years in a row, and Yuzhen Wang's video reveals a unique overlapping dual-ecosystem in one of the last remaining first-growth forests of the Metro Vancouver region, Lighthouse Park. These video artists have applied their creative abilities as citizen scientists in helping us see what we may not have seen otherwise. Be it due to change blindness, shifting baselines, nature deficit disorder, or our inability to simply notice what is going on in the urban wildnerness we live, study, work and play in regularly, we might have eventually reduced or removed some of these wild green spaces, replacing them with grey infrastructure. While it is too soon to predict if these videos may inspire residents to demand policies that will not only protect these wild spaces but also rewild some current grey spaces into green infrastructure, certainly that potential now exists. Where nature itself shows us new possibilities, video artists find new ways of making visible these new possibilities, of getting us to pay attention and to understand what nature is telling us.

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